# Residual Audit Fees and Earnings Informativeness of Quoted Manufacturing Firms in Nigeria.

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**ABSTRACT**

*The study examined the residual audit fees and earnings informativeness of quoted manufacturing firms in Nigeria. The study used the ex-post facto research design to determine cause-effect relationship between the independent and dependent variables with a view to establishing a causal link between them. The sample for the study comprises twenty-one consumer goods firms selected from manufacturing firms listed on the Nigerian Stock Exchange (NSE) as at 31st December, 2019. The study relied on secondary data obtained from annual financial reports and accounts of the companies included in the sample. The study employed descriptive and inferential statistics in analyzing the data for the study. The findings from the study revealed among others that there is a non-significant negative effect of abnormal audit fee on magnitude of discretionary accruals of manufacturing firms. The study recommends that external audit firms should employ appropriate pricing mechanisms/tools to avoid over-charging or under-charging clients.*

*Keywords: Residual Audit, Fees, Earnings, Informativeness, Manufacturing, Firms, Nigeria.*

## 1. Introduction

External audit is one key addition to corporate governance reforms introduced in various developed and emerging capital markets since the late 1990s (Singh, 2014). This requirement in Nigeria is encapsulated in Section 401 (1) of the Companies and Allied Matters' Act (2020) Cap C20, that "every company shall at each annual general meeting appoint an auditor or auditors to audit the financial statements of the company". This requirement has become firmly engrained in key legislative statutes of various countries worldwide (Imhoff, 2003).

The principal-agent problem, whereby principals lack trust for their agents because of information asymmetry and/or differing motives, has immensely contributed to the evolution of audit over the centuries (Institute of Chartered Accountants of English and Wales [ICAEW], 2007; Nikkinen & Sahlström, 2004). Prior to the commencement of an audit, the audit firm (partner) agrees/negotiates a fee with the client for the services to be performed.

Earnings informativeness is of prime interest to shareholders because, it provides information on the financial, market performance, and future prospects of a firm. It is also an indicator of the level of earnings management practiced by the management of a firm. However, major corporate scandals globally and nationally, such as: Enron, WorldCom, Global crossing, Tyco, Cadbury, African Petroleum, Intercontinental Bank, Oceanic Bank, among several others, are indicative of the wide disparity between reported earnings and actual earnings information. The majority of these corporations were publicly quoted with a listing requirement for independent external audits of financial statements. Despite the fact that financial statements of such firms were certified by external auditors, for instance, Arthur Andersen (one of the Big 5) attested to Enron's financial statement, the financial statements were still fraught with irregularities, thereby misleading investors.

Thus, accounting scandals are repetitive in history and in every country (Jones, 2011). They are more prevalent in private firms because of an increased demand for high quality financial reporting (Burgstahler, Hail, & Leuz, 2006). Studies have examined the determinants of earnings informativeness of publicly quoted firms; such as, Iraya, Mwangi, and Muchoki (2015) on internal corporate governance mechanisms; Musa (2013) on CEO characteristics and firm size; Irungu (2010) on macro-economic factors; among others. However, the audit literature identifies the auditor's efforts as one major determinant of earnings quality. The level of audit efforts by an auditor is not available for public scrutiny and, cannot be determined prior to an engagement.

Scholars have therefore proxied the perceived level of efforts using abnormal audit fees paid to an audit firm. Francis (2011) observed that audit fee residuals "capture abnormally high audit effort or auditor's pricing of (unobserved) client risk characteristics". The audit fee reflects private information, which could make the fee higher or lower than it would be if the information is available publicly (Picconi & Reynold, 2013).

Few studies have examined auditors' response to the informativeness of earnings and/or accruals (Su, Srinidhi, & Gul, 2007). In Nigeria, the study by Oladipupo and Monye-Emina (2016) found a non-significant impact of abnormal audit fee on audit quality.

Consequently, the main objective of the study is to determine the relationship between residual audit fees and earnings informativeness of quoted manufacturing firms in Nigeria.

### Research Hypotheses

The following hypotheses were formulated to guide the study:

$Ho_1$: Abnormal audit fee has a non-significant negative effect on magnitude of discretionary accruals of manufacturing firms

$Ho_2$: Abnormal audit fee has a non-significant negative effect on abnormal operating cash flow of manufacturing firms

$Ho_3$: There is a non-significant positive effect of abnormal audit fees on abnormal production expenditure of manufacturing firms

**2. Literature Review**

**2.1 Conceptual Review**

**Audit Fees**

The audit fee is the amount paid by a company to an external auditor in exchange for performing an audit (The Financial Dictionary, 2018). It is the amount charged by an auditor for an audit assignment carried out (Onaolapo, Ajulo, & Onifade, 2017). That is, the amount charged by the auditor for any work done in order to express opinion on the true and fair state of affairs of the client's enterprise.

