

**AUDIT ATTRIBUTES AND FINANCIAL REPORTING QUALITY OF QUOTED
FOOD AND BEVERAGES FIRMS IN NIGERIA**

BY

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**BEING A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE
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DECLARATION

I declare that this Thesis entitled “Audit Attributes and Financial Reporting Quality of Quoted Food and Beverages Firms in Nigeria” has been carried out by me in the department of accounting. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this thesis was previously presented for another degree or diploma at this or any other institution.

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CERTIFICATION

This Thesis entitled “Audit Attributes and Financial Reporting Quality of Quoted Food and Beverages Firms in Nigeria” by Aliyu Usman meets the regulations governing the award of the degree of Master of Science in Accounting and Finance of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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This Thesis is dedicated to my beloved 'Family' for their patience, understanding and support they have shown throughout the program. May Allah's endless blessings and guidance continue to remain with them, AMIN.

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ABSTRACT

Efficient financial management in the corporate world has become topical in the last two decades as a result of series of financial scandals that happened both at national and international levels. This has raised a lot of questions on the capacity of auditing firms globally and raised concern on the role of an external auditor in providing security against financial fraud and deliberate misrepresentation of financial reports. However one of the major issues that are of concern in the public domain has been the incessant problems that have bedeviled the public companies in Nigeria in spite of the annual independent audit exercises. This study examined the impact of audit attributes on the financial reporting quality of quoted food and beverages firms in Nigeria. Secondary data from annual reports and accounts was employed. The correlational research design was used in a sample of fifteen (15) firms for a period of six years (2008-2013). Random Effect (GLS) regression technique for data analysis was used. The study found a significant positive relationship between audit attributes and financial reporting quality during the period under review. Specifically, the study found that auditor size, audit delay and auditor remuneration have a significant positive impact on the quality of financial report of the sample firms. The study on the other hand found that auditor rotation has no significant impact on the financial reporting quality of the sample firms. The study recommends that the regulators (SEC) of the listed companies in Nigeria should emphasize and encourage the use of audit quality attributes; especially the auditor size, audit delay and auditor remunerations. The study also recommends that managers of the food and beverages firms in Nigeria should improve compliance with the acceptable ethical standards in discharging their duties and responsibilities, so as to enhance the credibility of their financial reports and safeguard their entities from going-concern threats.

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CHAPTER ONE INTRODUCTION

1.1 Background to the Study

Financial statements audit is a monitoring mechanism that helps reduce information asymmetry and protect the interests of the principals, especially, stockholders and potential investors, by providing reasonable assurance that financial statements prepared by managements are free from material misstatements and intentional errors (Watts and Zimmerman, 1986). This monitoring function of external auditors is critical to the quality of financial reports and the level of confidence by the users of accounting information. In this context, Wright and Wright (1997) posit that audited financial statements are the joint product of the auditor-client negotiation process. Therefore, audit quality is at the heart of the integrity of the audit process. That is, maintaining the integrity of the independent audit functions about financial reporting is mandatory for auditors and required by the laws and regulations of the accounting profession. However, recent accounting and audit scandals at companies such as Adelphia, Tyco International, Enron, Cadbury, and WorldCom have eroded public confidence in the independence of the accounting profession and the quality of audit services.

Audit quality describes how well an audit detects and reports material misstatements (including intentional and unintentional errors) of financial statements, reduces information asymmetry between management and stockholders and helps protect the interests of stockholders (Chen, Elder, & Liu, 2005). High audit quality is therefore associated with high information quality of financial statements because financial statements audited by high quality auditors should be less likely to contain material misstatements and unethical accounting practices.

In response to the global accounting and audit scandals by accounting regulatory bodies around the world headed by the International Federation of Accountants (IFAC), stringent

regulations are established and enforced, and the existing ones are reviewed. These include International Auditing and Assurance Standards Board (IAASB), International Standards on Auditing (ISA), International Ethics Standards Board for Accountants (IESBA), International Standards on Assurance Engagements (ISAE), International Standards on Review Engagements (ISRE), International Standards on Related Services (ISRS), International Standards on Quality Control (ISQC), International Auditing Practice Notes (IAPN), and Consultation Papers (IAASB, 2013).

According to IFAC (2013), through its auditing operational arm (IAASB), global financial stability is supported through high quality reporting, which could be achieved through high quality audits that can help foster trust in the quality of reporting. It also highlights the importance of audit quality and its relevance to all stakeholders in the financial reporting supply chain. With this in mind, the IAASB developed the Framework for Audit Quality that describes in a holistic manner, the different elements that create the environment for audit quality at the engagement, firm, and national levels, as well as relevant interactions and contextual factors.

It is worth noting that the mission of IFAC and its organs is to serve the public interest by: contributing to the development of high-quality standards and guidance; facilitating the adoption and implementation of high-quality standards and guidance; contributing to the development of strong professional accountancy organizations and accounting firms, and to high quality practices by professional accountants, and promoting the value of professional accountants worldwide; and speaking out on public interest issues. Similarly, in efforts to restore public confidence in accounting and audit services, individual countries particularly United State of America (US) and European Union (EU) has also responded significantly. For instance, in US Sarbanes-Oxley (SOX) act of 2002 was enacted to address the issues of audit quality by increasing the independence of outside auditors who review the accuracy of corporate financial standard. Moreover, SOX created a new agency, the Public Company

Accounting Oversight Board (PCAOB), charged with overseeing, regulating, inspecting and disciplining accounting firms in their roles as auditors of public companies (SOX, 2002).

The general focus of IFAC and SOX is basically on the quality of auditing in order safeguard the integrity of financial reporting and the accounting profession as a whole. The major audit attributes covered in SOX and IAASB's framework of audit quality include the audit independence (through audit and non-audit fees), audit rotation, audit competence and experience, and timely audit process. It is therefore concluded by the regulators that high quality audits provide a number of benefits to institutions, financial systems and existing and potential investors. Similarly, external audits performed in accordance with the best world practices and ethical standards are critical to the appropriate implementation of investment, credit and similar decisions.

However, not only accounting regulators and professional bodies responded to the gross loss of confidence in accounting and auditing profession associated with poor quality audit, researchers also joined the struggle to investigate the factors associated with audit that distort the financial reporting quality. For instance, DeAngelo (1981) and Shockley (1981) proposed that audit firm size is positively associated with audit quality, and that, larger audit firms are viewed as more independent than smaller firms. That is, larger audit firms are perceived to be more likely to resolve audit conflicts in favor of the audit firm's position and thus high quality financial reporting. In essence, larger audit firms are more likely to resist client management pressures than smaller audit firms in auditor-client negotiation over financial reporting issues (Chen et al., 2005). As such audit quality studies indicate that, when accounting firm size is used as the indicator of audit quality, higher audit quality is associated with less information asymmetry and higher information quality. On the other hand, a large body of research has studied the issue of auditor rotation, primarily by testing whether proxies for earnings quality (financial reporting quality) or audit quality improve or deteriorate with long-term auditor-client relationships.

In view of this, the opponents of audit rotation suggest that the loss of experience with the audit client due to rotation reduces audit quality (Myers, Myers, & Omer, 2003). Similarly, Dopuch, King, and Schwartz (2001) reported that rotation discourages auditors from intentionally biasing their audit opinions in favor of management, despite incentives to compromise their independence, which affects financial reporting quality negatively. On the other hand, the long association between a client and the auditor may lead to closer identification of the auditor with the interests of the client and could lead to impaired auditor independence. Thus, mandatory auditor rotation could enhance auditor independence. Moreover, the economic view of audit quality, suggests that auditor independence and audit quality could be impaired in the early years of auditor tenure because auditors could be more accommodating to the client to extract future quasi-rents to recover losses incurred due to low-balling. Thus, restricting auditor tenure could exacerbate auditor independence rather than enhancing it.

Moreover, prior research on financial reporting quality has linked audit delays and quality of financial reporting, because audit delays can cause delay in annual accounting disclosures. Delayed earnings announcements generally cause less market reaction than early announcements due to lack of timeliness or even negative reactions as they are likely to contain bad news (Alkhatib&Marji, 2012). According to Abdulla (1996), the shorter the time between the end of the accounting year and the publication date of the year's financial statements, the greater the benefits that can be derived therefrom.

Another factor affecting the quality of audit is audit remuneration (audit and non audit fees) in relation to auditor independence. It is argued that audit remuneration can strengthen the auditor's economic bond with the client, their by increasing the auditor's incentives to acquiesce to client pressure, including pressure to allow earnings management which reduces the quality of financial reporting (Simunic 1984, and Beck *et al*,1988a). On the other hand, audit remuneration can also increase the auditor's investment in reputational capital which

the auditor is not likely to jeopardize or satisfy the demand of any one client, and thus increase the quality of audit and financial reporting as well (Arrunda, 1999).

Some of the major motivating factors for this research effort are the brazen concern associated with the rot in the financial reporting quality in Nigeria, and the recent adoption of International Financial Reporting Standard (IFRS). This made Nigeria to be a member of IFAC, where all the international accounting and auditing regulations are applicable to the Nigerian accountants and auditors. Recently, emphases have been on the effect of the type of audit firm that review and approve organizations financial reports, audit firm rotation, audit fees and audit delay on financial reporting quality in Nigeria.

1.2 Statement of the Problem

The issue of efficient financial management has become topical in the last two decades. A series of financial scandals that happened both at national and international level have raised a lot of questions on the capacity of auditing firms globally. World financial scandals such as Enron, World Com, Barings, Parmalat, Cadbury Nigeria Plc, have raised concern on the role of external auditors in providing security against financial fraud and deliberate misrepresentation of financial reports. However, one of the major issues that are of concern in the public domain has been the incessant problems that have bedevilled the major firms in Nigeria. In recent times, financial crime has become more pervasive and the probability of corporate fraud occurring has become more severe. These aspects of business failure have put greater responsibility on financial experts particularly auditors to improve their capability in order to identify at the right time the symptoms and fraud so as to nip in the bud any case of corporate failure.

There is also a theoretical debate as regard the effect of the audit firm size on financial reporting quality. Sawan and Alsaqqa (2012) have argued that the type of audit firm

employed by a firm to review its financial report enhances financial reporting quality. They further asserted that the big four counterparts in all of the financial reporting issues present to them and that the size of the audit firm is positively associated with audit quality. Such superiority is seen in terms of resources and audit technology. There is high intellectual argument as to which is best audit size that will produce higher total infraction precision among the two options. Therefore, this study predicts that the use of big4 auditors could enhance the quality of accounting information, due to high technology and manpower with diverse knowledge associated with them. Despite the arguments regarding audit firm size and financial reporting quality around the world, there are absent of empirical studies that investigated such issues in the listed food and beverages firms in Nigeria, which this study attempts to investigate.

Another issue that dominated the accounting literature is the association or relationship between audit firm tenure and the quality of financial reporting. This issue has been subject to extensive debate and the conclusions have been mixed. The debate on audit firm rotations has received considerable attention over the years. The seeming evidence of the effect of audit firm rotation on financial reporting quality has been anecdotal. Some studies have been able to suggest that financial reporting quality is lower when auditor's tenure is short. It is important to note that a negative association between reporting quality and short auditor tenure may be attributable to the out-going auditors own effort. This has provided an avenue for us to empirically examine the effect of audit firm rotation on financial reporting quality in Nigeria.

Understanding and identifying the time to submit audit report may be important to the financial reporting quality. This is because the more the time between the end of financial year and the date the financial statement is made available were shorter the better the benefit of the audited financial reports. By convention financial reports must be available to

stakeholders in time so that they can use the information to take important decisions that will move the company forward. The timely release of financial report may be impeded by a number of factors. It may be caused by the time taken by auditors to review and approve financial reports. Available information from financial reports has shown a mean audit delay of about 180 days for the last 10 years.

Another important concern that surrounds the issue of financial reporting quality is the audit fees. Some studies have argued that both annual and longer term measures of abnormal audit fees, especially with higher annual excess fees are generally associated with lower financial reporting while a multi period measure that reflect consistently higher audit fees is associated with sound financial reporting quality. Similarly, the Nigerian food and beverages sector of the economy has been neglected over time, in terms of empirical studies investigating the relationships between audit quality attributes and their financial reporting quality. Therefore, this study is an effort towards this direction. It is in view of this that this study intends to empirically examine the effect of audit fees on the financial reporting quality of listed food and beverages companies in Nigeria.

In Nigeria, it is important to note that the Regulatory agencies have responded by compelling companies to comply with stringent corporate governance codes to ensure sound and efficient financial reporting in Nigeria. Despite the interventions of the regulatory authorities, the challenges of ensuring credibility in financial reporting and auditing are still prevalent. It therefore becomes pertinent to investigate some of these factors that can affect financial reporting quality in order to enhance the relevance of audit and assurance functions in Nigeria. Food and beverages firms are considered in this study due to the little or absent of empirical studies on audit quality and financial reporting quality, which calls for the investigation of the sector.

1.3 Research Questions

To guide and achieve the research objectives certain fundamental questions are raised. The study seeks to answer to the following research questions:

- i. What is the effect of audit firm size on the financial reporting quality of listed food and beverages firms in Nigeria?
- ii. How does audit rotation affect the financial reporting quality of listed food and beverages firms in Nigeria?
- iii. What is the relationship between audit delay and the financial reporting quality of listed food and beverages firms in Nigeria?
- iv. How does audit remuneration affect the financial reporting quality of listed food and beverages firms in Nigeria?

1.4 Objectives of the Study

The major objective of the study is to assess the impact of audit quality attributes on the financial reporting quality of listed food and beverages firms in Nigeria. Other specific objectives are;

- i. To examine the effect of audit firm size on the financial reporting quality of listed food and beverages firms in Nigeria.
- ii. To investigate the effect of auditor rotation on the financial reporting quality of listed food and beverages firms in Nigeria.
- iii. To assess the effect of audit delay on the financial reporting quality of listed food and beverages firms in Nigeria.
- iv. To examine the effect of auditor remuneration on the financial reporting quality of listed food and beverages firms in Nigeria.

1.5 Hypotheses of the Study

In line with the objectives of this study, the following hypotheses are formulated in null form:

- H₀₁: Audit Firm Size has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria.
- H₀₂: Auditor Rotation has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria.
- H₀₃: Audit delay has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria.
- H₀₄: Auditor Remuneration has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria.

1.6 Significance of the Study

The financial scandals and corporate failures are proven to have had a detrimental effect on the public's perception of external audit. More disturbingly, O'Malley (1993) asserted that external audit quality is threatening the survival of accounting firms and indeed it has the power to destroy the quality of financial reporting as a whole. This study is significant in providing empirical evidence that could ensure the credibility and integrity of accounting and auditing profession in Nigeria. The study is significant to accountants and auditors, Managers, Regulators and Standard Setters, Potential and Existing Investors and Researchers. The study is expected to be useful in the following ways:

- i. It will add value to the literature of audit quality in Nigeria. This is important since auditors perform the function of reviewing and approving firms financial reports.
- ii. The study will also offer important input to serve as a strong base for the audit profession to establish policies relating to type of audit firm, audit rotation, audit

delay and audit firms fees. This is important because most of the issues in this area are based on anecdotal evidence, particularly in Nigerian context since evidence regarding these issues has been relatively limited. The study therefore hopes not only to help enrich the literature, but also provides important quantitative information for policy formulation

- iii. The study will educate shareholders of food and beverages company in Nigeria to know the implications of retaining an auditor for a longer period without rotating or even changing the audit firm and the consequences thereof.
- iv. The Nigerian Stock Exchange and the Securities and Exchange Commission (SEC) would find the outcome of the study beneficial as it will highlight the existence, nature and extent of the relationship between external audit attributes and financial reporting quality in organizations.

1.7 Scope of the Study

This study examined the attributes of audit quality in relation to financial reporting quality, and is restricted to food and beverages firms listed on the floor of the Nigerian Stock Exchange (NSE) as at the end of 2013 accounting period. The period is chosen because it is the period immediately after the economic meltdown in Nigeria, and is also the period when the companies in Nigeria undergo both structural and operational reforms. These changes have affected their volume of activities and the nature of audit firms they engaged. This suggests that accounting and audit should refocus towards same direction to avoid instances of material, intentional and unintentional errors and misstatements in the financial statements, which impair the quality of financial reporting.

Therefore, financial reporting quality in this study refers to earnings quality (earnings with less level of discretionary accruals, which is associated with earnings managements). Audit

quality attributes on the other hand, is the audit firm size, audit rotation, timeliness of audit (audit delay), and audit remuneration. The study covers the period of six years (2008-2013).

