AUDIT ATTRIBUTES AND FINANCIAL REPORTING QUALITY OF LISTED BUILDING MATERIAL FIRMS IN NIGERIA

BY

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DECLARATION

I hereby declare that this Thesis entitled "Audit Attributes and Financial Reporting Quality of Listed Building Material Firms in Nigeria" is a product of my research effort. It has not been submitted in any form or presented in any way for the award of any degree. All materials consulted for the purpose of the research have been duly acknowledged by way of reference.

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CERTIFICATION

This Thesis, entitled "Audit Attributes and Financial Reporting Quality of Listed Building Material Firms in Nigeria" by UMARU Dangana 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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DEDICATION

This Thesis is dedicated to Almighty God for given me life, time, opportunities and sustaining me throughout the period of my studies.

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ABSTRACT

External auditors conduct an independent examination of a firm's financial statements, records and supporting documents and give opinion about the truth and fairness of the reports, and that the report is free from material misstatements and errors. While, this can be considered as a good control mechanism for ensuring the quality of corporate financial reporting, there is a great concern by the regulatory authorities and other stakeholders in view of the corporate scandals and failures that adversely affect corporate entities in recent times in Nigeria. This study examined the impact of audit firms' attributes on financial reporting quality of quoted building material firms in Nigeria. The study employed correlation research design using a sample of four listed building material firms for the period of ten years (2002-2011). Ordinary Least Square (OLS) multiple regression technique was employed in the analysis of the panel data collected for the study. The study found that audit compensation and audit firm independence have significant positive impact on the financial reporting quality of quoted building material firms in Nigeria at 99% confidence level. The finding suggested that, audit compensation and provision of non-audit services in the quoted building material firms in Nigeria have improved the quality of their financial reporting during the period under review. The study recommends that, policy makers (SEC and FRC) should make policies that would strengthen the auditors' independence in the building material firms in Nigeria. It is also recommended that SEC and FRC should make it a policy that public companies, especially building material firms, should consider in employing their auditors an optimal compensation.

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CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

The main objective of financial reporting is to provide high quality financial information about economic entities that is useful for economic decision making. According to International Accounting Standard Board (IASB), (2008), high quality financial reporting is critical to investors and other stakeholders in making investment, credit and similar decision. An important variable of financial reporting that is usually used as a yardstick of financial reporting quality is accounting earnings, as it is reported in the published financial report of firms is expected to provide a timely and reliable input to potential investors, shareholders, creditors, employees, management, financial analysts, regulators and other stakeholders for efficient economic decisions.

The issue of quality financial reports is of tremendous concerns not only for the final users, but the entire economy as it affects economic decisions which may have significant impact. However, managerial opportunistic behaviors as well as unethical accounting practices are identified as major challenge to the quality of accounting earnings and financial reporting quality (Shen & Hsiang-Lin, 2007). According to their study of some accounting scandal and collapse of some corporate entities (Enron, Worldcom, Xerox and Parmalat), earnings manipulation and artificial transaction are responsible for the scandal and the collapse of those entities. Moreover, most of the Chief Executive Officers (CEO) and Managers of the collapsed entities are found involved in earnings management through structuring and artificial transactions with related parties which affected earnings and financial reporting adversely (Shen and Hsiang-lin, 2007). Earnings management as a prime factor that impairs quality of earnings is regarded as unethical and includes using managerial judgments and dearth in regulation (Bello, 2010). In a study of financial reporting quality, Shehu (2012) opined

that quality financial reporting could be achieved by full disclosure and higher level of transparency; and regarded corporate transparency as the widespread availability of relevant and reliable information about the periodic performance that is free from errors and misstatements. Therefore, the quality of financial reporting is to promote transparency and deliver high quality Annual Report through comprehensive disclosure (Shehu, 2012). As such regulators and financial statements analysts as well as auditors should ensure that financial statements information is true, fair and free from opportunistic and unethical judgments, which destroy the quality of financial reporting.

It is in view of the importance of quality financial reporting that the International Federation of Accountants (IFAC) and its audit arm International Auditing and Assurance Standards Board (IAASB), stated that audit services is an assurances service that the financial statements prepared by the managers is true and fair, and free from intentional and unintentional errors and misstatements, and conform to the relevant rules and regulations guiding the preparation and presentation of accounting information (IAASB, 2013). According to IAASB, global financial stability is supported through high quality reporting, which could be achieve 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.

One of the critical roles of auditors is that, they assure confidence to financial statements users about the reported information. Audit services have been critical to financial reporting quality since industrial revolution (that is, separation of ownership from management). However, the ability of auditors or audit firm to provide high audit quality capable of producing high financial reporting quality is attributed to some certain features of the audit firm, these features are auditor

independence, audit compensation, audit firm type and size and joint audit services (DeAngelo, 1981 & Krishnan, 2003). For instance, Brown, Falaschetti and Orlando (2006) state that auditor independence improve the quality of financial disclosures based on the evidence from the recent governance scandals around the world. They further lament that a widely held belief emerged that letting auditors consult for audit-clients compromises auditors' independence and thus diminishes the quality of earnings reports. This is also supported by most of the regulations; for instance it forms part of the provision of Sarbanes-Oxley (SOX) Act of 2002, which restricted auditors from providing non-audit services to their clients (Brown et al, 2006). On the other hand, auditor's independence with regard non-audit services which lead to non-audit fees can improve the quality of financial reporting (Arrunada, 1999). According to him, if informational inputs for producing the audit services intersect those for producing the non-audit services, then the jointly producing audit and non-audit services can improve financial reporting quality by facilitating scope economies. However, managers are using their capacity to threaten auditors with the loss of non-audit business; in this regard, jointly producing audit and non-audit services increases the pressures the managers can place on auditors to endorse compromised financial statements (Arrunada, 1999).

Similarly, compensation to auditors is found to be related with financial reporting quality (DeAngelo, 1981); according to this belief, quality may decrease with fee dependence if marginal forces associated with managerial influence overwhelm those associated with the scope of activities involved (Frankel, Marilyn and Karen, 2002; Francis, 2004). On the contrary, audit compensation is used as a measure of audit quality, based on this view; audit fees reflect additional audit effort which led to a higher level of audit quality (DeAngelo, 1981; Carcello, Hermanson, Neal & Riley, 2002). In this context, audit fees and non-audit fees relate to knowledge spillovers that is, transfers

of knowledge from non-audit to audit services. Moreover, increase in audit fees as a result of non-audit services may enhance auditor's incentives to stay independence.

Another audit firm characteristic commonly associated with the financial reporting quality is audit firm size (that is, Big 4). Audit firm type is conceived as financially independent and highly experienced, thus less likely to be subjected to any pressure from the clients "to look the other way" in their role in discovering accounting irregularities (DeAngelo, 1981). Moreover, Big 4 auditors have more to lose should a scandal arise, in that their brand names and reputations are more valuable compared with small non-Big 4 audit firms. For instance, Becker, Defond, Jiambalvo and Subramanian, (1998), and Francis, Maydew and Sparks (1999) opined that Big 4 audit firms have shown to have higher accrual quality (Financial reporting quality) as measured by lower absolute values of discretionary accruals, and their clients are less likely to manage earnings.

Audit firm characteristics with respect to clients include the joint audit, to ensure objective financial reporting and financial reporting quality as well. Joint audits create more differences in auditor choice and potentially in the level of earning quality than under non-joint audit. Based on joint audit perspective, DeAngelo (1981) states that audit performed by two audit firm produce the highest quality financial reporting, while the lowest level of quality occurs when a single audit firm is responsible for the audit engagement.

Therefore, this study is motivated by the critical role that the auditors have in corporate financial reporting with regard accounting irregularities and misstatements including earnings management,

which impair, financial reporting quality and threaten the going concern of corporate entity. The study however, focuses on the major audit firm attributes (audit compensation, non-audit services, audit firm type and the provision of joint audit). These attributes are considered as determinants of audit quality which has defect linkage with the financial reporting quality.

Nigeria like other countries of the world witnessed corporate scandals and failures, such as Oceanic Bank, Societe Generale Bank, Savannah Bank and Cadbury Plc, which are not pointed by the financial reports in spite of the auditor's endorsement. That financial reports are true and fair, and conform to the relevant rules and regulations; and the actual transactions. Building material firms are critical to the economic development of any country; this sector is not being given adequate attention in terms of researches on financial reporting quality particularly in relation to auditors' characteristics. Specially, building material firms are characterized with heavy machineries, large volume of transactions and large volume of accruals. These features are potentials for hiding accounting irregularities, misstatements and earnings management, which affect financial reporting quality adversely. Therefore, the need for quality financial reports in the recent times and the negative consequences of poor quality reporting prompted the study of financial reporting quality of building material firms in Nigeria.

1.2 Statement of the Problem

Financial reports are supposed to provide relevant information to the external parties of an organization. It is thus important that financial reports provide truthful and accurate financial information to enable shareholders and other interested parties to make decision wisely. Lack of accuracy in financial reporting will lead shareholders and prospective investors to make wrong

judgment about the organization. Incidentally, the heavy reliance placed on accounting numbers (as it measures the direction of business entity as well as decision base by different users of accounting information, Kothari, *et al.,* 2000; and Bello, 2010) has provided an incentive for managers to manipulate earnings to their own advantage. This manipulation that is not supposed to go unchecked by auditors has often led to the eventual collapse of firms of various sizes and even called to questions the integrity of auditors and characteristics of audit firms.

The credibility of financial information is vital to the growth of nay economy. Auditors on their part are expected to be independent and objective in the discharge of their responsibilities (Adelaja, 2009), because as the report of external auditors in corporate financial statement is seen as providing key assurance and protecting the interest of shareholders (Gallegos, 2004). However, as O'Connor (2006) noted, one of the most vexing problems in the financial world today is the emphasis placed on ensuring the independence of external auditors as a result of recent corporate Scandals. Beatties and Fearnley (2002) opined that after the collapse of Enron it was generally believed that rendering of non-audit services compromised the independence of external auditors. In the real world, when business entities collapse the consequences are usually enormous. The oversight function of the auditor is placed under scrutiny when a business whose financial statement once showed no indication of any failure suddenly becomes bankrupt. As a follow up to the oversight function, the independence of the auditor in such circumstance would be in doubt.