According to the International Federation of Accountants [IFAC] ethical code, the audit fee is determined by acknowledging the circumstances the audit is performed in, the skills and knowledge required by the auditor, as well as the competence level of the auditor. Other factors include time needed to perform the audit, the political and economic situation, among others. The appropriate basis of assessment is either an hourly or daily rate for the work performed by the auditor (Horsmanheimo & Steiner, 2008). According to Onaolapo, Ajulo, and Onifade (2017) the amount of fee can vary depending on the complexity of services, assignment risk, the cost structure of Public Accountants Firm, the required level of expertise, and other professional considerations.

According to Choi, Kim, and Zang (2010), actual audit fees are split into two components: normal audit fees and abnormal audit fees. Normal audit fees reflect normal profits, auditors' effort costs, and litigation risk (Choi, Kim, & Zang, 2010; Simunic& Stein, 1996; Simunic, 1980), whereas abnormal audit fees reflect auditor–client economic bonding (Choi, Kim, & Zang, 2010; Higgs & Skantz, 2006). Whereas normal audit fees are determined by factors that are common across different clients (e.g., client size, client complexity, and client-specific risk), abnormal audit fees are determined by factors that are idiosyncratic to a specific client (Kasai, 2014). Oladipupo and Monye-Emina (2016) observed that the audit fee "may be above or below the average audit fee in the industry. The average audit fee in the industry is known as the normal audit fee while the audit fee above or below the average audit fee in the industry is known as abnormal fee". According to Kinney and Libby (2002) abnormal audit fees capture the economic bond of auditors to a specific client than normal or actual audit fees.

The abnormal audit fee is often estimated as the residual of the total audit fees using regression technique (Picconi & Reynold, 2013) or finding the difference between the actual audit fee and the average audit fee for an industry (Kim, Kwok, & Hwang, 2005). When the audit fee is higher than the average or normal audit fee, it is positive abnormal audit fee. It is a negative abnormal audit fee if the audit fee is lower than the normal or average audit fee or what the auditor would have charged in the ordinary course of engagement (Oladipupo & Monye-Emina, 2016). There is vast empirical evidence on audit fee residuals (the error term from audit fee models) in the accounting research literature (Doogar, Sivadasan, & Solomon, 2015). Scholars present contrasting views on audit fee residuals. One is that fee residuals are a combination of noise and auditor rents (i.e., abnormal profits), while the other is that they are a combination of noise and unobserved audit costs (including any risk premium and a normal rate of return on all factors of production) (Doogar, Sivadasan, & Solomon, 2015). The audit fee is incrementally useful to investors for firm valuation (Su, Srinidhi, & Gul, 2007); as studies have demonstrated that it is a proxy for systematic information risk (Francis, LaFond, Olsson, & Schipper, 2005a; Easley & O'Hara, 2004). Francis and Ke (2006) argue that excessive non-audit and audit fees paid to auditors are perceived by investors to compromise auditor independence and hence result in lower earnings response coefficient.

**Earnings Informativeness**

Earnings informativeness is a multidimensional construct (Singh, 2014); and, can be viewed from several perspectives. Pratt (2000) defines earnings quality as the "extent to which net income reported on the income statement differs from true earnings". Dechow, Ge, and Schrand (2010) stated that higher earnings quality "provide more information about the features of a firm's financial performance that are relevant to a specific decision made by a specific decision-maker."

Another perspective view earnings informativeness from the earnings management angle. One of the most commonly used definitions of earnings management was proposed by Healy and Wahlen (1999)

> *Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.*

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Fong (2006) defined earnings management as "the manipulation of accounts and financial reports by a firm's management in order to present a view of the company which does not accurately reflect its financial position or performance".

According to Gay and Simnett (2012) it is a process which "affects the transparency of underlying economic reality and stakeholder decisions in the allocation of scarce resources". Thus, earnings management is a collection of managerial decisions that result in not reporting the true earnings as known to management.

**Properties of Earnings Informativeness**

The most commonly researched properties of earnings are: accrual quality, earnings persistence, earnings predictability, earnings smoothness, value relevance, timeliness, and earnings conservatism (Francis, LaFond, Olsson, & Schipper, 2004). The first four properties can be categorized as "accrual based", because they are measured using accounting information only; while the last three properties can be categorized as "market-based", since they are typically based on both market data and accounting data (Francis, LaFond, Olsson, & Schipper, 2004).