CHAPTER TWO LITERATURE REVIEW

2.1 Introduction

This chapter presents and discusses relevant literature on audit quality attributes and financial reporting quality. The chapter begins with conceptual issues. It also reviews empirical literature on audit quality attributes and financial reporting quality as well as the theoretical framework of the study.

2.2 Concept of Financial Reporting Quality

Financial reporting Quality refers to the extent to which accounting information is free from errors, misstatements and other unethical accounting and managerial practices. This is also known as earnings management, which according to Schipper (1989) refers to the purposeful intervention in the external financial reporting process, with the objective of obtaining some private gain. In the words of Healy and Wahlen (1999), earnings management occurs when managers use judgment in financial reporting and in structuring transaction to alter financial reports to either mislead some stakeholders about the underlying economic performance of a company, or to influence outcomes that depends on reported earnings. Earnings management according to Bello (2010), is any attempt to cook/doctor or tailor financial accounting reports to a given desired level. He regarded earnings management as ethical misconduct of accountants and relates it to the recent times corporate failures and loss of investors' confidence on both financial reports and auditors.

Therefore, earnings quality or accruals quality is regarded as earnings that accurately represent the economic implications of underlying transactions, the proportion of earnings relative to operating cash flows (McNichols, 2002). Thus, the higher levels of cash components of earnings, the higher the quality of earnings. However, Kaplan (1985) argues that 'normal' accruals arising in the ordinary course of business are unlikely to reflect

managerial manipulations, and any manipulation of accounting number will most likely manifest in ‘abnormal or discretionary’ accruals. Thus, the large portion of abnormal accruals is an indication of higher earnings management and poor or low quality of earnings. Discretionary accruals can be income increasing (positive) or income-decreasing (negative). In this study, earnings management refers to any intentional and unintentional errors and misstatements that affect financial reporting.

2.2.1 Measures of Financial Reporting Quality

There are three categories of financial reporting quality proxies: properties of earnings, investor responsiveness to earnings, and external indicators of earnings misstatements (Dechow, et al., 2010). Category one, properties of earnings include earnings persistence and accruals; earnings smoothness; asymmetric timeliness and timely loss recognition; and target beating, in which the distance of earnings from a target (e.g., small profits) is viewed as an indication of earnings management, and earnings management is assumed to erode earnings quality. Category two, investor responsiveness to earnings, includes the use of an earnings response coefficient (ERC) or the R-square from the earnings-returns model as a proxy for earnings quality and that relate the ERC to another construct such as auditor quality. Category three, external indicators of earnings misstatements, includes Accounting and Auditing Enforcement Releases (AAERs), restatements, and internal control procedure deficiencies reported under the Sarbanes Oxley Act, all of which are viewed as indicators of errors or earnings management.

Properties of Earnings

The properties of earnings include earnings persistence, abnormal accruals derived from modeling the accrual process, earnings smoothness, asymmetric timeliness and timely loss

recognition, and target beating (Dechow, et al., 2010). The target beating studies use measures of earnings relative to any target (or benchmark) as a proxy for earnings quality.

Earnings persistence- The research on earnings persistence focuses on the usefulness of earnings to equity investors for valuation. There are two broad streams to this research; first stream is motivated by an assumption that more persistent earnings will yield better inputs to equity valuation models, and hence a more persistent earnings number is of higher quality than a less persistent earnings number (Dechow, et al., 2010). According to them, the aim of the studies is to identify financial characteristics associated with persistent earnings. These studies are limited in their contribution to evaluating persistence as a proxy for earnings quality because of the maintained assumption that more persistent earnings are more decision useful for equity valuation (Dechow, et al., 2010).

The second stream of research attempts to address the broader issue of whether earnings are decision useful in that it improves equity valuation outcomes. A higher beta implies a more persistent earnings stream. Intuitively, the logic behind earnings persistence being a quality metric is as follows: If firm A has a more persistent earnings stream than firm B, in perpetuity, then (i) in firm A, current earnings is a more useful summary measure of future performance; and (ii) annuitizing current earnings in firm A will give smaller valuation errors than annuitizing current earnings in firm B. Thus, higher earnings persistence is of higher quality when the earnings is also value-relevant (Dechow, *et al.*, 2010).

Abnormal Accruals- This is another significant area of research on earnings quality that distinguishes “abnormal” from “normal” accruals by directly modeling the accrual process. The normal accruals are meant to capture adjustments that reflect fundamental performance, while the abnormal accruals are meant to capture distortions induced by application of the accounting rules or earnings management (i.e., due to an imperfect measurement system) (Dechow, et al., 2010). According to them, these measures attempt to directly capture problems with the accounting measurement system and so are particularly relevant to

accounting researchers. They further state that the general interpretation is that if the “normal” component of accruals is modeled properly, then the abnormal component represents a distortion that is of lower quality. An important point to remember when reviewing these models is that the measures of abnormal accruals obtained from the models tend to be positively correlated with the level of accruals. In other words, a firm with extreme accruals also has extreme abnormal accruals. This observation is important for interpreting results in the literature. Abnormal accruals have been used as a proxy for earnings quality to test predictions in almost all of the determinants and consequences categories.

Some of the most widely used accruals models focus on the potential of the model to identify abnormal accruals that represent a distortion and earnings management. Jones (1991) defines the accrual process (working capital accruals and depreciation) as a function of sales growth and plant, property and equipment (PPE). While sales growth and investment in PPE are reasonable and intuitive drivers of firm value, and the estimation of the Jones model confirms a correlation between these fundamental firm attributes and accruals, the explanatory power of the Jones model is low, explaining only about 10% of the variation in accruals (Dechow, et al., 2010). They add that, one interpretation of the low explanatory power is that managers have considerable discretion over the accrual process, which they use to mask fundamental performance. Consistent with the assumption that, the residual represents greater discretion, Xie (2001) documents that the residuals from the Jones model have lower predictive ability for year-ahead earnings than the non-discretionary (i.e., “normal”) accruals. However, the residuals are highly (80%) positively correlated with total accruals (Dechow et al., 2003), and they are positively correlated with earnings performance and negatively correlated with cash flow performance (Dechow et al., 1995). These patterns are suggestive of a high Type I error rate. In addition, Dechow et al. (2010) show that discretionary accruals are generally less powerful than total accruals at detecting earnings management in SEC enforcement releases,

which indicates that use of the Jones model residuals as a proxy for poor quality accruals due to earnings management is subject to Type II errors.

Based on a different perspective, Dechow and Dichev (2002) view the matching function of accruals to cash flows as being of primary importance and thus model accruals as a function of current, past, and future cash flows because accruals anticipate future cash collections/payments and reverse when cash previously recognized in accruals is received/paid. They focus on short-term working capital accruals and do not attempt to model long-term accruals and their relation to cash flows. The R squares from their specification are higher than those of the modified Jones model: 47% at the firm level, 34% at the industry level, and 29% at the pooled level (Dechow, et al., 2010). The standard deviation of the residuals from the model is their proxy for earnings quality. They show that firms with larger standard deviations have less persistent earnings, longer operating cycles, larger accruals, and more volatile cash flows, accruals and earnings; these firms are smaller and are more likely to report a loss. Their findings suggest that these firm characteristics are indicative of a greater likelihood of estimation error in accruals and thus lower accrual quality. Note that the Dechow and Dichev model is unsigned. Using an unsigned measure can reduce the power of tests when the researcher predicts accounting distortions in a particular direction (e.g., managers boosting earnings). In addition, their model cannot be used to identify distortions induced by long-term accruals. This has been the limitation of the model because impairments of PPE and goodwill are likely to reflect earnings management or accounting distortions that can be particularly important for evaluating the quality of earnings.

Francis et al. (2005) modify and extend the Dechow and Dichev model in two ways. First, as suggested by McNichols (2002), they add growth in revenue in an attempt to reflect performance, and they add PPE, which expands the model to a broader measure of accruals that includes depreciation. The second way they extend the Dechow and Dichev model is to decompose the standard deviation of the residual into firm-level measures of innate estimation

errors and discretionary estimation errors. This allows them to make statements about “managerial choices” (i.e., intentional errors) avoided by Dechow and Dichev.

Dechow and Dichev (2002) argue that large accrual adjustments are likely to contain more forecasts and involve more estimation. Therefore, earnings in firms with extreme accruals are likely to contain more estimation error that will need to be corrected/reversed in future periods. These error corrections are likely to reduce the persistence of earnings. Holding the magnitude of accruals constant, they show that firms with greater measurement errors (via their accrual quality proxy) have lower earnings persistence. Therefore, the results in both Dechow and Dichev (2002) and Xie (2001) suggest that reliability concerns play a role in explaining why extreme accrual firms have less persistent earnings. In this study, the modified Dechow and Dichev (2002) is adopted.

Earnings Smoothness-Dechow, et al., (2010) opine that the basic tenet of an accrual-based earnings system is that earnings smooth random fluctuations in the timing of cash payments and receipts, making earnings more informative about performance than cash flows. While the concepts statements do not state that “smoothness” is necessarily a desirable property of earnings or an objective of the accruals process, SFAC No. 1 does recognize that accrual earnings help mitigate problems associated with a “mismatch” of cash receipts and payments when reporting accounting information for finite periods. In addition, SFAC No. 1 concludes that accrual earnings will provide “...a better indication of an enterprise’s present and continuing ability to generate favorable cash flows than information limited to the financial effects of cash receipts and payments.” Thus, the standard setter’s goal is a representation of fundamental performance that improves cash flow predictability. Smoothness is an outcome of an accrual-based system assumed to improve decision usefulness. It is not the ultimate goal of the system (Dechow, *et al.*, 2010).

In assessing smoothness as a measure of earnings quality, an underlying assumption of the standard setter’s choice is that accrual earnings is a better measure of fundamental

performance than is a measurement system based on cash receipts and payments. The assumption that accrual-based earnings will be a better representation of fundamental performance than cash receipts and payments seems intuitive for many business activities, but it is just an assumption. Accruals that lead to smoothness can hide or delay the measurement of changes in fundamental performance, which presumably would be decision useful if revealed (Dechow, *et al.*, 2010). Thus, Dechow *et al.*, (2010) assert that, even absent accounting choice by firms with respect to accounting methods, estimates, or real activities, smoothness is not a *de facto* indication of greater decision usefulness or higher earnings quality. The commonly used measures of earnings smoothness are a variant of the variability of earnings relative to cash flows from operations ($\sigma(EARN)/\sigma(CFO)$) and the correlation between changes in accruals and changes in cash flows from operations ($Corr(\Delta ACC, \Delta CFO)$), in both cases, cash flow smoothness is the benchmark (Dechow, *et al.*, 2010).

The investor responsiveness to earnings category involves the evaluation of an earnings response coefficient (ERC), most often short-window, or the R-square from the earnings-returns model (Dechow, *et al.*, 2010), a measure of investor responsiveness to earnings and the studies explicitly state (or at least strongly imply) that investor responsiveness to earnings is a direct proxy for earnings quality (or for earnings informativeness).

According to Dechow, *et al.*, (2010), the external indicators of earnings misstatements include: SEC Accounting and Auditing Enforcement Releases (AAERs), restatements, and internal control procedure deficiencies reported under the Sarbanes Oxley Act (SOX). All the three are used as measures of earnings misstatements, either intentional (i.e., earnings management) or unintentional (i.e., errors).

2.3 Concept of Audit and Audit Quality Attributes

Wallace (1980) revealed that audit quality is a measure of the auditor's ability to reduce noise and improve fitness in accounting data. Lee, Leu and Wang (1999) regard audit quality as the

probability that an auditor will not issue an unqualified report for statements containing errors, intentional and otherwise. Titman and Trueman (1986) see audit quality as the accuracy of the information reported by auditors. Therefore, audit quality combines the ability of an auditor to detect a breach (auditor competence) and the willingness to report such a breach (auditor independence). Additionally, if auditors appear to lack independence, this increases the perception that they are less objective and therefore less likely to report a discovered misstatement (Lowe & Pany, 1995).

An audit is therefore defined by price water house coopers (2013) as the examination of the financial reports of an organization as presented in the annual report, by someone independent of that organization. The financial reports in the context of audit includes a statement of financial position, an income statement, a statement of changes in equity, a cash flow statement, and notes comprising a summary of significant accounting policies and other explanatory notes. According to the Institute of Chartered Accountant's of Nigeria (2010), an audit refers to a systematic process of objectively obtaining and evaluating evidence in respect of certain assertion about economic actions and events to ascertain the degree of correspondence between those assertions and established criteria and reporting the results to interested parties over a particular period of time. On the other hand, the Institute defined an auditor as a person or audit firm with final responsibility for the audit. In the words of IAASB (2013), an auditor is used to refer to the person or persons conducting the audit, usually the engagement partner or other members of the engagement team, or, as applicable, the firm.

External auditor in this regard refers to independent auditor who is not subject to management control and linked him to independent audit, which refers to the provision of reasonable assurance that published audited financial statements are free from material misstatements and are in accordance with legislation and relevant accounting standards (ICAN, 2010). Porter, Simon and Hatherley (1996) define auditors as intermediaries between

the management of an entity and external parties having interests in the entity. According to them, auditors have a duty to form and express an opinion as to whether or not the financial statements prepared by the management show a true and fair view of the entity's financial position and performance.

The purpose of an audit therefore, is to enhance the degree of confidence of intended users in the financial statements, which is achieved by the expression of an opinion by the auditor on whether the financial statements are prepared, in all material respects, in accordance with an applicable financial reporting framework (ISA, 200). The standard further states that, in the case of most general purpose frameworks, that opinion is on whether the financial statements are presented fairly, in all material respects, or give a true and fair view in accordance with the framework.

However, the concept of audit in this study refers to an assurance engagement that involved objective process of obtaining and evaluating evidence in respect of financial statements, in order to form an opinion that published financial statements are free from material misstatements and intentional errors, and are in accordance with relevant legislation. While an auditor is the person with final responsibility for the audit, who serve as intermediary between the managers of an entity and external parties having interests in the entity. The interests of those parties is usually accounted for in the financial reports of an entity at the end of each accounting period, which external independent auditors certify. For the opinion of external auditors to be accepted with higher degree of confidence by the users of financial reports, there should be a quality audit work.

The IAASB (2013) stressed that to achieve high quality financial reporting, audit quality is an essential element. The board opined that global financial stability is supported through high quality reporting; and audits can help foster trust in the quality of reporting through audit

quality. With this in mind the IAASB developed Framework for Audit Quality that describes in a holistic manner the different elements that create the environment for audit quality at the engagement, firm, and national levels, as well as relevant interactions and contextual factors. Audit quality is defined by IAASB (2013) as auditors applying a rigorous audit process and quality control procedures that comply with laws, regulations and applicable standards. It encompasses the key elements that create an environment which maximizes the likelihood that quality audits are performed on a consistent basis. These elements are inputs, processes, outputs, interactions, and contextual Factors. The objectives of the Framework for Audit Quality include; raising awareness of the key elements of audit quality; encouraging key stakeholders to explore ways to improve audit quality; facilitating greater dialogue between key stakeholders on the topic (IAASB, 2013). The IAASB framework attributed the primary responsibility for performing quality audits to auditors, and emphasized that audit quality is best achieved in an environment where there is support from other participants in the financial reporting supply chain.

The IAASB expects that the Framework for Audit Quality will generate discussion in the financial reporting supply chain, and positive actions to achieve a continuous improvement to audit quality. Quality audits involve auditors who respond properly to contextual factors. Contextual factors are described as having the potential to impact the nature and quality of financial reporting and, either directly or indirectly, audits quality (IAASB, 2013).

In view of the necessity of audit quality in achieving high quality financial reporting, DeAngelo (1981) conceptualized audit quality to mean the market-based joint probability that a given auditor will both detect material misstatements in the client's financial statements and report the material misstatements. She emphasizes the role of the market in assessing audit quality through financial reporting; however, the willingness to report discovered material misstatements is defined by DeAngelo (1981) as auditor independence. Therefore, according

to DeAngelo (1981), audit quality is a function of the auditor's ability to detect material misstatements (auditor competence and auditor independence).

Since actual audit quality is unobservable before and when an audit is performed, extant literature document proxy when investigating the relationships between actual audit quality and other factors. These include audit firm size, audit rotation, audit delay and audit remunerations; for instance, DeAngelo (1981) demonstrates that auditor size has a positive relationship with audit quality, because a large audit firm has more to lose by failing to report a discovered material misstatement in a client's records. Following DeAngelo's study, many other studies empirically examine the relationship between auditor size and audit quality which is positively associated with high financial reporting quality.

2.4 Review of Empirical Studies on Audit Quality Attributes and Financial Reporting Quality

Empirical studies on the relationship between audit quality attributes and earnings quality or financial reporting quality provides contradictory results. However, different studies use different methodologies in different settings; these studies do not however dispute the fact that audit quality attributes are not playing a significant role in producing high quality financial reporting.