Many studies like DeAngelo, (1986) Jones, (1991) and Dechow, Sloan, & Sweeney, (1995), Ashbaugh *et al*., (2003) have been conducted on the relationship between audit firm characteristics and quality of financial reporting. The studies are however based largely on US and European data, thus

reflecting the advanced economies environment. Few of the studies such as Semiu and Kehinde (2011), Semiu and Johnson (2012) and Umar (2012) used data from emerging economies such as like Nigeria. Little is known about the relationship between audit firm characteristics and firms reporting quality in developing markets such as those in Nigeria particularly, using data on building materials firms. It is therefore pertinent to conduct a study that will fill this literature gap. Moreover, this study used four audit firm chrematistics variables to investigate their effects on the financial reporting quality of building materials firms in Nigeria. Hence gap to be filled in the literature because most of the studies in this area focused on usually one aspect of audit firm characteristics.

1.3 Research Questions

It is in view of the problems stated above the following research questions are raised:

i. How does audit firm independence affect the quality of financial reporting of quoted building material firms in Nigeria?
ii. What is the effect of audit firm independence on the quality of financial reporting of quoted building material firms in Nigeria?
iii. Does audit firm type have any impact on the quality of financial reporting of quoted building material firms in Nigeria?
iv. What is the effect of joint audit on the quality of financial reporting of quoted building material firms in Nigeria?

1.4 Objectives of the Study

The overall objective of the study is to examine the impact of audit firms' characteristics on the financial reporting quality of quoted building material firms in Nigeria. The specific objectives are to:

i. Determine the impact of audit fee on the financial reporting quality of quoted building material firms in Nigeria.

ii. Assess the effect of audit firm independence on the financial reporting quality of quoted building material firms in Nigeria.

iii. Assess the impact of auditor type on the financial reporting quality of quoted building material firms in Nigeria.

iv. Examine the impact of joint audit on the financial reporting quality of quoted building material 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;

H_{01}: Audit compensation has no significant impact on the financial reporting quality of quoted building material firms in Nigeria.

H_{02}: Audit firm independence has no significant impact on the financial reporting quality of quoted building material firms in Nigeria.

H_{03}: Auditor type has no significant impact on the financial reporting quality of quoted building material firms in Nigeria.

H_{04}: Joint audit has no significant impact on the financial reporting quality of quoted building material firms in Nigeria.

1.6 Scope of the Study

This study focuses on audit firms' characteristics and the quality of financial reporting, within the context of listed building material companies in Nigeria. The study covers the period of ten years, from 2002-2011. Financial reporting quality is represented by earnings quality which is proxied by absolute discretionary accruals of the quoted building material firms during the period covered by the study. On the other hand, audit firm characteristics in this study covers audit compensation/fees, audit firms' independence, auditor type and joint auditors.

1.7 Significance of the Study

This study is significant in light of the recent search by regulators for measures that could protect and improve the financial reporting quality in the corporate world. It is also a response to the current call by the IAASB's Framework for Audit Quality which, include raising awareness of the key elements of audit quality; encouraging key stakeholders to explore ways to improve audit quality; and facilitating greater dialogue between key stakeholders on the topic (IAASB, 2013). Moreover, the IAASB framework for audit quality 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. Hence, this study is an effort towards such direction.

The study is also significant as it focused on issues related to audit firm characteristics that are threatening the survival of audit firms of all sizes, on one hand and the going concern of corporate

entities on the other hand. Therefore, the study is of importance in ensuring the credibility of financial information not only for the purpose of pointing the tendencies of corporate scandals, but most importantly the survival of their accounting and audit profession and the development of healthy financial and capital market. The study is therefore of immense value to auditors, regulators, managers, professional accounting bodies, existing and potential shareholders and researchers.

The findings from this study could assists auditors in their duties and responsibilities with regards financial reporting, as to the factors that are of eminent importance in achieving high audit quality and high financial reporting quality. The study will also offer important input to serve as a strong base for the regulators and professional accounting bodies to establish policies relating to type of audit firm characteristics, audit fees, non-audit services and joint audit. 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.

The findings from the study could educate both existing and potential shareholders of building material firms in Nigeria on the audit firm characteristics that improve the quality of financial reporting (with respect to audit firm characteristics). The study is also of great importance to researchers, as it provides empirical evidence on the relationships between audit firm characteristics and the quality of financial reporting from listed building material firms in Nigeria.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter present and reviews existing literature that are relevant to the audit firm characteristics and financial reporting quality. The chapter is organized in three main parts; conceptual literature, empirical literature and the theoretical framework that underpins the audit firm characteristics and financial reporting quality. The rationale behind this was to use the evidence from the studies to uncover gaps in the literature and to serve as a point of references of the findings of this research.

2.2 Concept of Financial Reporting Quality

The theory of firm reporting quality was first posed by financial analysts and Stock Exchange market agents. They inferred that the reported profit does not show the firms' profitability as it is purporting. Consequently, analyzing firms' financial statements is a difficult task due to the manipulation tendencies associated with accounting information, particularly earnings. Thus accounting earnings as a major factor that conveys signals to the capital market is regarded as high

quality if the probability of errors and misstatements is low or absent (Ewert & Wagenhoper, 2010). Based on this assertion, firms' financial reporting quality is measured in terms of earnings quality which is also synonymous with accruals quality; that is, earnings with less accruals and high cash flow components.

Earnings management involves the repetitive selection of accounting measurement or reporting rules in a particular pattern, the effect of which is to report a stream of income with a smaller variation from trend than would otherwise have appeared (Copeland, 1968). Earnings management is defined by Barnea et al. (1976) as the deliberate dampening of fluctuations about some level of earnings considered being normal for the firm. In views of Schipper (1989) Earnings management can be equated with disclosure management, in the sense of a purposeful intervention in the financial reporting process.

Merchant and Rockness (1994) describe earnings management as any action on the part of management which affects reported income and provides no true economic advantage to the organization and may in fact, in the long-term be detrimental. In the same vein, Healy and Wahlen (1999) opine that earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers. According to them, earnings management might be defined differently, but there seems to be the same underlying concept that earnings management distorts a company's real performance. More recently, Bello (2010) defined earnings management as any attempt to cook/doctor or tailor financial accounting reports to a given desired level.

According to him earnings management is paradoxical of accountants and relates it to the recent times corporate failures and loss of investors' confidence on both financial reports and auditors. However, earnings management in this study is defined as both intentional and unintentional actions that managers take which affect financial reporting by misleading some information users. That is, it involves any transformation of financial records using accounting choices, estimates and other practices allowed by accounting regulation.

Healy and Wahlen (1999) state that the incentives of managers to engage in earnings management includes contracts between a company and other parties that based on accounting results, contractual incentives include maximizing management compensation, and Managers needs to impact the market.

Financial reporting quality is the product of accounting system that reflects unobservable construct that inherently involves estimations and judgment, and thus has the potential for unintentional errors and intentional bias like earnings management (Ewert & Wagenhoper, 2010). They further explain that, earnings quality is one of the most important characteristics of accounting systems. High quality in this regard is said to improve capital market efficiency, as such investors and other users should be interested in high-quality financial accounting information. For that reason, standard setters strive to develop accounting standards that improve earnings quality, and many recent changes in auditing, corporate governance, and enforcement have a similar objective (Dechow, Ge & Schrand, 2010).

The concept of firm reporting quality considers two characteristics for quality determination which includes profitability in decision-making and the relationship between firm reporting quality and economical profit. In other words, earnings quality is an honest expression of the reported profit. That is, a high firm reporting quality shows the usefulness of profit information for decision-making by the users and also it is more adjusted with economic profit (Ahmad & Ahmadi, 2008). In their view, the investors' general understanding of the real profit concept is the profit that resulted from the common performances which can be repeated in the future years and can create cash flows. Investors consider accounting net profit as the best criterion for determining profitability of a business unit.

According to (Esmaeeli, 2002) Financial analysts' views of reported earnings generally different from actual profit; the reason for this difference is manipulated earnings by managers. Financial analysts try to assess the firms' profit perspective. Profit perspective refers to the desired and undesired net profit features' composition. Firms with recurring profit have a higher reporting quality in income statement compared with other firms. Thus, analysts can predict firm's future profitability with more assurance capability (Esmaeeli, 2007).

Regarding the emphasis by those who design financial accounting standards about its usefulness, it is believed that financial reporting quality on the whole is considered more by those who use them for exchange and decision-making goals. Additionally, standard determiners consider earnings quality indirectly as a criterion for assessing the quality of financial reporting standards (Rahimian & Jaafari, 2006).

2.2.1 Proxies of Financial Reporting Quality

Dechow, et al., (2010) summarize the measures of earnings quality or financial reporting quality into three broad categories: properties of earnings, investor responsiveness to earnings, and external indicators of earnings misstatements. Category one, properties of earnings, include earning 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.

(a). 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 they improve 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).

Accruals Quality or Abnormal Accruals- This is another significant area of research 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 focuses 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 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).

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. 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).

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 (σ*(EARN)/*σ *(CFO))* and the correlation between changes in accruals and changes in cash flows from operations (*Corr(ΔACC, ΔCFO)*), in both cases, cash flow smoothness is the benchmark (Dechow, et al., 2010).

(b). Investor Responsiveness to Earnings

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).

(C). External Indicators of Earnings Misstatements

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 three are used as measures of earnings misstatements, either intentional (i.e., earnings management) or unintentional (i.e., errors).

However existing literature identified six categories of determinants of financial reporting quality: firm characteristics, financial reporting practices, governance and controls, auditors, equity market incentives, and external factors (Dechow, et al., 2010).

2.2.2 Determinants of Financial Reporting Quality

There are a number of factors that determines the quality of financial reporting as used by previous studies that examined the factors that affect financial reporting quality. One of the most arguable factors is the monitoring mechanism of the company, Fama and Jensen (1983) have argued that the credibility and transparency of financial reporting of a company depends on the effectiveness of the monitoring mechanism of the company itself. This has led researchers to examine the effects of several monitoring mechanisms such as board of directors, audit committees, internal audit and external audit to the financial reporting quality.

Since the board of directors receives its authority for internal control and other decisions from stockholders of corporations, Beasley (1996) and Fama and Jensen (1983) claimed that the highest internal control and monitoring mechanism is the board of directors. Based on this fact, researchers have argued that board of directors has an effect on the quality of financial reporting. They hypothesized that, to perform effectively as a monitoring mechanism, the board of directors should be structured properly by considering its independency and optimum number of members.