1. **Accrual quality:** The accrual component of earnings is subject to greater uncertainty than the realized cash flow component of earnings (Singh, 2014); and, the strong negative correlation between accruals and cash flows is often used to reflect on the informativeness of earnings (Wysocki, 2009; Francis, LaFond, Olsson, & Schipper, 2005; Dechow, Kothari, & Watts, 1998). Accrual quality can be separated into its non-discretionary and discretionary components; wherein, the former is dependent on the firm's business model and operating environment, the latter is related to earnings management (Francis, LaFond, Olsson, & Schipper, 2005).
2. **Earnings persistence:** Several researchers define earnings persistence in terms of sustainability (Revsine, Collins, Johnson, & Mittelstaedt, 2008; Bodie, Kane, & Marcus, 2002).
3. **Earnings predictability:** Earnings predictability is defined as the ability of past earnings to predict future earnings (Barua, 2006; Barth, Beaver, & Landsman, 2001) and future cash flows (Chen, 2004; Mikhail, Walther, & Willis, 2003).
4. **Earnings smoothness:** Earnings smoothness refers to the managers' attempt to exercise reporting discretion to "intentionally dampen the fluctuations of their firms' earnings realizations" (Beidleman, 1973).
5. **Value relevance:** Value relevance of earnings describes the variations in contemporaneous stock market returns or prices and is considered a direct measure of decision usefulness from an equity investor's perspective (Lev & Zarowin, 1999; Francis & Schipper, 1999).
6. **Timeliness:** Timeliness of information is imperative to maintain relevance and reliability of financial statements (Lang & Lundholm, 1999). Timeliness means having information available to decision-makers in time to be capable of influencing their decisions.
7. **Conservatism:** Basu (1997) defines conservatism as "capturing accountants' tendency to require higher degree of verification for recognizing good news than bad news in financial statements".

**Audit Fees and Earnings Informativeness**

External auditors are third-parties with access to private information not available to other external market participants; therefore, they have the capability of assessing the earnings informativeness of a firm. If there is a part of earnings for which the auditors cannot realistically find economic justification, it increases the uncertainty regarding earnings and thereby increases the potential for material misstatement.

Auditing standards specify audit risk as the product of three components: inherent risk, control risk, and detection risk (American Institute of Certified Public Accountants [AICPA], 2006; Public Company Accounting Oversight Board [PCAOB], 2010). Inherent risk represents the auditor's assessment of the risk of a material misstatement without considering a firm's internal control over financial reporting, control risk is the auditor's assessment of the risk that a material misstatement will not be prevented or detected by the firm's system of internal control, and detection risk is the risk that the auditor will not detect a material misstatement during the course of the audit (AICPA, 2006). According to Bryan, Mason, and Reynolds (2018), the audit risk model implies that "if an auditor assesses a higher level of inherent risk or control risk, then more substantive testing must be conducted during the audit in order to

lower the detection risk". And auditors are likely to expend more audit effort (and consequently charge higher audit fees) to mitigate the risk of not detecting a material misstatement (Su, Srinidhi, & Gul, 2007).

The study by Greiner, Kohlbeck, and Smith (2017) found that an increased audit effort combined with increased business risk drive future pricing effect. However, Choi, Sohn, and Yuen (2018) documented that the positive relationship is more pronounced for firms with financial constraints. According to Cho, Ki, and Kwon (2017) auditors increase their audit efforts by modifying audit procedures and substantive tests and charge higher fees for increased cash flow risk. For instance, Kasai (2014) found that receiving high audit fees compromise the independence of auditors; and, thereby lead to lower accruals quality.

Srinidhi and Gul (2007) examined whether audit fees are positively correlated with accrual quality and found that expected (normal) audit fees are correlated with accrual quality, whereas unexpected (abnormal) fees have no relationship with accrual quality. In contrast, Hoitash, Markelevich, and Barragato (2007) reported that expected (normal) and unexpected (abnormal) audit fees are negatively associated with accrual quality. Choi, Kim, and Zang (2010) found an asymmetric relationship between unexpected (abnormal) audit fees and abnormal accruals. The results showed that abnormal audit fees are negatively associated with abnormal accruals for observations with positive values; whereas, no significant relationship exists for observations with negative values.

Hribar, Kravet, and Wilson (2014) view fee residuals as a measure of extra audit effort or risk premium charged by the auditor when faced with poor auditee accounting quality. Similarly, Ball, Jayaraman, and Shivakumar (2012) view higher fee residuals as a proxy for higher auditee demand for financial statement verification and report that voluntary disclosures by auditees that have higher fee residuals are both more accurate and more credible to investors.