2.4.1 Audit Firm Size and Financial Reporting Quality

Extant literature on audit quality and financial reporting quality emphasize the role of audit firm size as attribute of audit quality in shaping the quality of financial reporting of economic entities. Recent audit failures, such as Enron, Waste Management, and WorldCom, cast doubt on a positive relationship between size and actual audit quality as well as financial reporting quality. This suggests that largest audit firms may have lost the perceived association with higher audit quality. DeAngelo (1981) proposed that audit firm size is positively associated

with audit quality, since a large audit firm has more to lose by failing to report a discovered material misstatement in a client's records; while Shockley (1981) demonstrated that larger firms are viewed as more independent than smaller firms. That is, larger audit firms are perceived to be more likely to resolve audit conflicts in favor of the audit firm's position, suggesting that protection of reputation capital is another reason why large audit firm are likely to be more independent (Gul, 1991). Thus, audit independence is highly associated with the quality of financial reports.

Moreover, these arguments imply that larger audit firms will be more likely to resist client management pressures than smaller audit firms in auditor-client negotiation over financial reporting issues (Chen et al., 2005). Many audit quality studies indicate that, when accounting firm size is used as the indicator of audit quality, higher audit quality is associated with less information asymmetry and higher information quality. Becker et al., (1998) used discretionary accruals as the measure for earnings management to assess financial reporting quality; their findings indicated that audit quality is negatively related to income-increasing discretionary accruals, which indicates that high audit quality is associated with low information asymmetry. On the other hand, Teoh and Wong (1993) used Big8 audit firm as proxy for size found that Big 8 clients are associated with higher earnings response coefficients. The earnings response coefficient is the coefficient on earnings resulting from regressing stock returns on reported earnings. It measures the quality of financial reporting that is, the extent to which the market responds to earnings. However, among other potential audit quality measures, such as audit fee and audit hours, auditor firm size commonly is used as a proxy for audit quality (Dang 2005). Specifically, researchers often use the dichotomous Big 8/6/5/4 vs. non-Big 8/6/5/4 as an audit quality proxy. In this context big audit firms represent high audit quality, and non-Big audit firms represent low audit quality (DeAngelo, 1981).

The findings of studies that investigated the relationship between audit quality and audit firm size using some other different proxies for audit quality usually support the hypothesis that audit quality and audit firm size are positively associated. For instance, Palmrose (1988) provides evidence that auditor size and audit quality using litigation activity as the proxy for audit quality, and Teoh and Wong (1993) test this relationship using earnings response coefficients to measure audit quality. However, the proxy used in Teoh and Wong's (1993) study may capture only perceived audit quality, an auditor's actual ability to detect and report accounting misstatements.

Teoh and Wong (1993) used Big8 audit firm as proxy for size found that Big 8 clients are associated with higher earnings response coefficients. The earnings response coefficient is the coefficient on earnings resulting from regressing stock returns on reported earnings. It measures the quality of financial reporting that is, the extent to which the market responds to earnings. DeFond and Jiambalvo (1993) show that auditor-client conflicts relating to income increasing accounting practices are more likely to occur if the auditor belongs to the Big Eight. They conclude that the Big Eight are better able to resist managerial pressure and are more likely to maintain an independent opinion. Becker et al. (1998) obtain a positive relationship between abnormal accruals and the fact that the auditor is non-Big Six. Through an extensive comparison of firms between 1975 and 1994, Francis et al. (1999) also observe a lower level of abnormal accruals among Big Six-audited companies.

2.4.2 Audit Rotation and Financial Reporting Quality

Regulators express concerns that pressure to retain client firms and the comfort level created between auditors and management over time impair auditor independence, which adversely affects audit quality and financial reporting quality (GAO 2003). In recent years, standard setters have proposed and implemented various forms of mandatory auditor rotation. For

instance, the SEC requires rotation of audit engagement and concurring review partners (SEC 2003), and the European Union directs that key audit partners rotate (Commission of the European Communities 2006).

Moreover, both the U.S. and Europe have revisited the recurring, controversial topic of audit firm rotation, with the U.S. likely dropping rotation and E.U. likely to continue with the rotation (Bowlin, Hobson & Piercey, 2014). In view of these, opponents of audit rotation like Myers et al., (2003); PwC (2011); and AICPA (2011b) suggest that the loss of experience with the audit client due to rotation reduces audit quality. On the other hand, the PCAOB and other proponents argue that existing rotation requirements in the U.S. are insufficient and that firm rotation requirements will enhance audit quality and professional skepticism (PCAOB 2011a; Hall 2011).

Over the past decade, a large research has studied the issue of auditor rotation, primarily by testing whether proxies for earnings quality (financial reporting quality) or audit quality improve or deteriorate with long-term auditor-client relationships. Reviews of this literature by Cameran, Prencipe, and Trombetta (2008) revealed mixed results. For instance, Myers et al. (2003) and Cameran et al. (2008) note that self-selection bias limits the extent to which archival findings can address the effects of auditor rotation on audit quality. The PCAOB (2011b) surmises that this self-selection issue confounds the conclusions that can be drawn from prior research.

Dopuch et al. (2001) reported that rotation discourages auditors from intentionally biasing their audit opinions in favor of management, despite incentives to compromise their independence which affects financial reporting quality negatively. In view of a longer retention period as encouraged by Dopuch et al. (2001) and Wang and Tuttle (2009) call for future research on the aspects of auditor rotation

For instance, Myers et al. (2003), Gul et al. (2009), and Rice and Weber (2011) reports negative effects of rotation on audit quality. On the contrary, Kealy, Yee, and Stein (2007), Dao, Mishra, and Raghunandan (2008), and Davis, Soo, and Trompeter (2009) find positive effects. Moreover, Knechel and Vanstraelen (2007), Chen et al. (2008), Chi, Huang, Liao, and Xie (2009) find no or mixed effects.

Wang and Tuttle (2009) point out that the existing experimental research on rotation has focused on auditors' reporting decisions that occur only after auditors have planned the audit and collected evidence. Consequently, Geiger and Raghunathan (2002) opined that the literature on auditor tenure recognizes two opposing effects of auditor tenure or rotation on audit quality. First, according to the regulatory view, the U.S. Senate (1976) noted that the long association between a client and the auditor may lead to closer identification of the auditor with the interests of the client and could lead to impaired auditor independence. Thus, mandatory auditor rotation could enhance auditor independence. Secondly, according to the economic view, auditor independence and audit quality could be impaired in the early years of auditor tenure because auditors could be more accommodating to the client to extract future quasi-rents to recover losses incurred due to low-balling. Thus, restricting auditor tenure could exacerbate auditor independence rather than enhancing it.

Further, the longer tenure enhances audit quality by enabling the auditor to learn more about the client's business, industry, internal control systems etc. (Beck et al., 1988). Therefore, different proxies for audit rotation are used by a number of recent studies which have examined the relationship between auditor tenure and bond ratings, earnings management, earnings response coefficients, nature of audit opinions issued, and frequency of restatements of financial statements (Vanstraelen 2000; Geiger and Raghunandan 2002; Myers et al. 2003 and Ghosh and Moon 2005). While Myers et al. (2003) find that accruals (their proxy for earnings management) decrease with auditor tenure, that is, lower earnings management, Davis et al. (2002), also using accruals, find an increase with audit tenure. Myers et al. (2003)

state that the association between auditor tenure and the propensity for restatements could be positive or negative and conclude that the evidence provides no clear support for mandatory auditor rotation. In the same vein, Vanstraelen (2000) finds that long auditor tenure significantly reduces the auditor's willingness to qualify audit reports.

On the other hand, Geiger and Rughunandan (2002) examine audit reporting failures and find no evidence of impaired audit quality when auditor tenure is longer; their results indicate that audit failures are more likely to occur in the beginning of the auditor-client relationship. Consistent with this finding, Carcello and Nagy (2004) study the relationship between tenure and fraudulent financial reporting and find that fraudulent financial reporting is more likely in the early years of the relationship. They further report no evidence of a relationship between fraud and longer tenure.

Some researches investigate the relation between accruals and auditor tenure. Discretionary accruals are frequently used as an indicator of earnings management and also audit quality. Myers, Myers and Omer (2003) find an inverse association between the level of discretionary accruals and auditor tenure as well as an inverse relationship between auditor tenure and the dispersion of accruals. These findings imply that auditors with longer tenure actually restrict management discretion in the reporting of earnings. Davis, Soo and Trompeter (2003) investigate the relationship between discretionary accruals and auditor tenure and report that discretionary accruals increase with auditor tenure. They also report that analyst earnings forecast errors decrease as auditor tenure increases. These findings are consistent with the possibility of auditors acquiescing more in later years of the engagement and management using this to meet earnings forecasts.

Carey and Simnett (2006) find a positive relationship between auditor tenure and audit failure in Australia. This implies that there is a deterioration of audit quality as audit tenure increases. While in a sample of Belgian companies, Vanstaelen (2000) report that for both

financially distressed and non-financially distressed companies, long-term auditor-client relationship significantly increase the likelihood of an unqualified opinion or significantly reduce the auditors' willingness to qualify audit reports.

Therefore, in line with the arguments in respect of audit firm rotation and financial reporting quality around the world, this study will provide evidence from the listed food and beverages firms in Nigeria, which this study attempts to investigate.

2.4.3 Audit Delay and Financial Reporting Quality

Audit delay, according to Almosa and Alabbas (2007), is the length of time from a company's fiscal year end to the date of the auditor report. Recent studies have proposed that the time line for releasing audited financial statements be reduced to reasonable length to enhance capital market efficiency. Abnormal audit delay on the other hand, refers to the portion of the audit delay that cannot be explained by factors identified in prior research that determine audit delay. Prior research on financial reporting quality has examined the determinants of audit delays; audit delays can cause delay in annual accounting disclosures.

Delayed earnings announcements generally cause less market reaction than early announcements due to lack of timeliness or even negative reactions as they are likely to contain bad news (Alkhatib&Marji, 2012). However, the research question that audit delay, that may be caused by material disagreement between the auditor and client regarding accounting practices and/or calculation of accounting numbers, may contain information about quality of earnings beyond that conveyed by earnings report delay has not been investigated by extant research, particularly in the developing economies like Nigeria. This is in spite of the fact that the market may use this incremental information about earnings quality in the firm's valuation process.

Audit delay is shown to provide incremental information about earnings quality beyond that contained in the earnings report delay (Alkhatib&Marji, 2012). In essence, abnormal audit delay creates skepticism among investors about earnings quality and they value the disclosed earnings after discounting for such delay. Thus, the existing literature provides evidence to support the hypothesis that audit delays signal poor earnings quality and that investors discount the value relevance of such earnings when making resource allocation decisions. This has implications for the role of independent auditors in the attestation process and the informational efficiency of the equity markets.

Several studies have examined the determinants of audit delays. Whittred (1980), and Garsombke (1981) find that audit delays are inversely related to total assets; Courtis (1976) also reports that financial firms have less delays than other firms. Davies and Whittred (1980) and Garsombke (1981) find longer delays for companies with fiscal year-ends during the busy season. Givoly and Palmon (1982) look at relationship between audit delays and firm size, operational complexity, and quality of internal controls. Ashton *et al.* (1987) examine 14 determinants of audit delays. In the multivariate analyses, five of these are significant. They find that audit delay is positively associated with natural logarithm of total revenue and operational complexity; and negatively associated with publicly traded companies, quality of internal controls, and relative mix of audit work performed at interim and final dates.

Newton and Ashton (1989) examine audit delays among Canadian Big-Eight firms. Contrary to their expectations, they find that structured audit approaches lead to more audit delays than firms using unstructured audit technology. On the other hand, Ashton *et al.* (1989) find that for a sample of Canadian firms, client size, auditor size, fiscal year ending in busy season, industry classification, existence of extraordinary items, and sign of net income have significant effect on audit delays.

Carslaw and Kaplan (1991), in addition to variables from prior research, add two more variables for a sample of New Zealand firms-company control and debt proportion. Bamber*et*

al. (1993) conclude that audit delays are an increasing function of extent of audit work, decreasing function of incentives to provide a timely report, and increasing function of the extent to which an auditor employs a structured audit approach. Kinney and McDaniel (1993) extend prior research by relating audit delays to correction of previous interim earnings. They show that audit delay is positive for firms with interim overstatements and declining earnings, and that the audit delay increases with the size of the overstatement of interim earnings.

Lawrence and Glover (1998) report that contrary to expectations, mergers of audit firms did not lead to the expected improvements in operational efficiency due to synergy. Knechel and Payne (2001) use proprietary data to examine the effect of incremental audit effort, resource allocation of audit team effort, and the provision of non-audit services on audit delays. Payne and Jensen (2002) and Johnson *et al.* (2002) examine audit delays in specific settings, such as municipal corporations and local governments. More recently, Ettredge *et al.* (2006) examine the impact of section 404 of Sarbanes-Oxley Act requirements on audit delays and Tamara *et al.* (2007) examine the consequences of accelerated filings required by SEC rule 33-8644. The latter find reductions (increases) in audit delay are associated with lower (higher) earnings quality.

Prior studies cited above have primarily focused on the factors that impact audit delays. Another stream of research has examined the effect of delay in disclosing accounting information on the information content of the accounting disclosure. Kross (1982) and Kross and Schroeder (1984) find that late earnings announcements are associated with lower (even negative) abnormal returns than early announcements. There is also evidence that management may intentionally delay (speed up) the announcement of bad (good) news (Penman 1984&Verrechia 1983). Givoly and Palmon (1982) and Chambers and Penman (1984) argue that the information content of annual reports would deteriorate with reporting delay as investors gain information from alternative sources of information, prevalence of leaks, exploitation of inside information, voluntary disclosures by firms, or through

information transfers from earnings reports released by other firms (Foster, 1981). This stream of literature deals with intentional delay of bad news by managers or diminished informativeness due to lack of timeliness of earnings disclosure.

Prior researches like Johnson *et al.* (2002), measured audit delay as the natural logarithm of the number of calendar days from fiscal year-end to date of auditors' report. They reported that abnormal audit delay is associated with poor quality earnings. Earnings report delay is defined as the number of calendar days' delay in disclosing the earnings after the end of the fiscal year-end. While financial reporting quality is usually measured using earnings quality measure, such as the discretionary accruals to total assets at the end of the fiscal year, where discretionary accruals are calculated using the cross-sectional version of the Jones (1991) model as in DeFond and Jiambalvo (1994); and the difference between net income and cash from operations is the measure of total accruals (Hribar & Collins, 2002).

In this regard, Abdulla (1996) suggested that the shorter the time between the end of the accounting year and the publication date of the year's financial statements, the greater the benefits that can be derived from the financial statements. Timely publication of financial information of a company depends very much on the time taken to complete the audit because the financial statements cannot be issued until the audit has been concluded. Givoly and Palmon (1982) contended that the single most important determinant of the timeliness of the earnings announcement is the length of the audit. It cannot be denied that a time gap always exists between the end of the accounting period and the time when the audited information is made available to the public (Ponte, Rodriguez & Dominguez, 2008), yet minimizing the gap would enhance market efficiency.

Leventis *et al.* (2005) reported that type of auditor, audit fees, the number of remarks in the audit report, the presence of extraordinary items and the expression of uncertainty in the audit report are all statistically significant factors in affecting timely reporting. Companies which choose the external auditor from internationally affiliated firms, or pay a premium audit fee

have shorter audit report lag. Large multinational and more reputable auditing firms might take less time to conduct assurance services for several reasons. These companies may have more resources and higher quality staff (Chan, Ezzamel&Gwilliam, 1993). Moreover, Francis and Wilson (1988) suggested that audit firms invest in their brand name reputation in order to command fee levels for higher quality assurance. Audit firms would then have an incentive to provide a higher quality audit in order to protect their brand name and future revenues.

Auditees may be willing to pay a higher fee for the promptness of the assurance service which has been related in the literature to perceived audit quality (Carcello, Hermanson& McGrath, 1992). On the other hand, companies that report extraordinary items in their income statement or have a large number of remarks, or an uncertainty qualification in their audit report have a longer audit report lag. All these reflect potentially bad news in the eyes of the users of the annual report. The result is consistent with Haw *et. al*(2000) which stated that bad news companies tend to release their annual reports later. As for the control variables like nature of ownership, profitability, gearing, number of subsidiaries, industry type, reliance on another auditor for an opinion, and a change of auditor from the previous year, no significant association have been found with audit delay.