The independence of board of directors has been widely argued by researchers to have an effect on the financial reporting quality that is by ensuring that, the board is not to collude with top management and therefore increase their ability to monitor top management (Fama and Jensen,

1983). Thus by using several variables, prior research have examined whether board independence has an effect on the financial reporting quality. One of the most arguable factors is the inclusion of independent directors on the board. This is based on the argument that outside directors have incentives to carry-out their monitoring tasks and not to collude with top management (Fama & Jensen, 1983). Studies by Davidson, Goodwin, & Kent (2005) and (Klein, 2002b) had found support for this argument whereby their analyses have shown a significant negative relationship between the board that is comprised of a majority of non-executive directors and accruals.

However, with the formation of an audit committee, which has been discharged with the responsibility of monitoring the financial reporting on behalf of the board of directors, have led researchers to examine the effect of the audit committee to the financial reporting quality (Beasley, 1996; McMullen, 1996). However, there has been inconsistency in the findings related to the existence of audit committee and the quality of financial reporting (Beasley, 1996; McMullen, 1996). This inconsistency may be due to the differences in the level of effectiveness of audit committees between different companies. Therefore, recent studies have argued that the characteristics of an audit committee have a greater deal of influence towards the effectiveness of the audit committee itself in monitoring the financial reporting process (Abbott et al, 2004; Song and Windram, 2000).

Moreover, researchers have also argued that the quality of an external auditor is an important factor effecting financial reporting quality, whereby a high quality external auditor is expected to have an influence on the quality of financial reporting. Given the existence of information asymmetries and the potential conflicts of interest between company management and outside users of financial information, an audit of financial reports by third party can enhance the quality of

the financial information reported by management because a high quality auditor is more likely to detect questionable accounting practices and to a certain extent may compel management to follow accounting practices as prescribed by the accounting standards (Rahman and Ali, 2006). However, prior studies have failed to prove this contention. By using a proxy of brand name auditor as provider of higher quality audit, Davidson, *et al* (2005) did not find any significant relationship with the level of discretionary accruals and Alsaeed (2006) did not find any significant relationship with the level of voluntary disclosures.

Besides monitoring mechanisms, researchers have also argued the effects of other firm characteristics on the quality of financial reporting. Among the firm characteristics variables that have been widely discussed by previous researchers are firm assets, firm age, firm profitability and firm debt. One of the most arguable firm characteristics which have an effect on financial reporting quality is firm asset (size). Since large companies are more exposed to public scrutiny (Alsaeed, 2006) and are more complex (Craig and Diga, 1998), than smaller companies, they need to provide better quality of financial reporting. Besides that, large companies also have greater resources and may be able to appoint prestigious external auditors and attract reputable non-executive directors (Song and Windram, 2000), which in turn could help them in enhancing the quality of financial reporting and at the same time posses sufficient resources for collecting, analyzing and presenting extensive amount of data at minimal costs (Alsaeed, 2006). Evidence from previous studies have shown that the size of company assets was significantly positively associated with the level of disclosures (Alsaeed, 2006; Craig and Diga, 1998) and negatively associated with discretionary accruals (Abbott, *et al* 2004; Davidson, *et al* 2005; Rahman and Ali, 2006; Yang and Krishnan, 2005).

On the other hand, changes in the level of asset have also been argued to have an adverse effect on the quality of financial reporting. Abbott, *et al* (2000) had argued that the increase in firm assets cause inadequacy of financial controls and create the management incentives to mask downturns and thus will increase the likelihood of financial misstatements. In their study, Abbott, *et al* (2000) had found evidence that asset growth as having a positively significant relationship with firms sanctioned for fraudulent reporting. However, Beasley (1996) failed to find any significant relationship with financial account fraud and another study by Abbott et al, (2004) also failed to show any significant relationship with financial account restatement.

Besides that, a company's profitability has also been argued to have an influence on the quality of financial reporting. Alsaeed (2006) argued that a profitable firm may feel proud of its achievements and therefore would wish to disclose more information to the public in order to promote positive impressions of its performance. However, even though a study by Haniffa and Cooke (2002) did find a significant positive relationship between return on equity (ROE) with voluntary disclosure, a study by Alsaeed (2006) on the other hand, had found insignificant relationships. Besides that, the level of profit has also been argued to have an influence on the manipulation of accounting accruals because managers may manage earnings to increase their bonus rewards (Yang and Krishnan, 2005). However, Yang and Krishnan (2005) and Rahman and Ali (2006) did not find any significant relationships between the level of net income and discretionary accruals. This inconsistency and insignificant in the results is probably due to the use of current profitability, instead of changes in profits. Therefore, studies by Klein (2002b) and Davidson et al, (2005) have argued that the changes in profit influence the manipulation of accounting accruals. Both of the studies have found support for this argument whereby their studies indicated a significant positive relationship between

changes in net income and accruals in financial accounts. However, this study focuses on the auditors' aspect that is the characteristics of audit firm which is also regarded as Audit Quality.

2.3 Audit Firm Characteristics

Auditors are intermediaries between the management of a firm and external parties having interests in the firm (Porter, Simon, & Hatherley, 1996). 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. Hence, their concept of audit is assurance engagement that involved objective process of obtaining and evaluating evidence with regard 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 laws, standards and legislations.

Existing literature on auditing hypothesize that auditors are a determinant of earnings quality or financial reporting quality, because of their role in mitigating intentional and unintentional misstatements (Dechow, et al., 2010). The ability of an auditor to mitigate misstatements is a function of the auditor's attributes and ability both to detect a material misstatement and to adjust for or report it (DeAngelo, 1981). Researches like Dang (2004) predict that an auditor's ability to detect errors is a function of auditor attributes (effort and effectiveness) and that an auditor's incentives to report or correct errors depend on factors such as litigation risk, reputation costs, and auditor independence (DeAngelo, 1981). However, DeAngelo (1981) defines audit quality as the market-assessed joint probability that a given auditor will both discover a breach in an accounting

system and report the breach; thus, audit quality is determined by the auditor's ability to detect material misstatements (auditor competence) and the auditor's willingness to report discovered material misstatements (auditor independence).

The most direct empirical proxies for effort and effectiveness include hours spent auditing (Caramanis and Lennox, 2008) and auditor industry expertise (Krishnan, 2003), and both are negatively associated with discretionary accruals. However, this is composed into Auditor independence, audit compensation, auditor type and Joint audit (DeAngelo, 1981; Krishnan, 2003; Dechow, et al., 2010).

Auditor independence according to Dictionary of International Accounting Terms (2001) infers a state of impartiality required of auditors who should have no personal or financial involvement with a client. Louwers, Ramsay, Sinason, and Strawser (2007) described independence as a mental attitude and physical appearance which portrays the auditor as being uninfluenced by others in judgment and decision. This can be sustained by avoiding financial connection that makes it appear that the wealth of the auditor depends on the outcome of the audit and management connections that makes the auditor appear as if he is involved in management decisions. As a key ingredients of audit quality, Gray & Manson (2000) and Hayes, Rachel and Lundholm (2005) described independence as a position required in order to take an unbiased viewpoint in the performance of audit tests, analysis of results and attestation in the audit report. Despite all the definitions, and descriptions of auditor independence, Whittington & Pany (2004) concluded that auditor independence is relative and not absolute.

According to Teoh & Wong (1993) auditor independence comprises of programming independence, investigation independence, and reporting independence. Of these three components, reporting independence is the most likely to be influenced by the directors of a client company. The independence of auditors is seen as a means and not an end in itself McGrath, Siegel, Dunfee, Glazer and Jaenicke, (2001). Consequently, Smith (2003) opined that the prime responsibility of maintaining independence and objectivity rests with the auditor.

Disclosure of information may mean nothing to investors if it is full of misleading statements and audit opinions that suit the interest of preparers. However, audit quality popularly known in audit environment is generally linked to auditor independence and auditor competence. Accordingly, DeAngelo (1981) defines audit quality as the market-assessed probability that, given that the financial statements contain material errors, they are discovered and reported. It therefore means that the probability of discovery depends on the auditor's competence whereas the probability of reporting depends on the auditor's independence from the client ability to influence his decision. However, there is a general opinion expressed in audit literature that audit quality cannot be directly observed by outside parties. Therefore, prior studies have used several surrogates for audit quality (DeAngelo 1981; Palmrose 1986). These surrogates are Audit firm, size, Industry specialization and Audit fees.

Auditors are expected to be able to independently decide on reporting strategies without any undue influence from clients (Cullinan, 2004). Independence refers to the objective relationship as perceived by the client and third parties; which can be in fact and appearance while independence therefore, in fact boosts the reliability of financial statements in

appearance, it promotes public confidence as to enable users rely on financial statements, in (Church and Zhang, 2002).

Simunic (1984) models the joint demand for both audit and non-audit services. He demonstrates that when the auditor provides both services a cost savings (due to "knowledge spillovers") from the joint supply of these services occurs. As a result, when the same auditor provides both services, the cost savings may benefit the accounting firm. The auditor, now earning rents, faces a higher marginal expected loss from being dismissed by top management producing a greater incentive for the auditor to conceal bad news or comply with management.

Another view as pointed by Deangelo (1981) holds that providing consulting services does not hinder auditor independence and in some cases may enhance auditors' incentives to stay independent. However, DeAngelo (1981) argues that increased revenues generated by auditors from consulting fees may create an incentive for auditors to compromise their independence and report favorably in order to retain clients.

2.4 Review of Empirical Literature on Audit Firm Characteristics and Financial Reporting Quality

Extant empirical literature on the relationship between audit firm characteristics and financial reporting quality from different part of the world provide mixed results. Although the studies used different methodologies in different environment, this study is designed to provide evidence from Nigeria, using four audit firms attributes; audit compensation, auditor

independence, audit firm type and joint audit, the study review empirical works in relation to financial reporting quality.