## 3. Methodology and Data Analyses

The study used the ex-post facto research design. The population of the study comprises manufacturing firms listed on the Nigerian Stock Exchange (NSE) as at 31st December, 2019. Whilst the sample comprises twenty-one consumer goods firms quoted on the Nigerian Stock Exchange. The firms were selected using the purposive sampling method. The study relied on secondary data obtained from annual financial reports and accounts of the companies included in the sample. The study employs descriptive and inferential statistics in analyzing the data for the study. The following descriptive statistics were computed: mean, median, minimum value, maximum value, standard deviation, skewness, kurtosis, and the Jarque-Bera statistic. The inferential statistics were the (1) Pearson correlation - to measure the degree of relationship between the different variables. Correlation measures the direction of the linear relationship between two variables as well as the strength of association between variables (Tabachnick & Fidell, 2007). A positive (+) correlation indicates that when one variable increases another also increases; while, a negative (-) correlation shows an inverse relationship (Pallant, 2007); (2) Multiple regression - to investigate the causal relationship between the variables. The regression analysis is used to determine the independent variables' ability to explain the dependent variables' variance (Mussalo, 2015). The strength of Multiple Regression Models is its ability to analyze several variables simultaneously (Mussalo, 2015).

### Residual Audit Fees:

The study uses abnormal audit fees (AAF) to capture the auditor–client economic bond. AAF is defined as the difference between actual audit fees (actual fees paid to auditors for their financial statement audits) and the normal audit fee level (Kasai, 2014). Audit fee residual is computed as the difference between actual audit fees and predicted audit fees (Doogar, Sivadasan, & Solomon, 2015). The predicted audit fee is estimated as the residual of the following modified model (Su, Srinidhi, & Gul, 2007):

$LnFEE_{i,t} = \beta_0 + \beta_1 Big\ 4 + \beta_2 LASSET_{i,t} + \beta_3 LSALES_{i,t} + \beta_4 LEVERAGE_{i,t} + \beta_5 ROA_{i,t} + \beta_6 AR\_INV_{i,t} + \beta_7 NEG\_ROA_{i,t} + \beta_8 LOSS_{i,t} + \beta_9 CFO/TA_{i,t} + \beta_{10} OP\_CYCLE_{i,t} + \varepsilon_{i,t}$

**Description of variables**

| Proxy | Description | Authors |
|---|---|---|
| LnFEE | Natural logarithm of audit fees | |
| Big 4 | 1 if the firm is audited by Deloitte &Touche, Ernst & Young, KPMG or PricewaterhouseCoopers, and 0 otherwise | |
| LASSET | The natural logarithm of total assets<br><br>Large companies are more likely to have more varied risks | Hay,<br><br>Knechel, & Wong (2006); Simunic, (1980) |
| LSALES | The natural logarithm of total sales | Hay, Knechel, & Wong (2006). |
| LEVERAGE | Debt/Equity | |
| ROA | Return on Assets | |
| AR_INV | The sum of receivables and inventory divided by total assets | |
| NEG_ROA | 1 if ROA is negative, and 0 otherwise | |
| LOSS | 1 if the firm reports loss in the previous period, and 0 otherwise | Kent, Routledge, & Stewart (2010); Frankel, Johnson, & Nelson (2002); Brinn, Peel, & Roberts (1994) |
| CFO/TA | Reported CFO scaled by total assets | Cohen, Dey, & Lys (2008);<br><br>Roychowdhury (2006); Zang (2006); Gunny (2005) |
| OP_CYCLE | 365/ (sales/average accounts receivables) + 365/ (cost of goods sold/average inventory) | Kasai (2014) |

**Earnings Informativeness:**

Earnings informativeness is calculated using three different techniques. The validity of these proxies has been confirmed in prior studies (Zang, 2006; Gunny, 2005). The techniques are specified below as follows:

1. **The magnitude of discretionary accruals:** Total accrual is calculated using the *cash-flow statement approach* advocated in Collins and Hribar (2002) as defined in the equation below:

    **$TAC_{i,t} = NI_{i,t} - CFO_{i,t}$**

    Where:

    $TAC_{i,t} = $ Total accruals of firm *i* for time period *t*;

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$NI_{i,t}$      =      Earnings before extraordinary items and discontinued operations

                of firm $i$ in year $t$;

$CFO_{i,t}$      =      Net cash flow from operating activities (taken directly from the

                statement of cash flows) of firm $i$ in year $t$;

Total Accrual (TAC) is given as income before extraordinary items and discontinued operations - Net cash flow from operating activities (less the accrual portion of extraordinary items and discontinued operations reported on the cash flow statement) (Su, Srinidhi, & Gul, 2007). TAC is decomposed into normal (or "expected") and abnormal ("unexpected) accruals component using the *Performance Adjusted Model* developed by Kothari, Leone, and Wasley (2005). The model is specified below as follows:

$$TAC_{i,t}/ TA_{i,t-1} = \beta_0 + \beta_1 (1/ TA_{i,t-1}) + \beta_2 ((\Delta Sales_{i,t}/ TA_{i,t-1}) - (\Delta AR_{i,t}/ TA_{i,t-1}))$$

$$+ \beta_3 PPE_{i,t}/ TA_{i,t-1} + \beta_4 ROA_{i,t-1} + \varepsilon_{i,t}$$

Where:

$TAC_{i,t}$            = Total accruals of firm $i$ for time period $t$;

$TA_{i,t-1}$           = Total assets of firm $i$ at the end of time period $t$-1;

$\Delta Sales_{i,t}$       = Change in net sales of firm $i$ between time period $t$-1 and,

                   time period $t$;

$\Delta AR_{i,t}$           = Change in accounts receivables of firm $i$ from the beginning
                   of time period $t$ until the end of time period $t$;

$PPE_{i,t}$            = Gross book value of the property plant and equipment of firm $i$ at the end of time period   $t$;

$ROA_{i,t-1}$         = Rate of return on assets of firm $i$ for time period $t$-1;

$\beta_0$                 = Constant;

$\beta_1$ $\beta_2$ $\beta_3$ $\beta_4$       = Estimated coefficients;

$\varepsilon_{i,t}$             = The error term representing discretionary accruals of firm $i$ for time period $t$.

The use of lag ROA as a control for firm performance in the performance adjusted model mitigates problematic heteroskedasticity and avoids severe misspecification issues associated with the Jones and Modified Jones models in estimating discretionary accruals (Kothari, Leone, & Wasley, 2005). Following the approach adopted by Kothari, Leone, and Wasley (2005), the model also includes a constant ($\beta_0$) to address the econometric issue of a missing intercept term in the Jones model. Kothari, Leone, and Wasley (2005) find that including a constant provides an additional control for heteroskedasticity not mitigated by assets as a deflator and alleviates problems stemming from an omitted size (scale) variable. Kothari, Leone, and Wasley (2005) also find that including a constant yields a higher symmetry around zero discretionary accruals, enhancing the power of tests for type 1 errors (over rejection of null hypothesis of no earnings management).

2. **Abnormal operating cash flow:** The CFO is expressed as a linear function of sales and change in sales (Mussalo, 2015; Roychowdhury, 2006; Dechow, Kothari, & Watts, 1998). To estimate this model, we used the cross-sectional regression for each industry and year specified below (Cohen & Zarowin, 2010):

$$\frac{CFO_{i,t}}{Assets_{i,t-1}} = \beta_0 \frac{1}{Assets_{i,t-1}} + \beta_1 \frac{Sales_{i,t}}{Assets_{i,t-1}} + \beta_2 \frac{\Delta Sales_{i,t}}{Assets_{i,t-1}} + \varepsilon_{i,t}$$

The abnormal CFO is actual CFO minus the normal level of CFO calculated using the estimated coefficients (Cohen & Zarowin, 2010).

3. **Abnormal production expenditure:** Production costs are defined as the sum of cost of goods sold (COGS) and change in inventory during the year (Cohen & 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).

$$\frac{PROD_{i,t}}{t-1 Assets_{i,}} = \frac{\beta_0 1}{t-1 Assets_{i,}} + \beta_1 \frac{Sales_{i,t}}{t-1 Assets_{i,t-1}} + \beta_2 \frac{\Delta Sales_{i,t}}{Assets_{i,t-1}} + \beta_3 \frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{i,}$$

The abnormal production expenditure is actual production expenditure minus the normal level of production expenditure calculated using the estimated coefficients (Cohen & Zarowin, 2010).

**Analysis of Hypotheses:**

The following empirical models were used in analysing the hypotheses:

DAC  =  $\beta_0 + \beta_1$ AAFEE + $\beta_2$SIZE + $\beta_3$OPCYCLE + $u_1$................................. (1)

ACFO  =  $\gamma_0 + \gamma_1$AAFEE + $\gamma_2$ SIZE + $\gamma_3$ OPCYCLE + $u_2$................................. (2)

APROD =  $\eta_0 + \eta_1$AAFEE + $\eta_2$ SIZE + $\eta_3$ OPCYCLE + $u_3$................................. (3)

The variable of interest, AAFEE (Abnormal Audit Fee), is defined in two ways: An observation of $\beta_1, \gamma_1, \eta_1 < 0$ is consistent with the notion that high audit fees can improve accrual quality. However, $\beta_1, \gamma_1, \eta_1 > 0$ suggests that the higher the audit fees, the lower the accrual quality. I predict the latter.