In Malaysia, Adzrin and Anuar (2003) found that audit delay in public listed companies from year 1996 to year 2000, is significantly longer for companies classified as non-financial industry, receiving other than unqualified audit opinions, incurring losses and having higher risk. This study also found that companies with the accounting year end other than 31 December and are being audited by small and medium size audit firms require longer period to audit. Based on literature therefore, audit delay is associated with several factors relating to the company itself, the auditors, or external factors.

Audit delay is measured as the number of days from the date of financial year end to the date of auditor report. Timely dissemination of financial statements is crucial to reduce information asymmetry and is important for a well-functioning capital market (Owusu-

Ansah, 2000). Late release of financial statements increases the uncertainty associated with investment decisions. A number of studies undertaken to examine the determinants of audit report timeliness, both in the public and private sectors, have established that Big Four (formerly Big Five/Six/Eight) auditors can improve reporting timeliness. Kinney and McDaniel (1993) examine audit delays in relation to correction of previous interim earnings. They show that audit delay is positive for firms with interim overstatements and declining earnings, and that the audit delay increases with the size of the overstatement of interim earnings.

2.4.4 Audit Remuneration and Financial Reporting Quality

The U. S. SEC in 2000, defined independence as a mental state of objectivity and lack of bias. In the same context, Hope and Langli (2007) defined auditor independence as the auditor objectivity and ability to withstand client pressure. They further lamented that this pressure includes monetary and otherwise provided it makes auditor comply with management desire rather than his professional judgment. This view is consistent with the code of Ethics of the International Federation of Accountants (IFAC, 2000) where the code sees independence as a state of not being controlled by other people or things, such as financial benefits. The code further states that auditor needs to be objective in the course of performing his duties.

This therefore, constituted concept of independence in the context of this study refers to a state of not being controlled by the management of an entity using any means financial or otherwise). However, the Code of Ethics of the International Federation of Accountants (IFAC) recognize independence as fundamental ethical principle and makes it mandatory for both accountants in business and in public practice with special emphasis on all professional persons exercising professional judgment. The code state that an auditor needs to be objective

in the course of performing his duties, and divides independence into two; independence of mind and independence in appearance which are to be observed by an auditor in passing his professional opinion.

Independence of mind, according to the code of ethics of the IFAC refers to the state of mind that permits the provision of an opinion without being affected by influences that compromise professional judgment, allowing an individual to act with integrity, and exercise objectivity and professional scepticism. While independence in appearance connotes the avoidance of facts and circumstances that are so significant that a reasonably informed third party, having knowledge of all relevant information, including safeguards applied, would reasonably conclude that a firm's integrity, objectivity or professional scepticism had been compromised. The code concludes that an auditor should not only be independent, but must be seen to be independent.

There are two schools of thought in respect of audit remuneration (audit and non audit fees) in relation to auditor independence. On one hand, it is argued that audit remuneration can strengthen the auditor's economic bond with the client, their by increasing the auditor's incentives to acquiesce to client pressure, including pressure to allow earnings management which reduces the quality of financial reporting (Simunic 1984, and Beck *et al* 1988a). This is also the perception of regulators, the general public and this study as well, that is, public perception of independence may be put in jeopardy with the remuneration. On the other hand, audit remuneration can also increase the auditor's investment in reputational capital which the auditor is not likely to jeopardize to satisfy the demand of any one client, and thus increase the quality of audit and financial reporting as well (Arrunda 1999).

According to the regulators, provision of non-audit services by auditors are the major source of excessive fees to auditors which DeAngelo (1981) argued impair independence and

provides an incentive not to report the discovered breach to retain the client. Similarly, Koh, Rajgopal and Srinivasan (2008) are with the view that, the regulators' concerns of impaired independence via audit remunerations, that is, the strength of the audit firm's economic dependence on the client, or the economic bond, consciously or otherwise, reduces the auditor's independence or the willingness to resist client-induced biases in the reporting process. They further stressed that, the lack of auditor independence is assumed to result in lower earnings quality. Thus, the economic bonding hypothesis predicts a positive correlation between non-audit services and poor earnings quality.

Therefore, non-audit services in addition to making total fees excessive, provides the client with leverage over the auditor since withholding such services from the auditor penalizes the auditor without corresponding penalties for the client (Koh *et al.*, 2008). They conclude that, the clients' power through the auditor increases when the auditor provides management consultancy services, as such; auditors are more likely to accommodate client preferences in the presence of non-audit fees.

However, audit literature documented three hypotheses with respect to non-audit services and financial reporting quality. The first hypothesis as argued by Simunic (1984) is that, non-audit services improves audit effectiveness through knowledge spill-over. That is, a better understanding of the client's business arising due to management consultancy services could improve audit quality. Secondly, Benston (1975) and Antle (1984) state that, concerns about reputation among auditors are likely to create incentives for independence. In this context, Koh *et al.*, (2008) lament that, if providing non-audit services is correlated with auditor reputation, then a positive association between non-audit services and earnings quality should be expected. Thirdly, auditors concerns about litigation provide another incentive for auditor independence as confirmed by Palmrose (1988).

Financial reporting quality can be associated with audit fees through its association with the expected present value of possible future losses that may result from the audit of financial statement, in two ways. Firstly, an auditor should be concerned about its client's likelihood of engaging in earnings management and this would increase the risk of accounting misstatements and would require more audit effort to deal with the potential cases of misstatements, or the auditor may choose to charge such a client higher fees to compensate for the greater risk of financial losses or loss in reputation. And, to the extent that measures of earnings quality are associated with this risk, they should affect audit fees (Sengupta and Shen, 2007). Secondly, auditors should also be concerned about the quality of the financial statements disclosed by their clients as investors and other stakeholders could hold the auditor partially responsible for poor quality disclosures. Because of this, auditor may view firms with higher information risk to be associated with relatively higher litigation risk and charge them higher fees as compensation for the additional risk of losses that may arise (Frankel, *et al.*, 2002). Contrary to this view, Hope and Langli (2007) argue that auditors are willing to sacrifice client's that pay abnormally large fees for audit and non-audit services. They proposed a measure of abnormal audit fees, as the residuals from the regression of auditor fee measures. Unexplained audit fees is usually measured in prior research by the residuals from regression of auditor fee measures on client's firm size, complexity and risk, and audit firm characteristics (Hope &Langli, 2007).

However, one of the determinants of audit remuneration is the client firm's size that is, the larger the size of the client firm, the higher the audit fees. Sales revenue, total assets, number of business segments, book value of equity and market value of equity are usually used as proxy for size (Hope &Langli, 2007). Complexity of client firms are measured by level of sales revenue and inventories, while risks is measured by the client's firm leverage and cash flow from operations.

The regulator's concerns about auditor independence is generally underlying by the economic bonding hypothesis, that argues that, the strength of the audit firm's economic dependence on the client or the economic bond, consciously or otherwise, reduces the auditor's independence, or the willingness to resist client-induced biases in the reporting process. Thus, the lack of auditor independence is assumed to result in poor financial reporting quality (Koh, *et al.*, 2008). It is based on this that different measures are used to proxy economic bonding so as to draw inferences on auditor independence.

Chung and Kallapur (2003) use the ratio of client audit fee to total audit firm revenues, and client non-audit fee to total audit firm revenues as measures of the threat to auditor independence. They also use client total fees and non-audit fees divided by an estimate of practice office revenues as proxy for threat to auditor independence. In another effort, Frankel *et al.*,(2002), Hope and Langli (2007) and Kanagaretnamet *al.*,(2008) use various measures of fees to capture an auditors' economic dependence on the client. These are total fee, non-audit fee and audit fee. While Brown, Falaschetti and Orlando (2006), Dee, Lulseged and Nowlin (2002) uses audit and non-audit fees. By using fee ratio, and total fees to capture auditors' economic bonding, Ashbaughet *al.* (2003) discover that fee ratio does not capture the economic importance of the client to the audit firm when the total client fees are immaterial to the audit firm. They therefore conclude that the sum of audit and non-audit fees (total fees), rather than the fee ratio is the more appropriate measure of the economic dependence of the auditor on a client. They add that, the fee ratio capture the relative monetary value of the audit versus non-audit services provided by the audit firm to a client.

In Australia, Wines (1994) finds non-audit fees dependence is related to a reduced likelihood of qualification. The study concludes that non-audit fee impairs auditor independence. Becker et al., (1998) used discretionary accruals as the measure for earnings management to assess financial reporting quality; their findings indicated that audit quality is negatively related to

income-increasing discretionary accruals, which indicates that high audit quality is associated with low information asymmetry. A different study by Gul *et al.*, (2003) examines the relationship between audit fees and discretionary accruals in a sample of Australian firms, their results show a positive association between discretionary accruals and audit fees. They dispute the belief that audit fees erode independence and financial reporting quality.

Chung and Kallapur (2003) use the ratio of client audit fees to total audit firm revenues and client non-audit fee to total audit firm revenues as a measures of auditor independence and study there relation with earnings management. They report no association between audit fee and the absolute value of discretionary accruals measured with the modified Jones model. They conclude lack of association between non-audit fees and earnings management.

Frankel, Johnson and Nelson (2002) study the association between non-audit fees, audit fees and earnings management via discretionary accruals and the likelihood of firms meeting earnings benchmarks to draw inferences on auditor independence, in a sample of US firms and find a positive relationship between non audit fees and small earnings surprises and the magnitude of discretionary accruals. While the result on total audit fees indicates that, there is no association between total audit fees and earnings management. And also, audit fees are significantly negatively associated with earnings management. Signifying, auditor independence is compromised when clients pay high non-audit fees relative to total fees. They conclude that clients are more likely to manage earnings via accruals if they also pay their auditors high amount of non-audit fees.

Defondet *al.*, (2002) finds no association between non-audit fees and impaired auditor independence in a study of non-audit fees and the issuance of a going concern audit opinion in US. They conclude that auditor's concern over the loss of reputation and litigation costs is

responsible for the reported result. They added that the costs of loss of reputation and litigation outweigh the expected benefits from compromising independence.

Dee, Lulseged and Nowlin (2002) study the relationship between audit and non-audit fees and earnings management, their results provide evidence that client firms paying high proportions of non-audit fees have income-increasing discretionary accruals and total accruals, suggesting that auditors may be less diligent in curbing income-increasing earnings management for client firms from which they receive high proportion of non-audit fees, which give auditors economic incentives to compromise their independence, resulting in lower quality audits and thus, lower quality earnings.

Similarly, Ashbaugh *et al.*, (2003) examines the relationship between discretionary accruals and audit fee ratio and total fees in a sample of US firms after controlling for firm performance they find that there is no statistically significant association between discretionary accruals and total audit fees. They also document a positive correlation between the absolute value firm's discretionary current accruals and fee ratio. In their second test, they indicate no association between fee ratio and the likelihood of firms reporting small earnings increases and a negative association between total fees and the likelihood of firms reporting small earnings increases. Contrary to Frankel *et al.* (2002) they find no significant association between either the fee ratio or total fees, and firms meeting analysts' forecasts. They conclude that there is a little evidence supporting the claim that auditors violate their independence as a result of clients paying high fees.

Brown *et al.*, (2006) in US study the influence of auditor independence on earnings quality using audit fee and non-audit fee; their findings show a positive association between auditor independence and earnings quality. Signifying auditor independence improves the quality of

earnings. They conclude that auditor independence does not, by itself, materially degrade the quality of financial disclosures (either internally or externally).

A study by Kohet *al.*, (2008) investigates the impact of non-audit services provided by auditors on auditor independence and on clients' financial reporting quality. Their results contradict economic bonding hypothesis, that is, indicate no statistical association between non-audit fees and absolute discretionary accruals. They also report a significant negative association between non-audit fees and the likelihood of reporting a small earnings surprise and a positive correlation between non-audit services and earnings informativeness. They conclude that audit and or non-audit fees do not impair auditor independence which results in poor quality of earnings.

Haribaret *al.*, (2010) provides evidence of positive association between unexplained audit fees and low earnings quality, from a sample of US firm. They conclude that auditors increase audit hours and audit fees in cases where they perceived client's accounting quality to be poor and this improves accounting quality.

Basioudiset *al.*, (2006) find that firms with high audit fees are more likely to receive a going concern modified audit opinion whereas firms with non-audit fees are less likely to receive going concern modified opinion in a small sample of financially distressed U.K. firms. Concluding that, non-audit fees impair independence. Hope and Langli (2007) investigate whether higher levels of audit and non-audit fees impair auditor objectivity using a sample of Norwegian private firms, by examining the relationship between abnormal or unexplained auditor fees and auditors' propensity to issue a going concern opinion. Their results indicate that there is no evidence that fees have the negative consequences on auditor independence/objectivity. That is, they find no evidence of a negative association between audit and/or non-audit services and the likelihood of issuing going concern qualification.

In Nigeria, Semiu and Kehinde (2011) empirically examine the perception of auditor independence in Nigeria during the period of 2000 to 2008, their results show that the size of audit fee is the most influencing factor capable of deterring auditor independence in Nigeria. Semiu and Johnson (2012) also confirm that audit and /or non-audit fees threaten auditors' independence in Nigeria. In their study of the effects of joint provision of audit and non-audit services on auditor independence, they show that joint provision of non-audit services potentially impairs auditors' independence. In contrast, Umar (2012) investigates the stakeholders' perception of non-audit services provision vis-à-vis auditor independence in Nigeria during the period 2005 to 2010, his findings reveal that non-audit services do not impair auditors independence. However, the findings reveal that there are a number of threats to auditor independence and one of which is familiarity, which comes as a results of long-term audit firm-client relationship.

Another empirical study on the relationships between auditors' independence (measured by audit fees) and the nature of audit report issued in sample of publicly quoted firms in Nigeria during the period 2002 to 2006 by Oladipupo and Izedonmi (2011) indicates that there is a positive but insignificant relationship between auditor independence and the nature of the audit report issued by the auditors.

In summary, a critical review shows that most of these studies are conducted in advanced economies from different sectors of the economy, those studies conducted in Nigeria have not investigated the relationship between audit quality attributes and financial reporting quality. Thus, a gap for this study to fill, this study is therefore unique in using a measure of earnings management (discretionary accruals) to investigate the impact of audit quality attributes on financial reporting quality of listed food and beverages firms in Nigeria.

2.5 Theoretical Framework

The financial statement audit is a monitoring mechanism that helps reduce information asymmetry and protect the interests of the principals, specifically, stockholders and potential stockholders, by providing reasonable assurance that management's financial statements are free from material misstatements (Watts and Zimmerman, 1986). Based on this, the economic theory of firm is usually the framework of economic analysis of auditor independence (Antle, Griffin, Teece & Williamson, 1997). According to the theory, firms are designed to maximize the owners' wealth, and the auditors' independence is a function of auditors' interests which is never compromised in the best interest of the auditors. Thus, different factors which include personal and institutional affect auditors' independence and audit quality in general, these factors include fees and familiarity and audit firm size. These according to Johnstone, Sutton, and Warfield (2001) affect independence and auditors' judgment-based decisions, and the overall audit quality.

However, the performance quality of this monitoring function may vary; audit quality which relate to the attributes of audit firm describes how well an audit detects and reports material misstatements of financial statements, reduces information asymmetry between management and stockholders and therefore helps protect the interests of stockholders (Dang 2004). In this regard, high audit quality should be associated with high information quality of financial statements because financial statements audited by high quality auditors should be less likely to contain material misstatements.

Therefore, among the theories that explain audit quality and financial reporting quality is economic bonding theory from agency perspective. According to agency theory, audit is a monitoring mechanism that provides reasonable assurance that financial statements prepared by managers are free of material misstatement and therefore protects the interest of

stakeholders. Furthermore, in cases where interests of management conflicts with the interests of stockholders and the fact that management compensation often is based on reported earnings and in order to maximize their wealth, managers have incentives to manage reported earnings and they often have the ability to do so (Dang, 2004). This agency problem between stockholders and managers gives rise to the hiring of an auditor who provides independent assurance to corporate stakeholders. Thus, auditing plays a significant role in enforcing and protecting stakeholders' right by detecting misstatements and expropriation by managements. For auditors to successfully discharge this responsibility, they need to be independent that is the state of being objective and just. Therefore, the higher the audit quality, the more they detect management's manipulations in the financial statements.

On the other hand, economic bonding theory argues that the strength of the auditor's monetary dependence on the client or the economic bond consciously or unconsciously affects the auditor's independence or the willingness to resist client-induced biases in the financial statements. This is also supported by the psychological belief that auditors are rational wealth maximizers who would be intentionally biased towards compromising audit quality (independence) in order to generate wealth for themselves. Therefore, economic bonding theory maintains that auditors are more likely to comply to client pressures, including pressure to allow earnings management, when the provision of non-audit services or abnormal fees generate economic rents to auditor (Franke, *et al.*, 2002). In addition, Beattie *et al.*, (1998) state that self interest in terms of familiarity or tenure compromises auditor independence where audit partner's income depends on the retention of a specific audit client. That is, auditors compromise their independence for the fear of losing a key client, thus increases the tenure with the key client.