2.4.1 Audit Compensation and Financial Reporting Quality

Divergent views in literature depict that audit compensation/fees has a relationship with the financial reporting quality to some extent; in that, financial reporting quality usually affected fees paid to external auditors. For instance, quality may be decreased with fees if marginal forces associated with managerial influence overwhelm those associated with the scope of activities or reputational incentives. If these forces' relative ultimately reverse, then 'financial reporting' quality can also share a positive relationship with compensation dependence over domains where this dependency is more considerable. For instance, Francis and Ke, (2003); Reynolds, and Francis, (2004) found that audit fee does have a negative relationship with earnings quality, and thus improve the quality of financial reporting. On the other hand, Gul *et al*., (2003) examines the relationship between audit fees and discretionary accruals in a sample of Australian and firms, their results show a positive association between financial reporting quality (discretionary accruals) and audit fees. They dispute the belief that audit fees erode independence.

Audit fees are also used as a measure of audit quality; the perceptions of some researchers behind these studies is that audit fees reflect additional audit effort which leads to a higher level of audit quality (Carcello, Hermanson, Neal & Riley 2002; Abbott, Parker, Peters & Raghunandan, 2003). Early studies like Ashbaugh et al., (2002) and Francis et al., (2003) examined the association between audit fees and non-audit services fees in order to find

evidence of "knowledge spillovers" which are transfers of knowledge from non-audit to audit services and vice versa. Geiger, Lennox, and North (2008) found a positive association between audit fees and qualified audit opinions, which implies that additional audit effort results in more accurate audit opinions. Thus it can be inferred that the results of the studies imply that audit firms receiving higher fees also provide higher actual and perceived audit quality, which translates into greater financial reporting quality of a firm.

The debate in the academic literature on the effects of the various components of auditor's compensation on auditor independence has produced mixed results. Some arguments like Simunic (1984) and Francis et al., (2003) in the literature support the notion of a positive association between auditor independence and compensation. On the other hand, financial dependence of the audit firm on a client may also increase the likelihood that the auditor will acquiesce to management's requests leading to lower quality financial statements (Leland and Pyle, 1977; Campbell & Kracaw 1980)

Simunic (1984) models the joint demand for both audit and non-audit services. He demonstrates that when the auditor provides both services a cost savings (due to "knowledge spillovers") from the joint supply of these services occurs. As a result, when the same auditor provides both services, the cost savings may benefit the accounting firm. The auditor, now earning rents, faces a higher marginal expected loss from being dismissed by top management producing a greater incentive for the auditor to conceal bad news or comply with management.

Another view in this literature holds that providing consulting services does not hinder auditor independence and in some cases may enhance auditors' incentives to stay independent. DeAngelo (1981) concedes that increased revenues generated by auditors from consulting fees may create an incentive for auditors to compromise their independence and report favorably in order to retain clients. However, when auditors have more than one client there is less financial dependence on a single client. Reputational penalties constrain the behavior of audit firms because the gains from acquiescing to any one client's demands are outweighed by the reputational losses that would be imposed by other clients who need and value the audit firms with a reputation for independence.

Similarly, Goldman and Barlev (1974) argue that consulting services combined with auditing services may create a situation in which the client's dependence on the auditor increases because these services enhance the auditor's uniqueness and thus the value to the client. Craswell et al. (2002) uses the auditor's propensity to qualify the audit as a measure of auditor independence. They find, for a sample of Australian firms, that fee dependence does not affect the auditors' propensity to qualify their audit opinion (both at the national market level and the local market level). Similarly, DeFond et al. (2002) analyzed financially distressed firms and found no association between audit fees and the propensity to issue a going concern audit opinion.

Some studies have shown a positive association between measures of economic dependence and auditor independence (audit quality). Firth (1997) and Parkash and Venable (1993) show that high agency cost firms (determined by lower levels of management ownership, lower outside investment concentration and higher debt) recognize the potential for perceptions of independence impairment and voluntarily limit ex ante purchases of consulting services from the auditors. Their results suggest

that auditees recognize the potential for perceptions of independence impairment and higher agency cost firms voluntarily limit the purchase of non-audit service.

Much of the existing research examining the association between audit fees and auditor independence focus on discretionary accruals as a proxy for auditor independence. Francis and Reynolds (2001) test the hypothesis that fee dependence will cause auditors to be more lenient and give clients greater discretion in accounting for accruals (both discretionary and total accruals). They find a negative association between fee dependence and the level of accruals and suggest that reputation protection and litigation avoidance is sufficient incentives for auditors to maintain objectivity. They also find that larger clients (for whom auditors presumably have greater fee dependence) are more likely to receive a going concern audit report. In contrast, Frankel et al. (2001) use the level of discretionary accruals and the ability of the firm to just meet or beat earnings targets as a proxy for financial reporting quality. They show a positive association between two measures of non-audit services and earnings quality. However, Ashbaugh et al. (2003) challenge these findings and conclude that after adjusting discretionary current accruals for firm performance they find no statistically significant association between the proxies used for auditor independence in Frankel et al. (2001) and audit fees.

Audit fee studies by Simunic (1984) have included non-audit fees as explanatory variable for audit fees, and Prakash and Venable (1993) document a positive relation between audit and non-audit fees. Ferguson, Seow and Young (2001) and Frankel, Johnson and Nelson (2002) find some evidence of a positive association between abnormal accruals and the ratio of non-audit fees to the sum of audit fees and non-audit fees. Thus, empirical evidence suggests there is a web of relations among

audit fees, non-audit fees, and abnormal accruals. Therefore, this study is designed to examine the relationships between total audit compensation and financial reporting quality in the listed building material firms in Nigeria.

2.4.2 Auditor Independence and Financial Reporting Quality

Extant literature on auditor independence is divided into two; while some are with the belief that non-audit services impair audit independence, others maintained that provision of non-audit services to a client does not impair auditor independence, which affect the quality of financial reporting. For instance, Wines (1994) study the relationship between non-audit services and auditor independence in relation to financial reporting quality in Australia. He finds that, non-audit fees are related to a reduced likelihood of qualification. Based on that, the study concludes that non-audit services impair auditor independence and financial reporting quality in return. In contrast, Craswell *et al*., (2002) find lack of association in a sample of Australian firms.

Frankel, Johnson and Nelson (2002) investigate the association between non-audit services (using 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. They studied a sample of US firms and found a positive relationship between non-audit fees and small earnings surprises and the magnitude of discretionary accruals. Their result on total audit fees indicates that there is no association between total audit fees and earnings management. Also, audit fees are significantly negatively associated with earnings management, signifying that 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.

Defond *et al*., (2002) find 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 this finding. They added that the costs of loss of reputation and litigation outweigh the expected benefits from compromising independence. As such non-audit services improve quality of financial reporting.

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) assess 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. In

contrast 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.

Chung and Kallapur (2003) investigate earnings management and non-audit fees using the ratio of client audit fees to total audit firm revenues and client non-audit fee to total audit firm revenues as measures of auditor independence and study their relation with earnings management. They find no association between audit fee and the absolute value of discretionary accruals measured with the modified Jones model. They conclude that there is lack of association between non-audit fees and earnings management. In the same vein, in US Koh *et al*., (2008), investigate 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, and as a result, do not lead to poor quality of earnings.

Moreover, in US Brown *et al*., (2006) 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).

Haribar *et al*., (2010) find 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. On the other hand, Basioudis *et 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, an indication 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) study 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. In a similar study Semiu and Johnson (2012) confirm that audit and /or non-audit fees threaten auditors' independence in Nigeria. They study the effects of joint provision of audit and non-audit services on auditor independence, and find that joint provision of non-audit services potentially impairs auditors' independence. In contrast, Umar (2012) investigates the stakeholders' perception of non-audit services provision via 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 (measure 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.

2.4.3 Big 4 and Financial Reporting Quality

The most common and well researched indicator of audit characteristics is whether an audit firm is one of the "Big 4" (DeFond and Francis, 2005; and Carcello, 2005) The motivation for such a hypothesis varies from study to study. DeAngelo (1981) suggests that since these larger audit firms are not as financially dependent on the fees from any one client, they are less likely to be subject to pressure from clients to "look the other way" in the event of discovering accounting irregularities.

Moreover, it is argued that the Big 4 auditors have more to lose should a scandal arise, in that their brand names and reputations are more valuable compared to smaller audit firms. Previous research has shown that these large, international audit firms garner a significant fee premium over their smaller counterparts (Palmrose, 1986 and Ireland and Lennox, 2002). This premium can be attributed to higher billing rates (for superior expertise), additional

audit hours (reflecting additional efforts) or simply a reputation effect. In any case, prior research has deemed the fee premium indicative of higher audit quality compared to non-Big 4 firms.

Clients of the Big 4 firms have been shown to have higher accrual quality, typically measured as lower absolute values of discretionary accruals (Becker, DeFond, Jiambalvo, Subramanyam, 1998; and Francis, Maydew and Sparks 1999), and are less likely to manage earnings, as evidenced by income increasing accruals, small positive earnings changes, or meeting/beating analyst expectations (Becker, DeFond, Jiambalvo, & Subramanyam, 1998; Nelson, Elliott & Tarpley, 2002). In addition, the stock market response to an earnings surprise is greater (Teoh & Wong, 1993) and analyst forecasts are, on average, more accurate for clients of Big 4 firms (Behn, Choi & Kang, 2008) suggesting that higher audit quality contributes to more informative earnings disclosures and better informed analysts.

Tate (2001) finds Big 5 auditors' report more noncompliance with federal regulations in the form of findings and questioned costs than non-Big 5 auditors. However, after controlling for the number and extent of errors identified by the auditor, she finds that big size auditors are less likely than non-big size auditors to qualify their report on an organization's compliance with federal regulations. She also finds that size auditors are less likely than non-Big 5 auditors to report significant deficiencies in internal control.

Becker et al. (1998) examine the effect of audit quality on earnings management through discretionary accruals and find that discretionary accruals of clients of Big 6 auditors are

lower than discretionary accruals of clients of non-Big 6 auditors. However, they did not test for income-decreasing discretionary accruals but only income-increasing earnings management.

Prior research has shown that audit quality is positively associated with audit firm size (e.g., Krishnan and Schauer, 2000; Lennox, 1999; Colbert and Murray, 1998). However, there is other evidence showing that size may not always be positively related to audit quality and that the largest accounting firms may not always provide higher quality audits than do small accounting firms (e.g., Tate, 2001; Lam and Chang, 1994).