DAC  =  $\beta_0 + \beta_1$ AAFEE + $\beta_2$ AAFEE*AQ + $\beta_3$ SIZE + $\beta_4$ OPCYCLE + $u_1$............ (4)

ACFO  =  $\gamma_0 + \gamma_1$ AAFEE + $\gamma_2$ AAFEE*AQ + $\gamma_3$ SIZE + $\gamma_4$ OPCYCLE + $u_2$............. (5)

APROD =  $\eta_0 + \eta_1$ AAFEE + $\eta_2$ AAFEE*AQ + $\eta_3$ SIZE + $\eta_4$ OPCYCLE + $u_3$............ (6)

**Robustness Test:**

The models were re-estimated using the total audit fees as the proxy for residual audit fees in models (1), (2), and (3) respectively. The study also employs an alternative model to measure abnormal audit fees, "the ratio method", which was used in Fang and Hong (2008). The model is specified below as follows:

**ΔLn (Fee/Assets)** = Ln (Audit Feet /Assetst) – Ln (Audit Feet – 1/Assetst – 1).

**DATA PRESENTATION AND ANALYSIS**

**Descriptive Statistics**

**Table 1: Summary statistics of audit related and main control variables**

|  | AUDIT_FEE | AUDIT_QUALITY | AVERAGE_ASSET | ARL_DAYS | ROA | BOARD_SIZE |
|---|---|---|---|---|---|---|
| Mean | 67859903 | 0.813953 | 1.30E+11 | 75.36628 | 0.705252 | 8.534884 |
| Median | 14500000 | 1.000000 | 3.14E+10 | 72.50000 | 0.029927 | 8.000000 |
| Maximum | 2.19E+09 | 1.000000 | 2.51E+12 | 217.0000 | 110.9889 | 17.00000 |
| Minimum | 0.000000 | 0.000000 | 1.28E+08 | 38.00000 | -3.021770 | 5.000000 |
| Std. Dev. | 2.24E+08 | 0.389711 | 2.72E+11 | 38.12370 | 6.946099 | 2.875239 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Skewness | 6.142736 | -1.613559 | 5.152355 | 2.216888 | 13.35499 | 0.975448 |
| Kurtosis | 46.18447 | 3.603571 | 38.22441 | 8.502292 | 196.8544 | 3.224479 |
| | | | | | | |
| Jarque-Bera | 28893.59 | 154.4930 | 19306.23 | 715.7148 | 548865.5 | 55.27491 |
| Probability | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| | | | | | | |
| Sum | 2.33E+10 | 280.0000 | 4.47E+13 | 25926.00 | 242.6067 | 2936.000 |
| Sum Sq. Dev. | 1.72E+19 | 52.09302 | 2.53E+25 | 498521.8 | 16549.17 | 2835.581 |
| | | | | | | |
| Observations | 344 | 344 | 344 | 344 | 344 | 344 |

Source: E-Views 9

**Table 2: Summary statistics of audit related and main control variables**

| | BIND | CAP_SALES | ICW | INED | OP_INC_SALES |
|---|---|---|---|---|---|
| Mean | 0.579472 | 1.993535 | 0.604651 | 4.834302 | -1.533074 |
| Median | 0.600000 | 0.516909 | 1.000000 | 4.000000 | -0.012351 |
| Maximum | 0.888889 | 49.30772 | 1.000000 | 11.00000 | 20.92667 |
| Minimum | 0.000000 | 0.000000 | 0.000000 | 0.000000 | -90.14616 |
| Std. Dev. | 0.178057 | 5.655284 | 0.489638 | 2.118608 | 10.00262 |
| Skewness | -1.158238 | 5.219455 | -0.428086 | 0.433491 | -7.278388 |
| Kurtosis | 5.052616 | 33.09365 | 1.183258 | 3.617149 | 61.14241 |
| | | | | | |
| Jarque-Bera | 137.3032 | 14542.58 | 57.81470 | 16.23294 | 51491.63 |
| Probability | 0.000000 | 0.000000 | 0.000000 | 0.000299 | 0.000000 |
| | | | | | |
| Sum | 199.3385 | 685.7761 | 208.0000 | 1663.000 | -527.3774 |
| Sum Sq. Dev. | 10.87453 | 10969.91 | 82.23256 | 1539.555 | 34318.01 |
| | | | | | |
| Observations | 344 | 344 | 344 | 344 | 344 |

Source: E-Views 9

**Test of Hypotheses**

**Hypothesis One**

*Ho$_1$: Abnormal audit fee has a non-significant negative effect on magnitude of discretionary accruals of manufacturing firms*

**Table 3: OLS analysis output of first regression model**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 31.00234 | 27.71541 | 1.118596 | 0.2641 |
| AUDIT_FEE | -4.58E-09 | 1.29E-08 | -0.355408 | 0.7225 |
| AUDIT_QUALITY | 10.58984 | 6.787509 | 1.560195 | 0.1197 |
| AVERAGE_ASSET | -6.24E-12 | 1.26E-11 | -0.496622 | 0.6198 |
| ARL_DAYS_ | 0.049245 | 0.075021 | 0.656423 | 0.5120 |
| ROA | 1.504087 | 0.370078 | 4.064241 | 0.0001 |
| BOARD_SIZE | -3.059848 | 2.492812 | -1.227468 | 0.2205 |