Similarly, Kinney and Libby (2002) provide a framework based on the economic bonding that link auditor with economic benefit derivable from audit. They maintain that, more

insidious effects on the economic bond may result from unexpected non-audit and audit fees that may more accurately be likened to attempted bribes and other unethical act. Thus, concluding that the independence is decreasing by economic bond, through earnings management by the client.

In another effort, Watts and Zimmerman (1986) relate auditor independence to capital market theory, that is, the capital market is an incentive to whether to compromise independence by fees. They first regarded independence as the ability of auditor to report any breach and irregularities. Thus, this argument underlies stakeholders' reliance on auditor probity to disclose irregularities in audited financial statements. In similar vein, DeAngelo (1981b) state that, for the capital market to value the auditors' opinion, auditors need to appear independent to the users of financial statements. He further stressed that, auditor independence may be impaired when auditor earn client-specific fees, which provide an incentive not to report the discovered breach to retain the client. Therefore, client specific-fee for services leads to the practice of setting audit fees below the market on initial audit engagement to retain the client.

From capital market perspective, Antle (1982) sees auditor as an economic agent, as the audit enhances the market value of the client reports and statements. In this regard, clients have incentives to misrepresent the financial statements of the company, and with the absence of some form of control, the auditor is not in a position to seek out and report any breach and irregularities in financial statements.

Moreover, the theory of inspired confidence addresses both the demand and the supply for audit services. Since the demand for audit services is the direct consequence of the participation of third parties (interested parties of a company) in the company. These parties demand accountability from the management, in return for their investments in the company. Accountability is realized through the issuance of periodic financial reports.

However, since this information provided by the management may be biased, and outside parties have no direct means of monitoring, an audit is required to assure the reliability of this information. With regard to the supply of audit assurance, Limperg (1932) suggests that the auditor should always strive to meet the public expectations.

According to Limperg (1932), the demand for audit services is the direct consequence of the participation of outside stakeholders (third parties) in the company. These stakeholders demand accountability from the management in return for their contribution to the company. Since information provided by management might be biased, because of a possible divergence between the interests of management and outside stakeholders, an audit of this information is required. With regard to the level of audit assurance that the auditor should provide (the supply side), the auditor should act in such a way that he does not disappoint the expectations of a “rational outsider”, while, on the other hand, he should not arouse greater expectations in his report than his examination justifies. So, given the possibilities of audit technology, the auditor should do everything to meet reasonable public expectations. The function of auditing is to mitigate information asymmetries among related parties. High audit quality should be related to low levels of information asymmetry and low levels of “uncertainty concerning performance.” Therefore, audit quality should be negatively related to earnings management.

Based on the framework of the above theories, this study attempt to investigate the relationships between financial reporting quality and audit quality attributes of listed food and beverages firms in Nigeria. As such, the study is underpinned by agency theory from the perspective of inspired confidence, and economic bonding.

CHAPTER THREE RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents and discusses the research design adopted to achieve the research objectives. It also presents the population and sample of the study, sampling technique, sources and method of data for the study and the technique of data analysis. The chapter also presents models of the study and justifies the methods and techniques used in the study.

3.2 Research Design

This study employs correlation research design to assess the effect of audit quality attributes on financial reporting quality of listed food and beverages firms in Nigeria. The aim of correlation research design is to investigate the relationships between variables and to observe the effects of the independent variable(s) on the dependent variable so as to establish the causal relationship or otherwise. Therefore, the choice of correlation research design is informed by its effectiveness in testing relationships as well as the effects of one variable on another.

3.3 Population and Sample of the Study

The population of the study comprises of all the twenty one (21) food and beverages firms listed on the floor of Nigerian Stock Exchange (NSE) Market as at 31st December, 2013 and are operating throughout the period of the study (2008-2013). The population covers all the food and beverages firms as classified by the NSE, which include Beverages Brewers/Distillers Firms, Beverages Non-Alcoholic Firm, Food Products Firms, and Food Products Diversified Firms. However, six (6) firms were filtered out and fifteen (15) firms emerged as the sample of the study. The filters used in arriving at the sample are as follows:

- i. All firms that are not been listed and being in operation for all the periods covered (2008-2013). Two firms that do not meet this criterion are Honeywell flour mills plc andMultitrex Integrated Foods plc which were listed in 2009 and 2010 respectively. Thus, the firms are not considered.
- ii. All firms that suspended their operations for sometimes during the period covered by the study are dropped. Four firms are identified (Golden Guinea Breweries plc, Jos International Breweries plc, Big Treat plc and Premier Breweries). They are removed because they do not have data for the period of suspension.

3.4 Sources and Method of Data Collection

The study make use of secondary sources of data, while the method of data collection is financial statements (income statement, the statements of financial position and non-financial information) of the sampled food and beverages firms, for the period of six years (2008 – 2013). The choice of secondary data is informed by the quantitative research design adopted for the study. The financial data includes the operating cash flows, net income, PPE, revenue, receivables, auditors' remuneration and total assets. While the non-financial information includes the external auditor type, audit delay, and auditor rotation.

3.5 Technique for Data Analysis

The study employs the Random Effect Regression (Generalized Least Squares) technique for data analysis. This technique is considered because the relevant validity and reliability tests (Random Effect Test, Hetttest, Multicollinearity and Hausman Specification Test) conducted proved it most appropriate for the study. Moreover, it is very effective in estimating the relationships as well as the impact of one variable on another variable, thus, it is consistent with the objective of this study. Before arriving at the technique of data analysis used, the robustness tests conducted proved that the traditional OLS may not be efficient in the analysis

due to the classical assumptions of the OLS technique, which panel data does not meet. For instance, OLS assumes that the variance of the error term is constant and the same for all observations (homoscedastic) which is not usually the case for panel data as a result of time-variant and heterogeneity of the units that form the panel. This usually leads to the problem of Heteroskedasticity in the OLS estimators, and this bias the coefficients and the inferences drawn from them.

On the other hand, multiple regression is usually associated with the problem of Multicollinearity, if the independent variables are perfectly correlated. This also biases the OLS estimators. However, when these effects are addressed, the estimation using OLS is capable of producing estimators that are best linear unbiased estimators.

In view of the above mentioned problems, the model of the study is subjected to robustness tests, to ensure that the results is not bias and can provide fitted coefficients to achieve the objectives of the study. Therefore, in addition to the robustness tests, the fixed and random effects regression models are will be applied; and inchoosing the most appropriate model for the study, two important tests are conducted; Hausman Specification Test and Breusch and Pagan Langrangian Multiplier Test for Random Effects.

Moreover, the study conducts the test for multicollinearity, using the Variance Inflation Factor (VIF) and Tolerance Value (TV). A Breuch and Pagan/Cook-Weisberg test is used to test the effects of Autocorrelation and Heteroskedasticity.

3.6 Variable Measurement and Model Specifications

In this section, the variables use to test the hypotheses formulated in this study are presented and measured. The model of the study as well as the model used to extract the measure of financial reporting quality is also presented here.

3.6.1 Variable Measurement

The design adopted is a two stage design; in the first stage, our measure of financial reporting quality is generated from the residuals of modified Jones model (that is, the discretionary accruals). In the second stage, the study tests the effect as well as the relationship between financial reporting quality and audit quality attributes of listed food and beverages firms in Nigeria. The measurements of the variables used to achieve the research objectives are presented in Table 3.1;

Table 3.1 Variable Definition and Measurements

Variables	Definition/Measurements
Financial Reporting Quality	Inverse of earnings management (discretionary accruals), measured by the level of absolute discretionary accruals from the residuals of the performance-matched modified-Jones (1991) discretionary accruals model.
Audit Firm Size	Large audit firm, measured by dichotomous variable (1 and 0); 1 if a firm is audited by a BIG4 audit firm (Deloitte and Touch, Ernst and Young, KPMG, Pricewaterhousecoopers), and 0 otherwise.
Audit Rotation	Change of audit firm by a client, measured by dichotomous variable, 1 if there is a change in audit firm during a year, and 0 otherwise.
Audit Delay	The length of time from a company's accounting year end to the date of the auditor report. This is measured by the number of days from the company's accounting year end to the date of audit report.
Audit Remuneration	Total audit and non-audit fees paid to an auditor at the end of accounting period as a percentage of total assets.

3.6.2 Models Specification

To determine our proxy of financial reporting quality, the level of discretionary accruals (residuals) is used (higher level of the residual indicates a lower level of accrual and earnings quality). Discretionary accruals are accruals that do not relate to normal operating activities, and so a higher level of these accruals may indicate that management has been able to exert its power over the auditor by being able to report on terms favourable to management

(earnings management). To measure discretionary accruals, this study adopts a performance-matched modified-Jones (1991) discretionary accruals model. This is because Dechow et al. (1995) provide evidence that the modified Jones model had the highest statistical power in detecting earnings management, and Kothari et al. (2005) suggest matching for performance helps to control for changes in accruals models associated with client performance levels. The performance-matched modified-Jones (1991) discretionary accruals model is mathematically presented as follows;

$$TACC_{it} = \beta_0 + \beta_1(\Delta REV_{it} - \Delta REC_{it}) + \beta_2 PPE_{it} + \beta_3 TA_{it-1} + \beta_4 GRWTH_{it} + \varepsilon_{it} \dots \dots \dots i$$

Where:

- TACC_{it} = Total accruals (difference between net income and operating cashflows) of firm I in year t scaled by total assets
- ΔREV_{it} = Change in revenue/sales of firm I in year t scaled by total assets
- ΔREC_{it} = Changes in receivables of firm I in year t scaled by total assets
- PPE_{it} = gross plant, property and equipment of firm I in year t
- TA_{it-1} = Lag total assets of firm I in year t scaled by total assets
- GRWTH_{it} = The ratio of next year's sales to this years' sales

And β₁, β₂, β₃, β₄, are parameters estimates; β₀ intercept

ε_{it} = the residual from the regression (the measure of discretionary accruals, i.e Financial Reporting Quality)

After estimating our proxy for financial reporting quality from model one, the model of the study is as follows;

Financial Reporting Quality = f(Audit Quality Attributes)

Financial Reporting Quality = f(Audit Firm Size, Audit Rotation, Audit Delay and Audit Remuneration)

$$FRQ_{it} = \beta_0 + \beta_1 AUDFSZ_{it} + \beta_2 AUDROT_{it} + \beta_3 AUDDL Y_{it} + \beta_4 AUDREM_{it} + \varepsilon_{it} \dots \dots \dots ii$$

Where:

FRQ_{it} = Financial Reporting Quality of firm I in year t

$AUDFSZ_{it}$ = Audit firm size of firm I in year t

$AUDROT_{it}$ = Audit rotation in firm I at year t

$AUDDL Y_{it}$ = Audit delay in firm I at year t

$AUDREM_{it}$ = Audit remuneration of firm I at year t

$\beta_1, \beta_2, \beta_3, \beta_4$, are parameters estimates; β_0 intercept

ε = Residuals

CHAPTER FOUR RESULTS, ANALYSIS AND INTERPRETATIONS

4.1 Introduction

In this chapter, the descriptive and inferential statistics of the data collected for the study are presented, discussed and interpreted. The chapter begins with the discussion of the descriptive statistics of the variables, and then the correlation matrix of the variables of the study. This is followed by the presentation, interpretation and discussion of the regression results and test of hypotheses of the study. The chapter ends with the discussion of the major findings of study and the policy implications of the findings.

4.2 Descriptive Statistics

This section of the chapter presents and discusses the descriptive statistics of the variables, as presented in Table 4.1;

Table 4.1: Descriptive Statistics of the Variables

Variables	Mean	SD	Min	Max	Skewness	Kurtosis	N
FRQ	0.1553	0.1650	0.0026	0.9822	2.5001	10.7346	90
AUDFSZ	0.7333	0.4447	0.0000	1.0000	-1.0553	2.1136	90
AUDROT	0.0889	0.2862	0.0000	1.0000	2.8892	9.3476	90
AUDDL	110.8778	52.8136	35.000	239.00	0.8312	3.0029	90
AUDREM	0.4579	1.5198	0.0001	9.8349	4.7753	25.8547	90

Source: STATA OUTPUT (Appendix A1)

Table 4.1 indicates that the measure of financial reporting quality (FRQ), absolute discretionary accruals of the sampled listed food and beverages firms has an average value of 0.1553 with standard deviation of 0.1650, and minimum and maximum values of 0.0026 and 0.9822 respectively. The large value of standard deviation signifies that the deviation from the mean value from both sides is wide, implying that the data is not around the mean. The coefficient of Skewness 2.5001 indicates that the data is positively skewed, that is, most of the data are on the right side of the normal curve, and the data does not meet the symmetrical

distribution criterion. Similarly, the value of kurtosis 10.7346 on the other hand, suggests that the data does not follow the normal curve as requires by the Gaussian distribution assumption.

Table 4.1 also shows that the sample food and beverages firms have employed the services of large global audit firms (big 4 as a measure of audit firm size (AUDFSZ)) up to 73% of the total period of the study, from the mean of 0.7333 with standard deviation of 0.4447, and the minimum and maximum value of 0 and 1 respectively. The standard deviation suggests that the data is widely dispersed from the mean because the standard deviation is high compared to the mean. Moreover, the kurtosis value of 2.1136 shows that data is non-normal, on the other hand, the coefficient of Skewness -1.0553 implies that the data is negatively skewed, and thus, the symmetrical distribution assumption is not been met.

The descriptive statistics in Table 4.1 shows that on average the auditors' rotation (AUDROT) during the period of the study is 8.89%, from the mean value of 0.0889 with standard deviation of 0.2862. This implies that the data deviate from the mean from both side by 28.62%.The standard deviation suggests that the data is widely dispersed because it is higher than the mean. The minimum and maximum values of AUDROT as measured by dichotomous variable are 0 and 1 respectively. The coefficient of Skewness 2.8892 implies that the data is positively skewed, and therefore does not conform to the symmetrical distribution requirement of normal data. Similarly, the coefficient of Kurtosis 9.3476 also supports that the variable does not meet the Gaussian distribution criterion of the normal data.

The descriptive statistics from Table 4.2 also indicates that our measure of audit delay (AUDDLY), which is the length of time from the accounting date to the date auditors signed the financial reports has an average value of 110.8778 days with standard deviation of 52.8136. This implies that the data deviate from the mean from both sides by 52.81 days; the minimum and maximum values of the AUDDLY are 35 and 239 days respectively. The value

of skewness of 0.83119 indicates that the data is positively skewed; hence the variable does not meet the symmetrical distribution requirement of normal data. This is also supported by the coefficient of kurtosis of 3.0029 which implies that the Gaussian distribution assumption of normal data is not been met.

Table 4.1 also shows that, the average total auditors' remuneration (AUDREM) of the sampled food and beverages firms in Nigeria is 0.4579%, from the mean value of 0.4579 with standard deviation of 1.5198. This implies that the data is widely dispersed from the mean value; the coefficient of Skewness 4.7753 implies that the data is positively skewed, and therefore does not conform to the symmetrical distribution requirement of normal data. Similarly, the coefficient of Kurtosis 25.8547 also indicates that the variable does not meet the Gaussian distribution assumption of normal data.

Therefore, the study adopts Shapiro Wilk test for normal data to find statistical evidence as to whether the data of the variables of the study follow the normal curve or not. The results of the test are presented in Table 4.2.

Table 4.2: Normality Test of Data

VARIABLES	W	V	Z	P-Values	N
FRQ	0.6037	29.976	7.500	0.0000	90
AUDFSZ	0.2731	54.985	8.838	0.0000	90
AUDROT	0.9732	2.028	1.559	0.0595	90
AUDDL	0.4267	43.368	8.314	0.0000	90
AUDREM	0.5847	31.410	7.603	0.0000	90

Source: STATA OUTPUT (Appendix A13)

Null hypothesis principle is used in the Shapiro-Wilk (W) test for normal data, under the principle; null hypothesis that 'the data is normally distributed' is tested. Table 4.2 indicates that data from the variables of the model are not normally distributed because the P-values are significant at 1% level of significance (p-values of 0.0000), except the auditor rotation (AUDROT) variable, which is not significant at 5% level of significance (p-value of 0.0595). Therefore, the null hypothesis (that, the data is normally distributed) is rejected for FRQ,

AUDFSZ, AUDDL, and AUDREM while not rejected for the AUDROT. This may lead to some problems in OLS regression and, hence the need for a more generalized regression models.