Following DeAngelo's (1981) argument that size of audit firms is positively associated with audit quality, many studies use size (Big 8/6/5 vs. non-Big 8/6/5) as the audit quality proxy (Krishnan, 2003; Zhou and Elder, 2001; Bauwhede et al., 2000; Becker et al., 1998; Hogan, 1997; Clarkson and Simunic, 1994; Firth and Smith, 1992a; Nichols and Smith, 1983). 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.

For example, using discretionary accruals as the measure for earnings management, Becker et al. (1998) find that audit quality is negatively related to income-increasing discretionary accruals, which indicates that high audit quality is associated with low information asymmetry. Teoh and Wong (1993) find that Big 8 clients are associated with higher earnings response coefficients (ERCs), that is, the coefficient on earnings resulting from regressing stock returns on reported earnings. It measures the extent to which the market responds to earnings. Teoh and Wong (1993) indicate that the ERC of companies audited by Big 8 accounting firms is higher than that of companies audited by small

accounting firms. Since the ERC reflects the perception of audit quality by financial statement users, it measures perceived audit quality. Moreover, it has been shown that the perceived audit quality of large accounting firms is higher than that of small accounting firms, so that size can be used as a proxy for perceived audit quality.

This therefore, relate with financial reporting quality, in that audit quality is the basis for adequate and proper audit work capable of detecting and revealing errors and misstatements in the financial reports.

2.4.4 Joint Auditors and Financial Reporting Quality

A literature review by Deangelo (1981) revealed that recent literatures have encouraged joint auditors approach in ensuring objective financial reporting. Some scholars are of the view that the appointment of joint auditors to a firm will enhance its financial reports quality. An interesting feature of (voluntary) joint audits is that they create more variation in auditor choice and potentially in the level of earnings quality than under the traditional Big 4/non-Big 4 dichotomy. Specifically, based on DeAngelo‘s (1981) framework, audits performed by two Big 4 audit firms produce the highest-quality financial report, while the lowest level of quality occurs when a single non-Big 4 audit firm is responsible for the audit engagement. Joint audits are always perceived to be of higher quality report than audits by single Big 4 auditors according to DeAngelo‘s (1981) framework. Consistent with DeAngelo‘s (1981) framework, a substantial body of prior empirical studies have documented a positive relationship between auditor size and various proxies for audit quality (e.g., Teoh and Wong 1993; Becker et al. 1998; Francis 2004).

Francis et al. (2009) analyze the consequences of France's joint audit requirement on earnings quality and find that Big 4 auditor-pairs are associated with lower levels of income-increasing abnormal accruals. They find that in France firms with one or two Big 4 auditors are less likely to have income increasing abnormal accruals than other firms. Firms audited by two Big 4 auditors are even less likely to have income-increasing accruals. Big 4 auditors paired with non-Big 4 auditors are also associated with lower levels of income increasing abnormal accruals however to a lesser extent. They conclude that a pecking order explain this with regards to earnings quality and auditor-pair choice.

Zerni et al. (2012) study the impact of voluntary joint audit in Sweden on audit quality. While controlling for differences in characteristics between firms choosing joint audits from other firms, they demonstrate that joint audits improve audit quality. Zerni et al. (2012) define audit quality as earnings conservatism, abnormal accruals, credit ratings, and perceived risk of bankruptcy. They provide evidence of a positive relation between joint audits and general attributes of audit quality. They also report that Big 4–Big 4 auditor pairs are not related with higher earnings quality – defined as lower income-increasing abnormal accruals – than Big 4–non-Big 4 auditor pairs.

Lesage et al., (2011) examined the impact of joint audit on both audit costs and audit quality in Denmark during the period of mandatory joint audit (2005-2009). Firms that continue to use joint audit after the 2005 regulation change are associated with significantly higher audit fees compared with firms voluntarily choosing to use a single auditor. There is no significant relationship between

voluntary joint audit and total fees. In addition, audit quality, proxied by abnormal accruals, is not significantly different for the joint and single audit firms. Similarly, Marmousez (2009) examines the impact of joint auditor pairs in France on financial reporting quality, measured by the degree of earnings conservatism. He provides evidence that Big 4–Big 4 auditor pairs are not associated with earnings conservatism whereas Big 4–non-Big 4 auditor pairs are associated with conservatism.

2.5 Theoretical Framework

Eilifsen and Messier, (2000) argue that the demand for auditing arises from the auditor's monitoring role in the principal-agent relationship. According to agency theory, an agency relationship is a contract under which one or more principals engage an agent to perform some service on the principals' behalf and delegate some decision-making authority to the agent (Jenson and Meckling, 1976). As such when there are conflicts between the interests of the principal and the agent, the agent may not act in the best interests of the principal. In order to avoid or minimize such divergences from his or her interests, the principal can establish monitoring systems. The financial statement audit is a monitoring mechanism that helps reduce information asymmetry and protect the interests of the principals, specifically, the existing and potential stockholders, by providing reasonable assurance that management's financial statements are free from material misstatements (Watts and Zimmerman, 1986).

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.

Recent accounting scandals and perceived audit failures have resulted in criticism of auditors and have led to the questioning of auditor independence and, as a result, audit quality. The Enron bankruptcy in particular has led to changes in regulatory structure (Sarbanes-Oxley) and intense scrutiny of non-audit related fees the auditor collects from clients. Several questions have been raised concerning auditors maintaining independence and, at the same time, collecting large fees from clients for non-audit services (Byran-Low & Opdyke 2002). A tension is created because, while audit firms rely on clients for fees, they also must protect their reputation or suffer consequences (Johnstone, et al. 2001). However, the recent accounting scandals and perceived audit failures have resulted in criticism of the accounting and auditing professions in the financial press for their alleged role in allowing these situations to evolve. Part of this denunciation has been leveled at firms' external auditors and expresses disdain at the presumably substandard work that was completed for their audit clients ostensibly at the expense of the public good.

However, the proponents of economic bonding theory argue that the degree of the audit firm's monetary dependence on the client or the economic bond consciously or unconsciously reduces the auditor's independence or the willingness to resist client-induced biases in the financial statements (Franke, *et al*., 2002). This is also consistent with 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.

With regard financial reporting, stakeholder theory maintained that organizations have to account for their stewardship over the resources entrusted to them to various stakeholders including among others debenture holders and members of the public (Jensen & Meckling, 1976, O'Donnell, 2000, cited in Tahir, 2008). This therefore suggests that the responsibility of directors is to serve various interest groups and individuals. However, the theory was developed to address the shortcomings of the agency theory. The agency theory was criticize for prioritizing the interest of shareholders above the general interest of other stakeholders, such as employees, the government and the society in general (Charron, 2007, cited in Barde, 2009). This theory argued that the firm is a social person and therefore is responsible and accountable not only to the shareholders but to numerous other stakeholders. In line with this, firms are expected to disclose more information in financial statements in order to satisfy the interest of various stakeholder groups (not only shareholders' interest).

Similarly, 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, 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.

Thus, 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. It is therefore on the framework of the above theories that this study attempt to investigate the relationships among financial reporting quality and audit firm characteristics of quoted building material firms in Nigeria. Specifically, both agency theory and the theory of inspired confidence are used in underpinning the findings of this study. The former links shareholders and the management who are the providers of financial statements to be audited by audit firms and the latter anchored managers and audit firms that plays a prominent role in ensuring quality of financial reporting.

2.6 Chapter Summary

In this chapter relevant literatures on audit firm characteristics and financial reporting quality was reviewed and presented. The chapter stated with the presentation of conceptual framework of the study and then followed by the audit regulation in Nigeria, proxies for financial reporting quality, and determinants of financial reporting quality. Empirical literature on audit compensation/fee and financial reporting quality, audit independence and financial reporting quality, Big 4 and financial reporting quality, as well as joint audit and financial reporting quality were also presented and discussed. The chapter ended with the discussion of the theoretical framework of the study.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the process and procedures employed to achieve the objectives of the study. It covers the research design, methods and techniques of data collection and analysis. The chapter begins with the discussion of the research design adopted for the study, and then followed by the population and sample of the study. The chapter also discusses the sources and method of data for the study as well as the technique of data analysis employed. It also presents the model of the study and the justifications of the methods and techniques adopted in the study.

3.2 Research Design

This study adopts correlational research design to investigate the relationships as well as the effects of the audit firm characteristics on the financial reporting quality of quoted building material firms in Nigeria. This design is chosen because of its effectiveness in assessing the relationships and the effects of two or more variables (that is, the dependent and independent variables). Thus, the design is consistent with the main objective of this research.

The study is designed in two stages. In the first part, the measure of financial reporting quality is estimated using the absolute residuals from the Dechow and Dechev (2002) model as modified by McNichols (2002) and used by Francis et al., (2005) and Chen et al., (2007). While in the second part, the study estimated the impact of audit firm characteristics (audit compensation, audit firm independence, big four audit firm type and joint audit) on the

financial reporting quality. Thereafter, the hypotheses formulated in the study are tested and inferences are drawn.

3.3 Population and Sample of the Study

The population of the study consists of all the eight (8) quoted building material firms operating on the Nigeria, Stock Exchange (NSE) as at 31st December 2012. In arriving at the sample size, the following criteria were used:

i. A firm must be in operation during the study period that is, 2001 through 2012. This is because the model of accrual used in the study requires data for all the years covered by the study, one year before the start period and one year ahead of the end period.

ii. A firm must not have merged or taken over by another firm during the period of the study. This is to avoid the effect of changes in management, because the focus of the study is on earnings management (unethical managerial behavior that affects financial reporting quality).

iii. A firm must not have delisted throughout the period of the study. This is to ensure data availability and accessibility.

In view of the above, four (4) firms emerged as the sample of the study, as presented in the following table;

Table 3.1 Population and Sample of the Study

S/N	Building Material Firms	Selected Firms
1	Ashaka Cement Plc	**1**
2	Dangote Cement Plc	
3	Cement Company of Northern Nigeria Plc	**1**
4	Ceramic Manufacturers Nigeria Plc	
5	Lafarge Cement Wapco Nigeria Plc	**1**
6	Nigeria Cement Company Plc	
7	Nigeria Ropes Plc	**1**
8	Nigeria Wire Industries Plc	
	Sample of the Study	**4**

Source: Nigerian Stock Exchange Fact-book (2010/2011)

3.4 Sources and Method of Data Collection

For the purpose of this study, secondary data is exploited, while the sources of the data include the financial statements (statement of comprehensive income, Statement of financial position, statement of cash flows and non-financial information) of the sampled building material firms for the period 2001 to 2012. The use of secondary data in this study is justified based on the fact that the study is based on the quantitative research methodology, and hence requires quantitative data.