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| | | | | |
|---|---|---|---|---|
| BIND | -107.8990 | 46.51135 | -2.319843 | 0.0210 |
| CAP_SALES | -0.314333 | 0.476174 | -0.660123 | 0.5096 |
| INED | 9.273997 | 4.548440 | 2.038940 | 0.0423 |
| OP_INC_SALES | 4.007051 | 0.257168 | 15.58143 | 0.0000 |

Effects Specification

Period fixed (dummy variables)

| | | | |
|---|---|---|---|
| R-squared | 0.477813 | Mean dependent var | -7.304242 |
| Adjusted R-squared | 0.450582 | S.D. dependent var | 63.01428 |
| S.E. of regression | 46.70791 | Akaike info criterion | 10.57661 |
| Sum squared resid | 711210.9 | Schwarz criterion | 10.77757 |
| Log likelihood | -1801.177 | Hannan-Quinn criter. | 10.65665 |
| F-statistic | 17.54689 | Durbin-Watson stat | 1.567750 |
| Prob(F-statistic) | 0.000000 | | |

Source: E-Views 9

**Interpretation:**

The regression model shown above with the one IV and nine CVs: audit quality, average asset, audit report lag (ARL), ROA, board size, board independence, capital to sales, independent executive directors and operating income to sales ratio. 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-square is 0.4778 and the adjusted R-square which takes care of error is 0.4506. Therefore, on approximate basis the independent and control variables account for 45% variation in the dependent variable. Also, the F-statistic has a value of 17.547 with *p*-value of 0.000 which is < than 0.05 margin of error.

The *coefficient* (-4.58E-09) and *t-statistic* (-0.355) of the variable of interest audit fee (AF) is negative and statistically non-significant (*p-value*>.05). Thus, the alternate hypothesis is rejected and null accepted; therefore, "Abnormal audit fee has a non-significant negative effect on magnitude of discretionary accruals of manufacturing firms".

**Hypothesis Two**

*Ho2:* *Abnormal audit fee has a non-significant negative effect on abnormal operating cash flow of manufacturing firms*

**Table 4: OLS analysis output of second regression model**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -6.42E+09 | 4.45E+10 | -0.144095 | 0.8855 |
| AUDIT_FEE | -29.41368 | 20.72104 | -1.419508 | 0.1567 |

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| | | | | |
|---|---|---|---|---|
| AUDIT_QUALITY | 1.46E+10 | 1.09E+10 | 1.335902 | 0.1825 |
| AVERAGE_ASSET | 0.304139 | 0.020180 | 15.07102 | 0.0000 |
| ARL_DAYS_ | 5119775. | 1.21E+08 | 0.042467 | 0.9662 |
| ROA | 1.01E+09 | 5.95E+08 | 1.703921 | 0.0893 |
| BOARD_SIZE | -3.31E+08 | 4.01E+09 | -0.082637 | 0.9342 |
| BIND | -1.34E+11 | 7.47E+10 | -1.789321 | 0.0745 |
| CAP_SALES | -7.04E+08 | 7.65E+08 | -0.920157 | 0.3582 |
| INED | 2.21E+10 | 7.31E+09 | 3.026716 | 0.0027 |
| OP_INC_SALES | 5.68E+08 | 4.13E+08 | 1.375163 | 0.1700 |

Effects Specification

Period fixed (dummy variables)

| | | | |
|---|---|---|---|
| R-squared | 0.676827 | Mean dependent var | 6.85E+10 |
| Adjusted R-squared | 0.659975 | S.D. dependent var | 1.29E+11 |
| S.E. of regression | 7.51E+10 | Akaike info criterion | 52.97189 |
| Sum squared resid | 1.84E+24 | Schwarz criterion | 53.17286 |
| Log likelihood | -9093.166 | Hannan-Quinn criter. | 53.05194 |
| F-statistic | 40.16169 | Durbin-Watson stat | 1.548948 |
| Prob(F-statistic) | 0.000000 | | |

Source: E-Views 9

**Interpretation:**

The regression model shown above with the one IV and nine CVs: audit quality, average asset, audit report lag (ARL), ROA, board size, board independence, capital to sales, independent executive directors and operating income to sales ratio. 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-square is 0.677 and the adjusted R-square which takes care of error is 0.660. Therefore, on approximate basis the independent and control variables account for 66% variation in the dependent variable. Also, the F-statistic has a value of 40.162 with *p*-value of 0.000 which is < than 0.05 margin of error.