Therefore, following analysis of the descriptive statistics and normality of the data, the inferential statistics of the data collected from which the hypotheses of the study are tested are presented and interpreted in the following section.

4.3 Correlation Results

In this section, the summary of the Pearson correlation Coefficients of the variables of the study are presented in Table 4.3.

Table 4.3: Correlation Matrix of Dependent and Independent Variables

Variables	FRQ	AUDFSZ	AUDROT	AUDDL	AUDREM
FRQ	1.0000				
AUDFSZ	0.7587 (0.0000)	1.0000			
AUDROT	-0.1347 (0.2055)	-0.2649 (0.0116)	1.0000		
AUDDL	0.4899 (0.0000)	0.3335 (0.0013)	-0.0323 (0.0014)	1.0000	
AUDREM	0.5746 (0.0000)	0.7277 (0.0000)	-0.0767 (0.4723)	-0.1308 (0.2190)	1.0000

P-Values in Parentheses

Source: STATA OUTPUT (Appendix A15)

The correlation matrix from Table 4.3 shows the relationships between the audit quality attributes and the financial reporting quality of the listed food and beverages firms in Nigeria.

The table shows a significant positive correlation between financial reporting quality (FRQ) and the size of the audit firm (AUDFSZ) as measured by the big 4 auditors, from the correlation coefficient of 0.7587 which is statistically significant at 1% level of significance (p-value of 0.0000). This result implies that the size of the audit firm (especially the four) largest global audit firms are positively related with the quality of financial reporting in the

food and beverages companies in Nigeria. This could be due to their expertise and different industry experience they have which could be interpreted as less earnings management and higher quality reporting. However, the result is consistent with the proposition that big 4 audit firms have higher chances of detecting and preventing earnings management.

Table 4.3 also shows a negative relationship between financial reporting quality (FRQ) and auditor rotation (AUDROT) from the correlation coefficient of -0.1347 which is not statistically significant at all levels of significance (p-value of 0.2055). This result implies that the rotation of auditors in the listed food and beverages firms in Nigeria is not significantly related with their financial reporting quality. However, the result does not support the view that tenure or familiarity between auditor and the client impair auditor independence; it also inconsistent with the regulators' of mandatory audit rotation. The Table on the other hand indicates a significant positive relationship between financial reporting quality (FRQ) and audit delay (AUDDL), from the correlation coefficient of 0.4899 which is statistically significant at 1% level of significance (p-value of 0.0000). This implies that the financial statements delay in the listed food and beverages firms in Nigeria is significantly related with their financial reporting quality.

Moreover, Table 4.3 shows a significant positive association between financial reporting quality (FRQ) and auditor remuneration (AUDREM), from the correlation coefficient of 0.5746 which is statistically significant at 1% level of significance (p-value of 0.0000). This result implies that the total monies paid to the auditors of the listed food and beverages firms in Nigeria is significantly related with the quality of financial reporting. This result does not support economic bonding theory which argued that fees are negatively related with the financial reporting quality. Therefore, following the analysis of the relationships among the variables of the study, the regression results are presented, analyze, interpreted and discussed in the following sections.

4.4 Regression Results and Hypotheses Testing

This section presents and analyzes the regression results of the models of the study. The section begins with the analysis of model one as presented in Table 4.4.

Table 4.4: Robust OLS Regression Results: Model One

Variables	Statistics	P-Values
R²	0.3646	
F-Statistic	14.19	0.0000
Hettest: Chi2	36.75	0.0000
Mean VIF	1.32	
Random Effect Test: Chi2	1.08	0.2982

Source: STATA OUTPUT (Appendix A6, A7, A11, & A12)

The measure of financial reporting quality in this study is extracted from model one (performance matched modified Jones Model). However, the classical assumptions of OLS regression with regard panel data require the model to be fit and unbiased for a valid interpretations and conclusions. As such this study subjected the model to other regression models (Fixed and Random Effects) in addition to OLS and the robustness tests conducted. For instance, the results in table 4.4 shows a presence of Heteroskedasticity in the panel as indicated by the Breuch Pagan/Cook-Weisberg test for heteroskedasticity Chi2 of 36.75 with p-value of 0.0000. This proved that the assumption of constant variance of the error term (homocedasticity) is not been met, and as a result OLS estimators will not be best linear unbiased estimators (BLUE). This is corrected using robust OLS (heteroskedasticity corrected standard errors), after the results of random effect test, Breusch and Pagan Lagrangian Multiplier Test for Random Effects, which indicated that there is no statistical significant variance among the units in the panel (Chi2 of 1.08 with p-value of 0.2982), implying that OLS technique is appropriate with respect to model one. The table on the other hand, indicated the absence of the perfect multicollinearity among the explanatory variables,

as shown by the mean VIF of 1.32. The decision criterion for the Variance Inflation Factor is that a value of 10 and above implies the presence of perfect multicollinearity.

Moreover, table 4.4 indicates that the independent variables of model one explained around 36.46% of the total variations in the dependent variable, from the coefficient of determination (R^2 value of 0.3646). The table also shows that the model is fitted from the F-Statistic of 14.19 which is statistically significant at 1% level of significance (as indicated by the P-value of 0.0000). This study measured financial reporting quality from the residuals of model one.

Table 4.5: Random Effects Regression Results and Robustness Tests: Model Two

Variables	Statistics	P-Values
R² Within	0.7410	
R² Between	0.6301	
R² Overall	0.7024	
Wald Chi2	228.63	0.0000
Hetest: Chi2	0.02	0.9003
Mean VIF	2.42	
Random Effect Test: Chi2	20.12	0.0000

Source: STATA OUTPUT (Appendix A17, A18, A20, & A22)

Table 4.5 presents the regression results (of the model two (model of the study)). The table shows an absence of Heteroskedasticity in the model as indicated by the Breuch Pagan/Cook-Weisberg test for heteroskedasticity Chi2 of 0.02 with p-value of 0.9003. The table also indicated the absence of the perfect multicollinearity among the explanatory variables, as shown by the mean VIF of 2.42. However, the Breusch and Pagan Lagrangian Multiplier Test for Random Effects indicated a significant statistical variance in the panel, from the Chi2 of 20.12 with p-value of 0.0000, implying that random effect regression model is the most appropriate model for the study.

The table on the other hand indicates that the independent variables (audit firm size, auditor rotation, and audit delay and auditor remuneration) explained around 70.24% of the total variations in the dependent variable (financial reporting quality) of the listed food and

beverages firms in Nigeria, from the overall coefficient of determination (Overall R^2 value of 0.7024). The table also shows that the model is fitted from the Wald Chi2 of 228.63 which is statistically significant at 1% level of significance (P-value of 0.0000). Therefore, the study tests the hypotheses formulated in the following section.

4.4.1 Hypotheses Testing

In this section of the chapter, the study tests the hypotheses formulated for the study, Table 4.6 presents the coefficients of the variables of the study from which the hypotheses are tested.

Table 4.6: GLS Estimators: Model Two

Variables	Coefficients	Z-VALUES	P-Values
AUDFSZ	0.5792	3.35	0.001
AUDROT	0.0212	1.06	0.288
AUDDL	0.5511	6.39	0.000
AUDREM	0.4454	4.03	0.000
CONSTANT	0.0194	1.02	0.309

Source: STATA OUTPUT (Appendix A14)

Table 4.6 indicates that, audit firm size (AUDFSZ) has a significant positive effect on the financial reporting quality of the sampled food and beverages firms in Nigeria, from the coefficient of 0.5792 with Z-value of 3.35, which is statistically significant at 1% level of significance (p-value of 0.001). This results suggests that the more a firm makes use of big 4 auditors, the more the discretionary accruals reduces by 57.92k and the financial reporting quality will increase accordingly, this is significant at 99% confidence level. In view of this, the study rejects the null hypothesis one (H_{01}) which states that, audit firm size has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria. The study therefore infers that the size of the audit firm is significant in uncovering material errors and misstatements in the financial statements of the listed food and beverages companies in Nigeria during the period covered by the study.

The Table also indicates that auditor rotation (AUDROT) has no significant effect on the financial reporting quality of the sampled food and beverages firms in Nigeria, from the coefficient of 0.0212 with Z-value of 1.06, which is not statistically significant at all levels of significance (p-value of 0.288). This results suggests that rotation of auditors in the Nigerian listed food and beverages firms has positive effect on the financial reporting quality, however, it is not statistically significant at all levels. Based on this, the study fails to reject the null hypothesis two (H_{02}) which states that, auditor rotation has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria. The study therefore infers that the rotation or tenure of the audit firm is not significant in uncovering material errors and misstatements in the financial statements of the listed food and beverages companies in Nigeria during the period covered by the study.

The results from Table 4.6 also show that audit delay (AUDDL) has significant positive effect on the financial reporting quality of listed food and beverages firms in Nigeria, from the coefficient of 0.5511 with Z-value of 6.39, which is statistically significant at 1% level of significance (p-value of 0.000). This result implies that a one-point increase in audit delay, would result in 0.5511 increase when financial statements are delayed by day, discretionary accruals reduces by 55.11k and financial reporting quality improves significantly. Based on this, the study rejects the null hypothesis three (H_{03}) which states that, audit delay has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria. The study therefore infers that audit delay in the listed food and beverages firms in Nigeria improves the quality of financial reporting during the period covered by the study.

Lastly, Table 4.7 shows that auditor remuneration (AUDREM) has significant positive effect on the financial reporting quality of listed food and beverages firms in Nigeria, from the coefficient of 0.4454 with Z-value of 4.03, which is statistically significant at 1% level of

significance (p-value of 0.000). This suggests that, a N1 increase in the remuneration paid to auditors, discretionary accruals reduces by 44.54k and financial reporting quality improves significantly. Based on this, the study rejects the null hypothesis four (H_{04}) which states that auditor remuneration has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria. The study infers that auditor remuneration in the listed food and beverages firms in Nigeria improves the quality of financial reporting during the period covered by the study.

4.5 Discussion of Major Findings

The tests and interpretations of the results from this study show that there is a significant positive relationship between audit quality attributes and financial reporting quality in the listed food and beverages companies in Nigeria. Evidence from the results show that audit quality attributes accounted for about 70.24% of the total variations in the financial reporting quality. Moreover, the study found that the auditor size (big 4) has significant statistical positive impact on the quality of financial reporting, suggesting that the size of the auditor is significant in enhancing the independence and objectivity of the auditor; hence, making the auditor capable of detecting and reporting unethical practices, which affect the quality of financial reporting adversely. This finding supports those of DeAngelo (1981), Krishnan and Schauer, (2000), Lennox, (1999), Krishnan (2003) Zhou and Elder (2001) and Bauwhede et al., (2000), who revealed that the size of the auditor enhances the audit quality and financial reporting in return. This could be as a result of the expertise and relevant industry experiences, and the use of modern audit facilities in conducting an audit exercise.

The study on the other hand found that auditor rotation is not significant in improving the quality of financial reporting in the Nigerian food and beverages companies during the period under review. This finding is inconsistent with the view of auditor mandatory rotation and

also inconsistent with the findings of Davis *et al.*, (2003); Carey and Simnett (2006); Vanstaelen (2000); who document evidence that, there is a deterioration of audit quality as audit tenure increases, and, the possibility of auditors acquiescing more in later years of the engagement and management using this to meet earnings forecasts. In contrast, the finding is in line with those of Umar (2012) in Nigeria, and those of Geiger and Rughunandan (2002); Carcello and Nagy (2004) and Myers *et al.*, (2003),(who found no evidence of impaired audit quality when auditor tenure is longer).

The study also found that audit delay has a significant positive impact on the financial reporting quality of the listed food and beverages firms during the period under review. Although delay affects the timeliness of financial reporting, which is also an attribute of financial reporting quality, this finding suggests that in the context of earnings management, audit delay improves the quality of financial reporting. This could be interpreted as auditors take sufficient time for the audit work in order to uncover material errors and misstatements, thus a higher quality financial reporting. This finding support the view of Kinney and McDaniel (1993) who show that audit delay is positive for firms with interim overstatements and declining earnings, and that the audit delay increases with the size of the overstatement of interim earnings.

Lastly, the study found that the remuneration paid to the auditors is significant in improving the financial reporting quality of the food and beverages firms. This finding does not support the economic bonding theory, which argues that the strength of the audit firm's monetary dependence on the client consciously or unconsciously reduces the auditor's independence or the willingness to resist client-induced biases in the financial statements. It also contradict the psychological belief that auditors are rational wealth maximizers who would be intentionally biased towards compromising audit quality in order to generate wealth for themselves.

Moreover, the finding contradicts those of Wines (1994); Frankel *et al.*, (2002); Dee *et al.*, (2002); Ashbaugh *et al.*, (2003); Brown *et al.*, (2006); Basioudis *et al.*, (2006); who found that audit quality through auditor independence is compromised with clients fees. On the other hand, the finding is consistent with those of Craswell *et al.*, (2002); Gul *et al.*, (2003); Defond *et al.*, (2002); Chung and Kallapur (2003); Hope and Langli (2007); Koh *et al.*, (2008) and Haribaret *et al.*, (2010), who found no evidence that fees have negative consequences on audit quality via auditor independence/objectivity, that is, auditors increase audit hours and audit fees in cases where they perceive client's accounting quality to be poor and this improves accounting quality. They conclude that audit and or non-audit fees do not impair auditor independence which results in poor quality of earnings. Additionally, the finding contradict those of Semiu and Kehinde (2011) and Semiu and Johnson (2012) in Nigeria, and support the findings of Umar (2012).

4.6 Policy Implication of Findings

The findings from this study have implication to the policy makers and auditors. The findings implied that rotation of auditors does not matter with regard the quality of financial reporting. Therefore the regulators concern over the auditor tenure is not a major problem in the listed food and beverages firms in Nigeria. The findings also show that if the audit exercise takes a sufficient time, it is likely that a high quality financial reporting could be achieved. Moreover, the findings suggest the engagement of large audit firms in order to achieve a higher quality financial reporting.

CHAPTER FIVE SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This study examined the impact of audit quality attributes on financial reporting quality of listed food and beverages firms in Nigeria. The study covers the auditor size, auditor rotation, and audit delay and auditor remunerations as attributes of audit quality. The study employs secondary sources of data from the financial statements for the period of six years (2008–2013). Random Effects Regression technique of data analysis was used in the analysis of data. The study found a significant positive relationship between audit quality attributes and financial reporting quality during the period under review. The study show audit quality attributes explained about 70% of the total variation in the financial reporting quality during the period.

Specifically, the study found that auditor size, audit delay and auditor remuneration have significant positive impacts on the quality of financial reporting of the sample firms at 99% confidence level. On the other hand, the study revealed that auditor rotation has no significant impact on the financial reporting quality of the sample firms during the period under review.

5.2 Conclusion

In line with the findings of this research, the study concludes that audit quality attributes are significant in improving the financial reporting quality of the listed food and beverages companies in Nigeria during the period covered by the study. That is, audit attributes examine in this research has significantly improved the financial reporting quality of listed food and beverages firms in Nigeria. The study specifically concludes that the size of the auditor has significant positive effects on the quality of financial reporting. That is, engaging the services of the big 4 auditors could minimize earnings management and improve the quality of firms’

financial reporting of food and beverages firms in Nigeria. Similarly, the study concludes that, audit delay has significant positive effect on financial reporting quality of the sample firms; implying that longer period of audit yield a higher quality reporting in the sample firms. The study also concludes that auditor remuneration has significant positive impact on the financial reporting quality of food and beverages firms in Nigeria during the period covered by the study. However, the study concludes that, auditor rotation has no significant effect on the financial reporting quality of the listed food and beverages firms in Nigeria during the period under review.

5.3 Recommendations

Emanating from the findings and conclusions of this study, the following recommendations are considered necessary:

- a. Regulators of the listed companies in Nigeria should emphasize and encourage the use of audit quality attributes examined in this study; especially the auditor size, audit delay and auditor remunerations. This is with a view to improve the quality of the reports by mitigating earnings management and other unethical corporate practices, which affect the quality of reporting and going-concern of an entity.
- b. Auditors should be adequately remunerated; as this could give them sufficient resources to conduct a thorough audit capable of uncovering material misstatements and errors in the financial statements, hence higher quality reports.
- c. The regulators and other stakeholders should allow a sufficient time frame for the audit exercise as this appears to be significant in improving financial reporting quality.

- d. Regulatory agencies around the world should not emphasize auditor rotation as it appears insignificant in providing higher quality reports in the listed food and beverages firms in Nigeria.
- e. The regulators and the managements of listed companies in Nigeria should emphasize and employ the services of large reputable audit firms (big 4) as it appears to be positively related with financial reporting quality.
- f. Lastly, the study recommends that managers of the food and beverages firms in Nigeria should subscribe to acceptable ethical standards in discharging their duties and responsibilities, so as to enhance the credibility of their financial reports and safeguard their entities from going-concern threats.