3.5 Techniques of Data Analysis

In line with the research paradigm underpinning this study and in consistent with the objectives of this study, Ordinary Least Square (OLS), Fixed Effect and Random Effect Regression technique of data analysis are employed. The choice of regression as the tool of analysis in this study is informed by the fact that, the technique is effective in estimating the effect of one variable on another. Thus, the technique is consistent with the correlation research design employed in the study and the objective of this study.

3.6 Variables Measurement and Models Specification

The definitions and measurements of the variables used in this study are presented in table 3.2 below;

Table 3.2 Variables Definitions and Measurements

Variables	Definition/Measurements
Financial Reporting Quality	Defined as accruals and earnings quality. Measured as residuals from the modified Dechow and Dechev (2002) change in working capital accrual model.
Audit Compensation	Defined and measured as total audit fees at the end of accounting period, as reported in the statement of comprehensive income.
Audit Firm Independence	Defined as a state of objectivity and absence of any managerial influence, by personal or financial involvement with a client. Measured by dichotomy (‘1’ provided the audit firm perform other services other than statutory audit and ‘0’ otherwise)
Audit Firm Type-Big4	Defined as the largest global audit firm (Deloitte, pwc, Ernst & Young and KPMG). Measured by dichotomy (‘1’ provided the company is being audited by any of the big4 audit firm and ‘0’ otherwise).
Joint Audit	Defined as statutory audit by more than one audit firm. Measured by dichotomy (‘1’ provided the company is being audited by more than one audit firm and ‘0’ otherwise).

We adopted the accrual quality model of Dechow and Dechev (2002) as modified by McNichols (2002) and used by Francis, LaFond, Olsson, Schipper, (2005) and Chen et al (2007) based on the unexplained accruals or residuals of the model, to estimate earnings quality of quoted building material firms in Nigeria. The model adopted is mathematically presented as follows:

$$TCA_{it} = \alpha + \beta_1 CFO_{it-1} + \beta_2 CFO_{it} + \beta_3 CFO_{it+1} + \beta_4 \Delta Rev_{it} + \beta_5 PPE_{it} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots i$$

Where:

α = is the intercept

$\beta_1 . \beta_5$ = are the parameters estimate in equation

TCA = Total Current Accruals at time t (which equals change in current assets - change in current liabilities - change in cash + change in debt in current liabilities), scaled by total assets

CFO_{it-1} = Last year Cash flow from operation of firm I at time t, scaled by total assets

CFO_{it} = Current year Cash flow from operation of firm I at time t, scaled by total assets

CFO_{it+1} = A year ahead Cash flow from operation of firm I at time t, scaled by total assets

ΔREV_{it} = Change in revenue of firm I at time t, scaled by total assets

PPE_{it} = Natural log of Gross property, plant and equipment of firm i at time t

ε_t = error term/residual

Existing studies investigating the effects of earnings management on audits employed this model. The model captures the extent to which working capital accruals of a period are not explained by current period, previous period and next period operating cash flows (Sengupta & Shen, 2007). According to Dechow and Dechev (2002) accruals and earnings quality is the portion of accruals that is not explained by current period, previous period and next period operating cash flows; the higher this unexplained portion, the poorer the quality of accrual, earnings and financial reporting as well. McNichols (2002) suggested a refinement to this model which adds the change in sales and the levels of gross property, plant and equipment to the model. According to her these additional variables significantly increases the explanatory power of the model and reduces measurement errors. Therefore, the accrual quality model can be capturing earnings management through the use of accruals and company that manages earnings will have poorer accruals quality (Dechow & Dechev, 2002). Moreover, accruals quality model measures the way accounting earnings map into cash flows and this implies that companies with poorer accrual quality have greater information risks (Sengupta & Shen, 2007).

Emanating from the above model as well as the theoretical framework, our measure of financial reporting quality is the unexplained portion (residuals) of total current accrual model above. Thus, the study used it in the model of the study (model 2) which would be used to test the hypotheses of the study. The model used to examine the hypotheses of the study is presented as follows:

$FRQ_{it} = \beta_{0+}\beta_1 ACOMP_{it} + \beta_2 AFI_{it} + \beta_3 BIG4_{it} + \beta_5 JA_{it} + \mu_t$ ii

Where;

α	=	is the intercept
β_1-β_4	=	are the parameters estimate or coefficients in the equation
i,t	=	firm i, time t
FRQ_{it}	=	Financial Reporting Quality- Accruals/Earnings quality (natural log of absolute residuals)
$ACOMP_{it}$	=	Audit compensation/fees (natural log of total audit fees)
AFI_{it}	=	Audit firm independence
$BIG4_{it}$	=	Big four audit firms
JA_{it}	=	Joint auditors/firms
μ	=	error term

This study, will considered linear regression model, hence, the assumptions of this model is well regarded. The integrity of regression assumptions can be determined by considering residuals distribution and its relationships with other variables. Residuals include the difference between the observed values of a dependent variable and the predicted values by regression line. In regression analysis considering linearity, normality, stability of variance and independence of observations is of vital importance. In this research, these assumptions were considered.

3.7 Robustness Test

This section gives a description of the robustness tests conducted in order to improve the validity of all statistical inferences for the study. The tests include; multicollinearity test, heteroscedasticity test, and the test of serial correlation.

Multicollinearity Test: This is to check whether there is a high correlation among the independent variables which will mislead the result of the study. To substantiate the lack of multicollinearity between the independent variables, colinearity diagnostics are observed and that the Variance Inflation Factors (VIF) and Tolerance Values (TV) are indicators as to whether multicollinearity exists in the variables.

The tolerance value and the variance inflation factor (VIF) are two advanced measures of assessing multicollinearity between the independent valuables. Using SPSS, the variance inflation factors and tolerance values are computed and when found to be consistently smaller

than ten and one respectively it shows the absence of multicollinearity (Neter, Kutner, Nachtsheim, and Wasserman,1996).

Heteroscedasticity: This test is conducted to check whether the variability of error terms is constant or not. The presence of heteroscedasticity signifies that the variation of the residuals or error term is not constant which could affect the inferences in respect of beta coefficient, coefficient of determination (R^2) and F-statistic of the study. STATA 11.0 is used to check for the problem of heteroscedasticity in the analysis.

3.8 Chapter Summary

This chapter discussed the research methodology used in achieving the objectives of the study. It chapter discussed the research design, methods and techniques of data collection and analysis. The study employed correlation research design and secondary sources of data, while the technique of data analysis used was OLS multiple regression technique. The chapter also presented the model of the study and the justifications of the methods and techniques adopted in the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter analyses and interprets the results obtained from the tests conducted on the data collected for the study. This is followed by drawing relevant inferences from the analysis as well as

the test of hypotheses formulated for the study. The chapter begins with the discussion of the descriptive statistics of the data collected, and then the correlation matrix of the variables of the study. The presentation of the regression results and the test of hypotheses are then conducted. The chapter ends with the discussions of the major findings from the analysis as well as policy implications of the findings.

4.2 Descriptive Statistics

The description of the data collected for the study is presented and discussed in this section; the summary of the descriptive statistics of the data collected is presented in Table 4.1.

Table 4.1: Descriptive Statistics of the Variables

VARIABLES	Min	Max	Mean	SD	Skewness	Kurtosis	N
FRQ	0.0073	0.1775	0.0839	0.0541	0.0091	1.5805	40
ACOMP	12.8427	17.1572	14.9236	1.5517	0.1325	1.4830	40
AFI	0.0000	1.0000	0.0500	0.2207	4.1295	18.0526	40
BIG4	0.0000	1.0000	0.6250	0.4903	-0.5164	1.2667	40
JA	0.0000	1.0000	0.3250	0.4743	0.7472	1.5584	40

Source: STATA Output (Appendix B1)

Table 4.1 shows that the measure of financial reporting quality (FRQ) which is the absolute value of residuals of the modified Dechow and Dichev (2002) accruals model, has a minimum value of 0.0073 and 0.1775 as the maximum value. The average value of the FRQ is 0.0839 with standard deviation of 0.0541, signifying that the data deviate from the mean value from both sides by 0.0541. This implies that there is a wide dispersion of the data from the mean because the standard deviation is closed to the mean. Similarly, the value of kurtosis 1.5805 supports that most of the values are higher than mean, thus the data does not meet a Gausian distribution (which suggest zero kurtosis).

However, the coefficient of Skewness 0.0091 implies that the data is positively skewed, and thus, the data does not meet the symmetrical distribution, which suggests a value of 0 for Skewness.

The table also indicates that the minimum and maximum values of the natural log of audit firm compensation (ACOMP) are 12.8427 and 17.1572 respectively, with the mean value of 14.9236 and standard deviation of 1.5517. This shows that there is dispersion of audit compensation from the mean in the sample firms. The kurtosis value of 1.4830 also shows that most of the values are higher than mean, thus the data does not meet a Gausian distribution. On the other hand, the coefficient of Skewness 0.1325 implies that the data is positively skewed, and thus, the data does not meet the symmetrical distribution, which suggests a value of 0 for Skewness.

The summary statistics from the table with respect to audit firm independence (AFI) which is dichotomous variable (0 or 1) shows minimum and maximum values of 0 and 1 respectively. On average, provision of non-audit services in the sample firms around 5% from the mean value of 0.0500 with the standard deviation of 0.2207. This implies that the sample firms provide non-audit services to their clients for 5% of the total year's observations. The coefficient of Skewness 4.1295 implies that the data is positively skewed, and therefore does not conform to the symmetrical distribution requirement. Moreover, the coefficient of Kurtosis also indicates that the AFI variable does not meet the Gausian distribution criterion.

The table also indicates that on average 62.5% of the listed building materials firms in Nigeria are audited by BIG4 audit firm as indicated by the mean value of 0.6250 with standard deviation of 0.4903. While the minimum and maximum values are 0 and 1 respectively. The negative value of

skewness indicates that the data is negatively skewed, that is, the mean is less than the mode, and thus, the variable does not meet the symmetrical distribution requirement. This is also evidenced by the coefficient of kurtosis of 1.2667 which is different from 0, implying that the Gausian distribution is not met.