The *coefficient* (-29.414) and *t-statistic* (-1.420) of the variable of interest audit fee (AF) is negative and statistically non-significant (*p-value*>.05). Thus, the alternate hypothesis is rejected and null accepted; therefore, "Abnormal audit fee has a non-significant negative effect on abnormal operating cashflow of manufacturing firms".

**Hypothesis Three**

$Ho_3$: *There is a non-significant positive effect of abnormal audit fees on abnormal production expenditure of manufacturing firms.*

**Table 5: OLS analysis output of third regression model**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 1.27E+10 | 2.75E+10 | 0.462457 | 0.6441 |
| AUDIT_FEE | 10.99207 | 12.77625 | 0.860352 | 0.3902 |
| AUDIT_QUALITY | -9.82E+08 | 6.73E+09 | -0.146012 | 0.8840 |
| AVERAGE_ASSET | 0.727462 | 0.012443 | 58.46417 | 0.0000 |
| ARL_DAYS_ | 15027464 | 74334884 | 0.202159 | 0.8399 |
| ROA | -53037414 | 3.67E+08 | -0.144637 | 0.8851 |
| BOARD_SIZE | -1.08E+09 | 2.47E+09 | -0.437713 | 0.6619 |
| BIND | 4.96E+09 | 4.61E+10 | 0.107628 | 0.9144 |
| CAP_SALES | -2.68E+08 | 4.72E+08 | -0.567940 | 0.5705 |
| INED | -1.40E+09 | 4.51E+09 | -0.311574 | 0.7556 |
| OP_INC_SALES | 6.37E+08 | 2.55E+08 | 2.499163 | 0.0129 |

| | Effects Specification | | | |
|---|---|---|---|---|

Period fixed (dummy variables)

| | | | | |
|---|---|---|---|---|
| R-squared | 0.949768 | Mean dependent var | | 9.37E+10 |
| Adjusted R-squared | 0.947148 | S.D. dependent var | | 2.01E+11 |
| S.E. of regression | 4.63E+10 | Akaike info criterion | | 52.00477 |
| Sum squared resid | 6.98E+23 | Schwarz criterion | | 52.20573 |
| Log likelihood | -8926.820 | Hannan-Quinn criter. | | 52.08481 |
| F-statistic | 362.5778 | Durbin-Watson stat | | 1.685511 |
| Prob(F-statistic) | 0.000000 | | | |

Source: E-Views 9

**Interpretation:**

The regression model shown above with the one IV and nine CVs: audit quality, average asset, audit report lag (ARL), ROA, board size, board independence, capital to sales, independent executive directors and operating income to sales ratio. 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-square is 0.950 and the adjusted R-square which takes care of error is 0.947. Therefore, on approximate basis the independent and control variables account for 94.7% variation in the dependent variable. Also, the F-statistic has a value of 362.578 with *p*-value of 0.000 which is < than 0.05 margin of error.

The *coefficient* (10.992) and *t-statistic* (0.860) of the variable of interest audit fee (AF) is positive and statistically non-significant (*p-value*>.05). Thus, the alternate hypothesis is rejected and null accepted; therefore, "there is a non-significant positive effect of abnormal audit fees on abnormal production expenditure of manufacturing firms".

## CONCLUSION & RECOMMENDATIONS

The study concludes that there is a relationship between residual audit fees and earnings informativeness of quoted manufacturing firms in Nigeria. Prior literature has reiterated the fact that audit fee is an indication of the earnings quality of a firm. And the earnings quality is of prime interest to numerous stakeholders; such as the investors, creditors, regulators, employees, etc. And yet other studies have established a relationship between audit quality and financial reporting quality. However, the extent to which the abnormal audit fees reflects the earnings information has not been sufficiently investigated. The results document evidence of a non-significant negative effect of abnormal audit fee on magnitude of discretionary accruals and abnormal operating cash flow; while a non-significant positive effect on abnormal production expenditure exists.

The study makes the following recommendations:

1. External audit firms should employ appropriate pricing mechanisms/tools to avoid over-charging or under-charging clients: The pricing mechanism should take due cognisance of the risk involved in the audit exercise.

2. Capital market regulators should be mindful of the effect of competition in the auditing profession and its consequent effect on fee low balling by new entrants. This factor should be taken into consideration in the formulation of capital market policies in order to avert malignant fees which can compromise independence.

3. The shareholders need to be watchful of audit fees charged by audit firms: This may be indicative of unhealthy practices in the company and a high level of risk which the audit firm is at a disadvantage being exposed to. Thus, it enables investors gauge the prime facie audit quality of the firm and improve precision of future assessments.

4. Manipulating reported earnings reduces its informativeness and increases the risk for auditors. It is therefore suggested that audit firms pay attention to cash flow information as managers may resort to the use of deceitful methods to re-adjust cash flow information.

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