5.4 Limitations of the Study

The generalization of the findings of this study is limited to food and beverages companies listed on the floor of Nigerian stock exchange market. This is because other firms have their own peculiarities that may render the findings from the food and beverages not relevant to them. Moreover, the study is restricted to only audit quality attributes examined in this study, but audit quality has a lot of attributes which are not covered in this study. Another limitation of this study is that the study used quantitative methodology, complementing a survey of opinions from the stakeholders about the audit quality and financial reporting quality could have increased the robustness of the results and findings.

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APPENDIX A

```
. xtset id year, yearly
      panel variable:  id (strongly balanced)
      time variable:  year, 2008 to 2013
      delta: 1 year
```

1. Descriptive Statistics

```
. su tacc diff ppe lta grwth frq audfsz audrot auddly audrem, detail
```

tacc				
	Percentiles	Smallest		
1%	-2.318692	-2.318692		
5%	-.3640514	-1.191918		
10%	-.2458981	-.8280404	Obs	90
25%	-.1384496	-.7130645	Sum of Wgt.	90
50%	-.0622364		Mean	-.0749872
			Std. Dev.	.3472682
75%	.0466583	Largest		
		.3779085		
90%	.1620912	.4533902	Variance	.1205952
95%	.2765478	.5831527	Skewness	-3.141577
99%	.9434772	.9434772	Kurtosis	22.54759

diff				
	Percentiles	Smallest		
1%	-3.634905	-3.634905		
5%	-.2106849	-.6880666		
10%	-.0710758	-.4746234	Obs	90
25%	.0001306	-.282296	Sum of Wgt.	90
50%	.0992876		Mean	.064271
			Std. Dev.	.4446178
75%	.1891258	Largest		
		.410003		
90%	.2870561	.5948289	Variance	.197685
95%	.4099107	.7645376	Skewness	-6.414669
99%	.9295449	.9295449	Kurtosis	54.84367

ppe				
	Percentiles	Smallest		
1%	.0005757	.0005757		
5%	.0212667	.0006029		
10%	.1211057	.0010697	Obs	90
25%	.2322625	.0014065	Sum of Wgt.	90
50%	.486901		Mean	.4612259
			Std. Dev.	.265154
75%	.6638303	Largest		
		.9601992		
90%	.7883762	.9690076	Variance	.0703067
95%	.9461405	.9724449	Skewness	.0313767
99%	.9781306	.9781306	Kurtosis	2.135798

lta				
	Percentiles	Smallest		
1%	.0034578	.0034578		
5%	.1107211	.0217519		
10%	.2452654	.0217519	Obs	90
25%	.6209964	.0749484	Sum of Wgt.	90
50%	.8423571		Mean	.7376306
			Std. Dev.	.2713682
75%	.9298165	Largest		
		.9900658		
90%	.9431893	.9900658	Variance	.0736407
95%	.9885315	.9968652	Skewness	-1.438058
99%	.9986961	.9986961	Kurtosis	3.901754

grwth

Percentiles		Smallest		
1%	0	0		
5%	0	0		
10%	.8140239	0	Obs	90
25%	1.006873	0	Sum of Wgt.	90
50%	1.117422		Mean	1.066803
		Largest	Std. Dev.	.3624613
75%	1.197711	1.6592		
90%	1.368417	1.734592	Variance	.1313782
95%	1.551315	1.767468	Skewness	-1.418848
99%	1.966246	1.966246	Kurtosis	6.470316

frq

Percentiles		Smallest		
1%	.0026393	.0026393		
5%	.0140152	.0059811		
10%	.0208171	.0076743	Obs	90
25%	.0471659	.010677	Sum of Wgt.	90
50%	.1048982		Mean	.1552902
		Largest	Std. Dev.	.1650362
75%	.1915769	.522638		
90%	.3742239	.6934454	Variance	.027237
95%	.4897421	.70846	Skewness	2.50006
99%	.9821615	.9821615	Kurtosis	10.73465

audfsz

Percentiles		Smallest		
1%	0	0		
5%	0	0		
10%	0	0	Obs	90
25%	0	0	Sum of Wgt.	90
50%	1		Mean	.7333333
		Largest	Std. Dev.	.4446941
75%	1	1		
90%	1	1	Variance	.1977528
95%	1	1	Skewness	-1.05529
99%	1	1	Kurtosis	2.113636

audrot

Percentiles		Smallest		
1%	0	0		
5%	0	0		
10%	0	0	Obs	90
25%	0	0	Sum of Wgt.	90
50%	0		Mean	.0888889
		Largest	Std. Dev.	.2861776
75%	0	1		
90%	0	1	Variance	.0818976
95%	1	1	Skewness	2.889215
99%	1	1	Kurtosis	9.347561

auddly

	Percentiles	Smallest		
1%	35	35		
5%	42	36		
10%	49.5	36	Obs	90
25%	73	40	Sum of Wgt.	90
50%	98		Mean	110.8778
		Largest	Std. Dev.	52.81361
75%	136	230		
90%	195	230	Variance	2789.277
95%	230	230	Skewness	.8311971
99%	239	239	Kurtosis	3.002934

audrem

	Percentiles	Smallest		
1%	.0001179	.0001179		
5%	.0180579	.0002311		
10%	.0264031	.0154395	Obs	90
25%	.0333581	.0158423	Sum of Wgt.	90
50%	.06215		Mean	.4579364
		Largest	Std. Dev.	1.519814
75%	.1198435	3.302463		
90%	.4977527	7.253315	Variance	2.309834
95%	1.844974	7.308462	Skewness	4.775345
99%	9.834889	9.834889	Kurtosis	25.85467

2. Normality Test: Model One

. swilk tacc diff ppe lta grwth

Shapiro-wilk w test for normal data

Variable	Obs	W	V	z	Prob>z
tacc	90	0.69297	23.224	6.937	0.00000
diff	90	0.40868	44.727	8.382	0.00000
ppe	90	0.63669	27.481	7.308	0.00000
lta	90	0.42665	43.368	8.314	0.00000
grwth	90	0.27306	54.985	8.838	0.00000

3. Stationarity Test: Model One

. xtunitroot hadri tacc

Hadri LM test for tacc

Ho: All panels are stationary	Number of panels =	15
Ha: Some panels contain unit roots	Number of periods =	6
Time trend:	Not included	Asymptotics: T, N -> Infinity
Heteroskedasticity:	Not robust	sequentially
LR variance:	(not used)	

	Statistic	p-value
z	-0.3632	0.6418

. xtunitroot hadri diff

Hadri LM test for diff

Ho: All panels are stationary
Ha: Some panels contain unit roots

Number of panels = 15
Number of periods = 6

Time trend: Not included
Heteroskedasticity: Not robust
LR variance: (not used)

Asymptotics: T, N -> Infinity
sequentially

	Statistic	p-value
z	-2.4156	0.9921

. xtunitroot hadri ppe

Hadri LM test for ppe

Ho: All panels are stationary
Ha: Some panels contain unit roots

Number of panels = 15
Number of periods = 6

Time trend: Not included
Heteroskedasticity: Not robust
LR variance: (not used)

Asymptotics: T, N -> Infinity
sequentially

	Statistic	p-value
z	7.2768	0.0000

. xtunitroot hadri lta

Hadri LM test for lta

Ho: All panels are stationary
Ha: Some panels contain unit roots

Number of panels = 15
Number of periods = 6

Time trend: Not included
Heteroskedasticity: Not robust
LR variance: (not used)

Asymptotics: T, N -> Infinity
sequentially

	Statistic	p-value
z	-2.0499	0.9798

. xtunitroot hadri grwth

Hadri LM test for grwth

Ho: All panels are stationary
Ha: Some panels contain unit roots

Number of panels = 15
Number of periods = 6

Time trend: Not included
Heteroskedasticity: Not robust
LR variance: (not used)

Asymptotics: T, N -> Infinity
sequentially

	Statistic	p-value
z	2.2425	0.0125

4. Correlation Matrix: Model One

. pwcorr tacc diff ppe lta grwth, star (0.05) sig

	tacc	diff	ppe	lta	grwth
tacc	1.0000				
diff	-0.1566 0.1406	1.0000			
ppe	-0.2363* 0.0249	-0.0003 0.9980	1.0000		
lta	0.2101* 0.0469	0.0455 0.6703	0.4623* 0.0000	1.0000	
grwth	0.2550* 0.0153	-0.0668 0.5317	0.5166* 0.0000	0.3335* 0.0013	1.0000

5. OLS Regression: Model One

. reg tacc diff ppe lta grwth

Source	SS	df	MS		
Model	4.53004433	4	1.13251108	Number of obs =	90
Residual	7.89379188	85	.09286814	F(4, 85) =	12.19
Total	12.4238362	89	.139593665	Prob > F =	0.0000
				R-squared =	0.3646
				Adj R-squared =	0.3347
				Root MSE =	.30474

tacc	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
diff	-.0686453	.0417941	-1.64	0.104	-.1517431	.0144526
ppe	-.3827256	.0649502	-5.89	0.000	-.511864	-.2535873
lta	1.744375	.4775645	3.65	0.000	.7948486	2.693901
grwth	2.802547	.6291557	4.45	0.000	1.551617	4.053477
_cons	.0596727	.0459815	1.30	0.198	-.0317507	.1510962

6. Heteroskedasticity Test: Model One

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of tacc

chi2(1) = **36.75**

Prob > chi2 = **0.0000**

7. Colinearity Test: Model One

. vif

variable	VIF	1/VIF
ppe	1.57	0.638361
grwth	1.40	0.716503
lta	1.30	0.771129
diff	1.01	0.990144
Mean VIF	1.32	

8. Fixed Effect Regression: Model One


```
. xtreg tacc diff ppe lta grwth, fe
```

```
Fixed-effects (within) regression
Group variable: id
Number of obs   =   90
Number of groups =   15
R-sq:  within = 0.4238
      between = 0.0666
      overall  = 0.3570
Obs per group: min =    6
              avg  =   6.0
              max  =    6
corr(u_i, Xb) = -0.3502
F(4,71)         =   13.06
Prob > F        =   0.0000
```

tacc	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
diff	-.0562912	.0438044	-1.29	0.203	-.1436348	.0310523
ppe	-.4844917	.0880596	-5.50	0.000	-.6600774	-.3089059
lta	1.850173	.5721679	3.23	0.002	.7093026	2.991043
grwth	3.239014	.6772749	4.78	0.000	1.888566	4.589462
_cons	.1073437	.062897	1.71	0.092	-.0180693	.2327567
sigma_u	.12186984					
sigma_e	.31159718					
rho	.13267454	(fraction of variance due to u_i)				

```
F test that all u_i=0:      F(14, 71) =    0.74      Prob > F = 0.7317
```

```
. est store fixed
```

9. Random Effect Regression: Model One

```
. xtreg tacc diff ppe lta grwth, re
```

```
Random-effects GLS regression
Group variable: id
Number of obs   =   90
Number of groups =   15
R-sq:  within = 0.4191
      between = 0.0839
      overall  = 0.3646
Obs per group: min =    6
              avg  =   6.0
              max  =    6
Random effects u_i ~ Gaussian
corr(u_i, X)      = 0 (assumed)
wald chi2(4)     =   48.78
Prob > chi2      =   0.0000
```

tacc	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
diff	-.0686453	.0417941	-1.64	0.100	-.1505602	.0132697
ppe	-.3827256	.0649502	-5.89	0.000	-.5100256	-.2554256
lta	1.744375	.4775645	3.65	0.000	.8083656	2.680384
grwth	2.802547	.6291557	4.45	0.000	1.569425	4.03567
_cons	.0596727	.0459815	1.30	0.194	-.0304493	.1497947
sigma_u	0					
sigma_e	.31159718					
rho	0	(fraction of variance due to u_i)				

```
. est store random
```

10. Hausman Specification Test: Model One

. hausman fixed random

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fixed	(B) random		
diff	-.0562912	-.0686453	.012354	.013118
ppe	-.4844917	-.3827256	-.101766	.0594639
lta	1.850173	1.744375	.1057982	.3151322
grwth	3.239014	2.802547	.4364665	.2507278

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
 = 5.25
 Prob>chi2 = 0.2623

11. Random Effect Test: Model One

. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

tacc[id,t] = xb + u[id] + e[id,t]

Estimated results:

	Var	sd = sqrt(Var)
tacc	.1395937	.3736224
e	.0970928	.3115972
u	0	0

Test: var(u) = 0

chi2(1) = 1.08
 Prob > chi2 = 0.2982

12. Robust OLS Regression: Model One

. reg tacc diff ppe lta grwth, robust

Linear regression

Number of obs = 90
 F(4, 85) = 14.19
 Prob > F = 0.0000
 R-squared = 0.3646
 Root MSE = .30474

tacc	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
diff	-.0686453	.0254493	-2.70	0.008	-.1192452	-.0180453
ppe	-.3827256	.1721913	-2.22	0.029	-.725088	-.0403633
lta	1.744375	.5318763	3.28	0.002	.6868621	2.801887
grwth	2.802547	.7627639	3.67	0.000	1.285968	4.319126
_cons	.0596727	.0710928	0.84	0.404	-.0816788	.2010242

. predict r, residuals

13. Normality Test: Model Two

```
. swilk frq auidfsz audrot auidly audrem
```

Shapiro-wilk w test for normal data

Variable	Obs	W	V	z	Prob>z
frq	90	0.60370	29.976	7.500	0.00000
auidfsz	90	0.27306	54.985	8.838	0.00000
audrot	90	0.97319	2.028	1.559	0.05951
auidly	90	0.42665	43.368	8.314	0.00000
audrem	90	0.58474	31.410	7.603	0.00000

14. Stationarity Test: Model Two

```
. xtunitroot hadri frq
```

Hadri LM test for frq

```
Ho: All panels are stationary          Number of panels = 15
Ha: Some panels contain unit roots    Number of periods = 6

Time trend:          Not included      Asymptotics: T, N -> Infinity
Heteroskedasticity: Not robust        sequentially
LR variance:         (not used)
```

	Statistic	p-value
z	-1.9170	0.9724

```
. xtunitroot hadri auidfsz
```

Hadri LM test for auidfsz

```
Ho: All panels are stationary          Number of panels = 15
Ha: Some panels contain unit roots    Number of periods = 6

Time trend:          Not included      Asymptotics: T, N -> Infinity
Heteroskedasticity: Not robust        sequentially
LR variance:         (not used)
```

	Statistic	p-value
z	5.8938	0.0000

```
. xtunitroot hadri audrot
```

Hadri LM test for audrot

```
Ho: All panels are stationary          Number of panels = 15
Ha: Some panels contain unit roots    Number of periods = 6

Time trend:          Not included      Asymptotics: T, N -> Infinity
Heteroskedasticity: Not robust        sequentially
LR variance:         (not used)
```

	Statistic	p-value
z	5.8938	0.0000

. xtunitroot hadri auddly

Hadri LM test for auddly

Ho: All panels are stationary	Number of panels =	15
Ha: Some panels contain unit roots	Number of periods =	6
Time trend: Not included	Asymptotics: T, N -> Infinity	
Heteroskedasticity: Not robust	sequentially	
LR variance: (not used)		

	Statistic	p-value
z	6.2018	0.0000

. xtunitroot hadri audrem

Hadri LM test for audrem

Ho: All panels are stationary	Number of panels =	15
Ha: Some panels contain unit roots	Number of periods =	6
Time trend: Not included	Asymptotics: T, N -> Infinity	
Heteroskedasticity: Not robust	sequentially	
LR variance: (not used)		

	Statistic	p-value
z	8.4159	0.0000

15. Correlation Matrix: Model Two

. pwcorr frq audfsz audrot auddly audrem, star (0.05) sig

	frq	audfsz	audrot	auddly	audrem
frq	1.0000				
audfsz	0.7587* 0.0000	1.0000			
audrot	-0.1347 0.2055	-0.2649* 0.0116	1.0000		
auddly	0.4899* 0.0000	0.3335* 0.0013	-0.3323* 0.0014	1.0000	
audrem	0.5746* 0.0000	0.7277* 0.0000	-0.0767 0.4723	-0.1308 0.2190	1.0000