Table 4.1 also indicates that, the minimum and maximum values of joint audit (JA) variable are 0 and 1 respectively, with the mean value of 0.3250 and standard deviation of 0.4743. This implies that about 32.50% of the listed building material companies in Nigeria employ joint audit services. The coefficient of Skewness 0.7472 implies that the data is positively skewed, and therefore does not conform to the symmetrical distribution requirement. Moreover, the coefficient of Kurtosis also indicates that the JA variable does not meet the Gausian distribution criterion.

Therefore, having presented and analysis of the descriptive statistics of the data collected for the variables of the study which to a large extent suggested that the data is not normally distributed, the results of data normality test of the variables are presented in table 4.2 as follows;

Table 4.2 Results for Normality Test

VARIABLES	**N**	**W**	**V**	**Z**	**Prob>Z**

FRQ	40	0.9194	3.188	2.440	0.0074
ACOMP	40	0.9180	3.241	2.475	0.0067
AFI	40	0.5574	17.497	6.023	0.0000
BIG4	40	0.9863	0.543	-1.287	0.9009
JA	40	0.9619	1.506	0.861	0.1945

Source: STATA Output (Appendix B2)

In assessing the normality of the data collected for the variables of the study, Shapiro-Wilk (W) test is applied and the result is presented in table 4.2. Under this technique, null hypothesis principle is used to check a variable that came from a normally distributed population. The null hypothesis of the test is that the data is normally distributed. Table 4.2 indicates that data from Financial Reporting Quality (FRQ), audit compensation (ACOMP), and audit firm independence (AFI) are not normally distributed because the P-values are significant at 1% level of significance. Thus, the null hypothesis that the data is normally distributed is rejected. On the other hand, big4 audit type variable and joint audit are normally distributed as evidenced by the p-value of 0.9009 and 0.1945 for BIG4 and JA respectively.

4.3 Correlation Results

The summary of the Pearson correlation Coefficients of the variables of the study are presented in Table 4.3.

Table 4.3 Coefficient of Correlation

VARIABLES	FRQ	ACOMP	AFI	BIG4	JA
FRQ	1				
ACOMP	0.8278	1			
	(0.0000)				
AFI	0.8081	0.6929	1		
	(0.0000)	(0.0000)			
BIG4	-0.5643	-0.5370	-0.3416	1	
	(0.0000)	(0.0004)	(0.0310)		
JA	-0.5080	-0.4427	-0.3557	0.5375	1
	(0.0008)	(0.0042)	(0.0243)	(0.0000)	

Source: STATA Output (Appendix B11)

Table 4.3 presents the Pearson correlation results of all the variables of the study. The financial reporting quality (FRQ) and audit firm characteristics variables (Audit firm compensation, Audit firm independence, Big four audit firm type, and joint Audit) in the listed building materials firms in Nigeria. The table shows that there is a significant positive relationship between financial reporting quality (FRQ) and Audit compensation (ACOMP) from the correlation coefficient of 0.8278, at 99% confidence level (p-value 0.000). This result suggests that financial reporting quality likely increases with an increase in audit compensation. The result from the table indicates that there is a positive relationship between financial reporting quality and audit firm independence (AFI) from the correlation coefficient of 0.8081 which is significant at 1% level of significance (p-value of 0.000). This implies that auditors' independence is positively associated with high quality financial reporting in the quoted building material firms in Nigeria.

The table also shows a significant statistical negative relationship between financial reporting quality and BIG 4 audit firm type, from the correlation coefficient of -0.5643 which is significant at 1% level of significance (p-value of 0.0000). This implies that the big four audit firms or audit firm size is negatively associated with the quality of financial reporting of quoted building material firms in Nigeria. Similarly, the table shows that there is a negative relationship between joint audit (JA) and financial reporting quality as shown by the correlation coefficient of -0.5080 which is significant at 1% level of significance (p-value of 0.0008).

Following the analysis of the relationships between the financial reporting quality and audit firm characteristics (ACOMP, AFI, BIG4 and JA) in the quoted building material firms in Nigeria, the study can now proceeds with the analysis of the regression results of the model of the study. From which the hypothesis of the study will be tested and the conclusion will be drawn about the impact of audit firm characteristics on the financial reporting quality of listed building material compares in Nigeria.

4.4 Regression Results and Hypotheses Testing

In this section, the regression results of the audit firm characteristics variables and financial reporting quality are presented and analyzed. The hypotheses formulated for the study are also tested from the results as presented in table 4.4 below;

Table 4.4 Summary of Regression Result of the Model of the Study

OLS Model			**Fixed Effect Model**	**Random Effect Model**
Variables	**Statistics**	**Variables**	**Statistics**	**Statistics**
R^2	0.8220	**R^2 Within**	0.7225	0.7034
Adj. R^2	0.8016	**R^2 Between**	0.9513	0.9812
F-STAT	40.40	**R^2 Overall**	0.8043	0.8220
Prob>F	0.0000	**F-STAT**	20.83	
Hausman Specification Test:		**Prob>F**	0.0000	
Hausman Chi2 = 5.18		**Wald Chi2**		161.61
Prob>Chi2 = 0.2689		**Prob>Chi2**		0.0000
Breusch & Pagan Lagrangian Multiplier Test for Random Effects:				
Chi2 = 0.41				
Prob>Chi2 = 0.5200				

Source: STATA Output (Appendix B12, B16, B17, B18, & B19)

In line with the panel nature of the data used in this study, the model of the study is subjected to other robust regression models in addition to OLS, due to the uncertainty as to the conformity with the classical assumptions of the OLS regression model, as indicated by the normality test in Table 4.2. The results in table 4.4 presents part of the regression results of OLS model in the first two columns, while the fixed and random effects regression models are presented in the last two

columns. To chose the most appropriate model for the study, two important tests are conducted; Hausman Specification Test and Breusch and Pagan Lagrangian Multiplier Test for Random Effects. The Hausman specification test suggested that Random Effects Regression Model is the most appropriate model for the study as evidenced by the p-value of 0.2689. However, the Breusch and Pagan Lagrangian Multiplier Test for Random Effects, indicated that there is no statistical significant different between the effects (p-value of 0.5200), and therefore, OLS model can also be used for the study.

However, looking at the results of the OLS and the Random Effects regression models, there is no major difference that can alter the interpretations and inferences drawn in this study (that is, OLS or Random Effects models in this study will yield the same conclusions). Based on this, together with the robustness of Random Effects model (Generalized Least Square Regression model) in addressing the problems that is pertinent to OLS (such as first-order autocorrelation), this study used Random Effects Regression Results.

The results from table 4.4 indicate that the variables of the audit firm characteristic (audit compensation, auditor independence, big4 audit type, and joint audit) explained around 82.20% of the variations in the financial reporting quality of listed building material firms in Nigeria, from the overall coefficient of multiple determinations (R^2 value of 0.8220). The table also shows that the model is fitted as evident by the Wald Chi2 of 161.61 which is at 99% confidence level (as indicated by the P-value of 0.0000). Therefore, the following section presents and discusses the robustness tests conducted on the data of the variables collected for the study.

4.4.1 Results of Robustness Test

In this section, the results of collinearity test and heteroskedasticity are presented and discussed, as shown by table 4.5 as follows;

Table 4.5 Result of the Robustness Test of the Model of the Study

VARIABLES	Multicollinearity Test		Heteroscedasticity Test
	VIF	TV	
ACOMP	2.42	0.4134	
AFI	1.95	0.5129	
BIG4	1.68	0.5953	
JA	1.49	0.6704	**Breusch & Pagan/Cook-Weisberg Test for Hetteroscedasticity:** Chi2 = 0.42 Prob>Chi2 = 0.5145

Source: STATA Output (Appendix B13 & B14)

The classical assumption of OLS regression model assumed that the error terms are normally distributed and independent (that is the error terms are uncorrelated); the explanatory variables are not perfectly correlated (absence of multicollinearity); the variance of the error terms is constant (Homoskedastic). When these assumptions have not been met, the estimators are biased and

cannot be use in drawing any inference. However, the results from table 4.5 proved the absence of perfect multicollinearity among the independent variables, because the smallest tolerance value (TV) is 0.4134, while the highest variance inflation factor (VIF) is 2.42. The rule of thumb for the Tolerance Value is that any value of 0.1 and below implies the presence of multicollinearity in the estimates, while for the Variance Inflation Factor, a value of 10 and above is an indication of perfect multicollinearity (Gujarati, 2004). The evidence from Breuch Pagan/Cook-Weisberg coefficient of 0.42 with p-value of 0.5145 confirms the absence of the effects of heteroskedasticity, that is, there is constant variance in the residuals.

Moreover, Breuch Pagan/Cook-Weisberg test is also an evidence of the absence of serial correlation, although this could not be a problem as the GLS estimators are used in the study. Moreover, the panel is a micro-panel in which the problem of autocorrelation is not effective. Following the robustness of the results, the random effects regression estimators are used in the test of hypotheses formulated in this study.

4.4.2 Hypotheses Testing

In this part of the chapter, the study tested the hypotheses formulated for the study, in view of the robustness of the results, which can be regarded as best linear unbiased estimators. Table 4.6 presents the coefficients of the variables of the study from which the hypotheses are tested.

Table 4.6 Regression Coefficients of the Study

	OLS Model		**Fixed Effect Model**		**Random Effect Model**	
Variables	Coef.	P-value	Coef.	P-value	Coef.	P-value
ACOMP	0.0782	0.001	0.1147	0.000	0.0782	0.000

AFI	0.6662	0.000	0.6160	0.000	0.6662	0.000
BIG4	-0.5386	0.118	-0.1673	0.744	-0.5386	0.109
JA	-0.3501	0.292	-1.0201	0.080	-0.3501	0.284
CONSTANT	1.8839	0.000	1.5533	0.002	1.8839	0.000

Source: STATA Output (Appendix B12, B16, B17)

Table 4.6 shows that audit compensation (ACOMP) has a significant positive impact on financial reporting quality (FRQ) of listed building material firms in Nigeria as indicated by the coefficient of 0.0782 which is significant at 1% level of significance (from the P-value of 0.000). That is, auditors' compensation is significant in improving the quality of financial reporting of listed building firms in Nigeria. Based on this, the study rejects the null hypothesis one (H_{01}) which states that, auditors' compensation has no significant impact on the financial reporting quality of listed building material firms in Nigeria. Therefore, the study infers that auditors' compensation has significant positive effects on the financial reporting quality of quoted building material firms in Nigeria.