16. OLS Regression: Model Two

. reg frq audfsz audrot addly audrem

Source	SS	df	MS			
Model	.599239842	4	.14980996	Number of obs =	90	
Residual	.251078768	85	.002953868	F(4, 85) =	50.72	
Total	.85031861	89	.009554142	Prob > F =	0.0000	
				R-squared =	0.7047	
				Adj R-squared =	0.6908	
				Root MSE =	.05435	

frq	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
audfsz	.5841493	.1796993	3.25	0.002	.2268589	.9414397
audrot	.0321222	.0139513	2.30	0.024	.0043833	.0598611
addly	.5935461	.0993624	5.97	0.000	.395987	.7911052
audrem	.4453471	.1223674	3.64	0.000	.2020478	.6886463
_cons	.0096438	.0131224	0.73	0.464	-.0164471	.0357348

17. Heteroskedasticity Test: Model Two

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

H0: Constant variance

Variables: fitted values of frq

chi2(1) = 0.02

Prob > chi2 = 0.9003

18. Colinearity Test: Model Two

. vif

variable	VIF	1/VIF
audfsz	3.58	0.279361
audrem	3.19	0.313229
addly	1.76	0.566593
audrot	1.16	0.862284
Mean VIF	2.42	

19. Fixed Effect Regression: Model Two

```
. xtreg frq auidfsz audrot auidly audrem, fe
```

```
Fixed-effects (within) regression      Number of obs   =      90
Group variable: id                    Number of groups =      15

R-sq:  within = 0.7431                 Obs per group:  min =      6
        between = 0.5648                avg   =      6.0
        overall = 0.6821                max   =      6

corr(u_i, Xb) = 0.0056                 F(4,71)         =      51.36
                                                Prob > F         =      0.0000
```

frq	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
auidfsz	.5188247	.1966802	2.64	0.010	.1266556	.9109938
audrot	-.0030556	.0320782	-0.10	0.924	-.0670176	.0609064
auidly	.5207232	.0909394	5.73	0.000	.3393951	.7020513
audrem	.4714584	.1196221	3.94	0.000	.2329388	.709978
_cons	.039211	.0262299	1.49	0.139	-.0130899	.0915119
sigma_u	.03883058					
sigma_e	.04498267					
rho	.42699108	(fraction of variance due to u_i)				

```
F test that all u_i=0:      F(14, 71) =      3.79      Prob > F = 0.0001
```

```
. est store fixed
```

20. Random Effect Regression: Model Two

```
. xtreg frq auidfsz audrot auidly audrem, re
```

```
Random-effects GLS regression      Number of obs   =      90
Group variable: id                    Number of groups =      15

R-sq:  within = 0.7410                 Obs per group:  min =      6
        between = 0.6301                avg   =      6.0
        overall = 0.7024                max   =      6

Random effects u_i ~ Gaussian        wald chi2(4)    =      228.63
corr(u_i, X) = 0 (assumed)          Prob > chi2     =      0.0000
```

frq	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
auidfsz	.5792392	.1729901	3.35	0.001	.2401847	.9182936
audrot	.0211876	.0199539	1.06	0.288	-.0179214	.0602965
auidly	.5511125	.0862491	6.39	0.000	.3820675	.7201575
audrem	.4453999	.1104517	4.03	0.000	.2289186	.6618812
_cons	.0194144	.019066	1.02	0.309	-.0179544	.0567831
sigma_u	.03377108					
sigma_e	.04498267					
rho	.36046544	(fraction of variance due to u_i)				

```
. est store random
```

21. Hausman Specification Test: Model Two

. hausman fixed random

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fixed	(B) random		
audfsz	.5188247	.5792392	-.0604145	.0935815
audrot	-.0030556	.0211876	-.0242432	.0251167
auddly	.5207232	.5511125	-.0303893	.0288285
audrem	.4714584	.4453999	.0260585	.0459333

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
 = 1.57
 Prob>chi2 = 0.8135

22. Random Effect Test: Model Two

. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

frq[id,t] = xb + u[id] + e[id,t]

Estimated results:

	var	sd = sqrt(Var)
frq	.0095541	.0977453
e	.0020234	.0449827
u	.0011405	.0337711

Test: var(u) = 0

chi2(1) = 20.12
 Prob > chi2 = 0.0000

APPENDIX B

POPULATION AND SAMPLE OF THE STUDY

S/N	Population	Sample of the Study
	Beverages Brewers/Distillers	Cadbury Nigeria Plc
1	Champion Breweries Plc	Nestle Nigeria Plc
2	Golden Guinea Breweries Plc	Guinness Nigeria Plc
3	Guinness Nigeria Plc	Nigerian Breweries Plc
4	International Breweries Plc	Dangote Flour Mills Plc
5	Jos International Breweries Plc	Flour Mills of Nigeria Plc
6	Nigerian Breweries Plc	7-Up Bottling Company Plc
7	Premier Breweries Plc	Northern Nigerian Four Mills Plc
	Beverages Non-Alcoholic	UTC Nigeria Plc
1	7-Up Bottling Company Plc	National Salt Company Plc
	Food Products	P S Mandrides Plc
1	Big Treat Plc	Union Dicon Salt Plc
2	Dangote Flour Mills Plc	International Breweries Plc
3	Dangote Sugar Refinery Plc	Dangote Sugar Plc
4	Flour Mills of Nigeria Plc	Champions Breweries Plc
5	Honeywell Flour Mills Plc	
6	Multi-Trex Integrated Foods Plc	
7	Northern Nigerian Four Mills Plc	
8	P S Mandrides Plc	
9	UTC Nigeria Plc	
10	National Salt Company of Nigeria Plc	
11	Union Dicon Salt Plc	
	Food Products Diversified	
1	Cadbury Nigeria Plc	
2	Nestle Nigeria Plc	

Source: NSE FactBook 2012/2013

APPENDIX C: DATA

year	id	tacc	Diff	Ppe	Lta	Grwth
2008	1	-0.20378	0.116767	0.66383	0.996865	1.205973
2009	1	-0.11124	0.194295	0.59906	0.916157	1.17745
2010	1	-0.10555	0.070885	0.517646	0.886572	1.140121
2011	1	-0.09236	0.007235	0.432192	0.872387	1.063371
2012	1	-0.08272	-0.02369	0.425241	0.819931	1.006873
2013	1	-0.02351	0.089908	0.322832	0.922145	1.145013
2008	2	0.090095	0.147319	0.215717	0.694515	1.142486
2009	2	-0.02686	0.410003	0.209377	0.800269	1.416496
2010	2	0.056927	0.064991	0.232263	0.960641	1.065857
2011	2	0.040757	0.04189	0.220187	0.94253	1.029927
2012	2	0.046658	0.135721	0.271686	0.676664	1.133541
2013	2	0.036829	-0.01949	0.299395	0.770509	1.230242
2008	3	0.094493	0.195782	0.473853	0.728829	1.175226
2009	3	-0.04522	0.346586	0.537643	0.61711	1.320338
2010	3	-0.04551	0.189126	0.666838	0.783001	1.210912
2011	3	-0.04506	0.151174	0.707477	0.776385	1.184159
2012	3	-0.10236	0.182908	0.698714	0.873713	1.191362
2013	3	-0.12893	0.110429	0.608816	0.822154	1.140326
2008	4	-0.13845	0.138865	0.657852	0.926088	1.119487
2009	4	-0.1327	0.141837	0.775275	0.902643	1.140391
2010	4	-0.07735	-0.14381	0.64394	0.752269	0.836673
2011	4	-0.28917	0.148258	0.784474	0.119495	1.052259
2012	4	-0.25082	0.098767	0.68285	0.587328	1.070568
2013	4	-0.2138	-2E-05	0.690122	0.943849	1
2008	5	-0.07138	0.198334	0.960199	0.182591	1.110935
2009	5	0.030588	0.259738	0.48597	0.517891	1.288774
2010	5	-0.17727	0.204948	0.487833	0.942241	1.226799
2011	5	-0.01739	0.10218	0.50012	0.850522	1.130717
2012	5	-0.06391	0.096619	0.621347	0.898969	1.021227
2013	5	-0.1034	-0.067	0.727841	0.846966	0.969715
2008	6	-0.13617	0.358666	0.608716	0.867216	1.301691
2009	6	-0.08474	0.177643	0.644961	0.97593	1.128866
2010	6	-0.07708	0.16435	0.645166	0.935295	1.131882
2011	6	-0.10584	0.082088	0.448456	0.53094	1.115357
2012	6	-0.07028	0.137711	0.561236	0.849442	1.218862
2013	6	-0.21233	0.088505	0.606767	0.003458	1.063082
2008	7	0.136101	-0.01653	0.232462	0.831005	1.000272
2009	7	0.064599	0.014993	0.212133	0.751817	1.021375
2010	7	0.167692	0.121558	0.252714	0.26348	1.092053
2011	7	0.132546	0.22428	0.238825	0.901415	1.183707
2012	7	-0.17245	-0.21068	0.215509	0.832098	1.003357
2013	7	0.10172	0.022328	0.496651	0.998696	0.965244
2008	8	-0.183	0.234309	0.138812	0.837749	1.149718
2009	8	0.020371	0.201678	0.127709	0.85458	1.551315

2010	8	-0.06706	0.594829	0.162146	0.074948	1.197711
2011	8	0.03762	0.269697	0.205931	0.620996	1.120219
2012	8	0.224813	0.399219	0.216904	0.227051	1.10707
2013	8	-0.24098	-0.2823	0.231105	0.929817	0.923247
2008	9	0.000315	0.000182	0.000576	0.929817	1.6592
2009	9	-0.00048	0.000131	0.000603	0.325097	1.734592
2010	9	-0.10938	0.181037	0.369326	0.36703	1.966246
2011	9	0.377909	0.409911	0.467787	0.885343	1.767468
2012	9	-0.71306	0.929545	0.252958	0.929817	1.466669
2013	9	0.276548	-3.63491	0.672679	0.62024	0.175498
2008	10	-0.10221	0.13368	0.524244	0.110721	1.136977
2009	10	-0.17901	0.178897	0.549707	0.965581	1.280858
2010	10	-0.14461	0.05706	0.592289	0.920887	1.101207
2011	10	0.087525	0.02069	0.532551	0.834125	0.980479
2012	10	-0.13532	-0.01927	0.544909	0.93129	1.01991
2013	10	-0.01116	0.104889	0.664712	0.910183	1.128406
2008	11	-0.06056	0.304416	0.969008	0.571165	1.470209
2009	11	-0.03524	0.224623	0.972445	0.021752	1.195089
2010	11	-0.10564	0.124425	0.978131	0.990066	1.09687
2011	11	-0.06056	-0.00454	0.116656	0.988532	1.01432
2012	11	-0.04498	0.025015	0.946141	0.021752	1.003565
2013	11	-0.0531	0.061764	0.604745	0.990066	1.041528
2008	12	-0.04764	0.214704	0.258933	0.813526	1.261604
2009	12	0.043301	0.099809	0.356579	0.917699	1.111441
2010	12	0.058528	0.098404	0.340272	0.929817	1.014447
2011	12	-0.14352	0.033461	0.33204	0.74747	1.158863
2012	12	-0.04432	0.266764	0.342995	0.939885	1.301471
2013	12	0.085138	-0.07108	0.22253	0.610489	0.807896
2008	13	-1.19192	-0.68807	0.480755	0.929817	0
2009	13	-0.82804	0.002663	0.53765	0.295461	0
2010	13	0.276	-0.01212	0.916003	0.789978	0
2011	13	0.45339	-0.10155	0.898468	0.298165	0
2012	13	-0.36405	-0.01103	0.711226	0.775079	0
2013	13	0.15649	-0.01406	0.718456	0.929817	0
2008	14	-2.31869	-0.1245	0.48576	0.929817	0.921439
2009	14	0.943477	-0.47462	0.125556	0.813313	0.820152
2010	14	0.583153	0.764538	0.232454	0.859355	1.527698
2011	14	0.151332	-0.00481	0.688351	0.124	0.955872
2012	14	0.224083	-0.01708	0.832018	0.929817	0.996782
2013	14	0.124918	0.02429	0.792278	0.744081	1.250884
2008	15	-0.21646	0.10085	0.001407	0.933189	1.028271
2009	15	-0.18	0.099809	0.00107	0.917699	1.111441
2010	15	-0.15034	0.098404	0.027866	0.929817	1.014447
2011	15	-0.363	0.033461	0.021267	0.74747	1.158863
2012	15	-0.30247	0.266764	0.037339	0.939885	1.301471
2013	15	-0.0683	-0.07108	0.022803	0.610489	0.807896

audddy	audfsz	audrem	Audrot	Frq	_est_fixed	_est_random
120	1	0.084306	0	0.036939	1	1
90	1	0.079218	0	0.043332	1	1
80	1	0.0755	0	0.017241	1	1
88	1	0.074136	0	0.029659	1	1
80	1	0.071721	0	0.043758	1	1
80	1	0.06833	0	0.005981	1	1
120	1	0.06006	0	0.105328	1	1
90	1	0.038603	0	0.007674	1	1
98	1	0.045446	0	0.078392	1	1
89	1	0.042834	0	0.047166	1	1
89	1	0.028984	0	0.010677	1	1
120	1	0.039662	0	0.019851	1	1
50	1	0.070303	0	0.159285	1	1
49	1	0.048675	0	0.074743	1	1
49	1	0.041116	0	0.052314	1	1
50	1	0.036305	0	0.143091	1	1
48	1	0.036737	0	0.09951	1	1
50	1	0.030203	0	0.014015	1	1
150	0	0.036956	0	0.015269	1	1
150	0	0.033358	0	0.031199	1	1
90	1	0.029799	0	0.074154	1	1
80	1	0.034414	0	0.002639	1	1
90	1	0.057749	0	0.104468	1	1
93	1	0.06424	0	0.031504	1	1
71	1	0.049666	0	0.219004	1	1
63	1	0.029735	0	0.089438	1	1
62	1	0.03082	0	0.095477	1	1
65	1	0.028834	0	0.103917	1	1
72	1	0.028513	0	0.079732	1	1
72	1	0.026082	0	0.052132	1	1
55	1	0.025915	0	0.026828	1	1
48	1	0.028327	0	0.098978	1	1
53	1	0.029673	0	0.065927	1	1
40	1	0.01544	0	0.039661	1	1
35	1	0.018058	0	0.072454	1	1
42	1	0.015842	0	0.040858	1	1
180	1	0.038869	0	0.116815	1	1
175	1	0.030683	0	0.073538	1	1
170	1	0.041738	0	0.188488	1	1
103	1	0.038346	0	0.084081	1	1
90	1	0.03853	0	0.22568	1	1
90	1	0.048942	0	0.197621	1	1
121	1	0.212013	1	0.266051	1	1
110	1	0.1993	1	0.059972	1	1
121	1	0.233714	1	0.106285	1	1
109	1	0.181419	1	0.13962	1	1

98	1	0.371018	1	0.150967	1	1
120	1	0.400175	1	0.274808	1	1
126	0	0.000231	0	0.096393	1	1
73	0	0.000118	0	0.070178	1	1
80	0	0.04101	0	0.045977	1	1
90	0	0.04599	0	0.489742	1	1
36	0	0.076734	0	0.116159	1	1
36	0	0.054218	0	0.043321	1	1
239	1	0.073509	0	0.161954	1	1
229	1	0.078295	0	0.114125	1	1
218	1	0.088733	0	0.021784	1	1
136	1	0.069246	0	0.191577	1	1
136	1	0.073317	0	0.014806	1	1
136	1	0.072895	0	0.163102	1	1
177	0	0.214418	0	0.160032	1	1
170	0	0.219082	0	0.176332	1	1
150	0	0.216905	0	0.205201	1	1
120	0	0.262066	0	0.124517	1	1
80	0	0.282372	0	0.384379	1	1
88	0	0.361509	0	0.168518	1	1
217	1	0.106897	0	0.403824	1	1
150	1	0.103004	0	0.142314	1	1
138	1	0.119844	0	0.076314	1	1
103	1	0.08958	0	0.095934	1	1
120	1	0.092614	0	0.033212	1	1
120	1	0.565398	0	0.091799	1	1
230	0	1.76475	0	0.127037	1	1
230	0	1.844974	0	0.693445	1	1
230	0	3.302463	0	0.522638	1	1
230	0	7.253315	0	0.70846	1	1
180	0	7.308462	0	0.161697	1	1
210	0	9.834889	0	0.147344	1	1
98	0	1.307692	0	0.982162	1	1
80	0	0.96972	0	0.154544	1	1
69	0	0.430108	0	0.234754	1	1
59	0	0.113333	0	0.378614	1	1
99	1	0.113984	1	0.284648	1	1
80	1	0.087549	1	0.277636	1	1
117	1	0.026724	0	0.21509	1	1
150	1	0.024525	0	0.240958	1	1
138	1	0.03329	0	0.197996	1	1
103	1	0.024883	0	0.427235	1	1
130	1	0.046775	0	0.369834	1	1
120	1	0.028556	0	0.144015	1	1