Similarly, the results from table 4.6 show a significant positive effects of audit firm independence (AFI) on the quality of financial reporting of quoted building material firms in Nigeria, from the coefficient of 0.6662 which is significant at 1% level of significance (from the p-value of 0.000). This implies that audit firm independence contributes significantly in improving the financial reporting quality of building materials firms in Nigeria. Based on this, the study therefore rejects the second null hypothesis (H_{02}) which states that Audit firm independence has no significant impact on the quality of financial reporting of listed building material firms in Nigeria. The study therefore infers that audit firm independence, which is the provision of other services, has significant positive impact on the financial reporting quality of quoted building material firms in Nigeria during the period covered by the study.

On the contrary, the results from the table shows that the big four (BIG4) audit firm type has a negative impact on the quality of financial reporting (FRQ), from the coefficient of -0.5386 which is

not significant at all levels of significance (from the p-value of 0.109). This suggests that the big four audit firms' type has no significant impact on the financial reporting quality of listed building material firms in Nigeria during the period of the study. Therefore, based on this evidence, the study failed to reject the null hypothesis three (H_{03}) which states that big four audit firm has no significant effect on the financial reporting quality of quoted building material firms in Nigeria.

Similarly, the results from the table indicates that joint audit has a negative effect on the financial reporting quality of listed building material firms in Nigeria, considering the coefficient of -0.3501 and p-value of 0.284. This implies that the result is not significant at all levels of significance. Thus, based on statistical evidence, this study fails to reject the null hypothesis four (H_{04}) which states that joint audit has no significant impact on the financial reporting quality of listed building material firms in Nigeria.

4.5 Discussion of Major Findings

From the tests conducted on the data collected and the analyses of the results this study found that audit firm characteristics are strongly associated with financial reporting quality in the listed building material firms in Nigeria. Evidences from the regression results indicated that the variables of audit firm characteristics explained around 82% of the total variation in the financial reporting quality of listed building material firms in Nigeria at 99% confidence level during the period covered by the study.

Specifically, based on the hypotheses tests the study found that, Auditor compensation in the quoted building material firms in Nigeria have positively impacted on the quality of the financial reporting of the sampled firms. This finding contradicts the findings of DeAngelo (1981) and Geiger et al., (2008) who found a negative impact, that increased revenues generated by auditors from audits/non-audit services may create an incentive for auditors to compromise their independence and report favorably in order to retain clients. The finding supports those of Francis and Reynolds (2001), Francis and Ke (2003), Frankel et al., (2002) Gul et al., (2003) and Reynolds and Francis (2004). Moreover, the finding is contrary to the postulate of the economic bonding theory that suggests a negative relationship between audit fees and quality of financial reporting. This unique finding could be attributed to the level of accounting system sophistication between the developed and developing economies like Nigeria. That is, in the developed nations where those studies are conducted, they have higher professionals that could uncover accounting errors and misstatements in the financial statements than in a country like Nigeria.

Similarly, the study found that audit firm independence (provision of other services by the auditors) has significant positive impact on the quality of financial reporting of quoted building material firms in Nigeria. This is in line with the findings of DeAngelo (1981), Palmrose, (1986), Ireland and Lennox (2002) and DeFond and Francis, (2005), Defond et al (2002), Chung and Kallapur (2003) Koh et al (2008) and Hope and Langli (2007) that providing consulting services does not hinder auditor independence and in some cases may enhance auditors' incentives to stay independent, and hence higher quality financial reporting.

On the other hand, the study found that the big four audit firm has no significant impact on the quality of financial reporting of listed building material firms in Nigeria during the period of the study. This contradicts the view that big four audit firm type could improve the quality of financial reporting. The finding also contradicts the findings of Palmrose, (1986), Ireland and Lennox, (2002). The study also found that joint audit has a no significant positive effect on the financial reporting quality of listed building material firms in Nigeria. This finding contradicts the findings of DeAngelo (1981), Teoh and Wong (1993), Becker et al., (1998) and Francis (2004). However, the finding support the finding of Marmousez (2009), that Joint audit does not improve the quality of financial reporting.

4.6 Policy Implications of the Findings

This study focuses on the impact of audit firm characteristics and financial reporting quality of the listed building material firms in Nigeria, using features of audit firm such as audit compensation, audit firm independence (non-audit services), big four audit firm and joint audit. However, results and findings from the analysis conducted have implications to policy makers, and management of quoted building material firms in Nigeria. The major implication of the findings of this study is that, if managers would abide by the ethical corporate practices paying financial compensation to their auditors could yield a higher audit quality and higher financial reporting quality. The study also implied that provision of other audit services in the listed building material firms in Nigeria reflects knowledge spill-over, and as such could lead to higher financial reporting quality. The findings also implied that audit firm type and joint audit service do not matter with regard financial reporting quality.

4.7 Chapter Summary

This chapter presented the results as well as the discussions, analysis and interpretations of the results; it presented the descriptive statistics of the data collected, the correlation matrix of the variables of the study, the regression results of the model of the study and the test of hypotheses of the study. The chapter ended with the discussions of the major findings from the analysis as well as policy implications of the findings.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

This study examined the relationship between audit firms' characteristics and financial reporting quality of quoted building material firms in Nigeria. Specifically, the study assessed the impact of audit compensation/fee, audit firm's independence, big four audit firms, and the joint audit on the financial reporting quality of quoted building material firms in Nigeria.

From the tests conducted on the data collected and the analyses of the results this study found that audit firm characteristics are strongly positively associated with high financial reporting quality in the listed building material firms in Nigeria. Specifically, from the regression results conducted the study found a significant relationship between the financial reporting quality (FRQ) and the audit firm characteristics (Auditor compensation and audit firm independence). The regression results indicated that the variables of audit firm characteristics explained more than 80% of the total variation in the financial reporting quality of listed building material firms in Nigeria at 99% confidence level during the period covered by the study, ssuggesting that, the audit firm characteristics variables in the quoted building material firms in Nigeria have impact on the quality of the financial reporting of the sampled firms.

On the other hand, the study found that the big four audit firm has no significant impact on the quality of financial reporting of listed building material firms in Nigeria during the period of the study.

5.2 Conclusion

Based on the findings the study concludes that audit firm characteristics have significant impact on the financial reporting quality of quoted building material firms in Nigeria. That is, audit firm characteristics variables examined in this study have improved the quality of financial reporting of building materials firms in Nigeria during the period covered by the study.

Specifically, the study concludes that audit compensation has a significant positive impact on the quality of financial reporting of quoted building material firms in Nigeria. Similarly, the study concludes a significant positive impact of audit firm independence on the financial reporting quality of listed building material firms in Nigeria. The study also, concludes that Big4 audit firm has no significant effect on the financial reporting quality of quoted building material firms in Nigeria. Lastly, the study concludes that joint audit has no significant positive effect on the financial reporting quality of listed building material firms in Nigeria.

The study therefore infers that audit firm attributes have significant relationship with the financial reporting quality in the building material firms in Nigeria. It is also infers that improving these attributes of the audit firms could enhance audit and financial reporting in general.

5.3 Recommendations

In line with the findings and the conclusions of this study, the study recommends that policy makers and regulators should intensify regulations and surveillances in the building material firms due to the evidence of quality financial reporting that is associated with the characteristics of the audit firms. Particularly, they should make it a policy that public companies, especially building material firms should consider in employing their auditors the optimal compensation, and the independence of the auditors. This could improve the audit work and the financial reporting of high quality, which would improve the credibility and integrity of their financial reports and the entity in particular, and the overall credibility of accounting profession as well. Specifically, the following recommendations are offered:

i. The audit firm should be adequately compensated in their conduct of statutory audit. That is, the managers should provide all the necessary resources both financial and otherwise to the audit firm to enable them conduct a thorough audit that would uncover material misstatements and errors including earnings management. However, audit compensation should reflect the quantum and actual audit activities involved.

ii. The management and the regulatory agencies should emphasize on the audit independence in all aspect of the auditors activities. Because the lack of auditor independence could destroy the quality of financial reporting. Therefore, auditors should be monitored and there should be adequate regulatory provision to encourage the independence of the audit firms.

iii. The study also recommends that regulators should not emphasize the employment of joint audit services and big 4 audit firm because they do not contribute in improving the quality of financial reporting.

iv. The study recommends that the management of quoted building material firms in Nigeria should subscribe to ethical code of good corporate governance and give more weight to those audit firm characteristics examined in this study when selecting audit firm.

5.4 Areas for Further Research

In the process of this research, some certain areas that could be investigated have surfaced. For instance, the impact of audit firms' characteristics on financial reporting quality in other sectors of the Nigerian economy requires research effort, especially as they are not covered in this study. There is the need for similar studies that will assess the relationship between audit firms' characteristics and financial reporting quality in building material firms using different tool of

analysis like survey of stakeholders opinion about audit firm attributes, so as to see how audit firm characteristics can be used to achieve quality of financial report and maximize shareholders wealth in other sectors of the Nigerian economy. There is also the need to conduct similar research using a different source of data, employing different financial reporting quality and audit firms' characteristics proxies, and using different scales of measurement of variables and techniques for data analysis. Further research in these areas would not only complement this study, but would also help in bringing about improvement in financial reporting practices the Nigerian corporate landscape.

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APPENDIX A

1. **Population of the study**
   Ashaka Cement plc

Dangote Cement plc
Cement Company of Northern (Nigeria) plc
Ceramic Manufacturers Nigeria plc
Lafarge Cement Wapco Nigeria plc
Nigeria Cement Company plc
Nigerian Ropes plc
Nigeria Wire Industries plc

2. **Sample of the study**
   Ashaka Cement plc
   Cement Company of Northern (Nigeria) plc
   Lafarge Cement Wapco Nigeria plc
   Nigerian Ropes plc

Source: NSE Factbook (2010/2011)

APPENDIX B

```
. xtset id year, yearly
       panel variable:  id (strongly balanced)
        time variable:  year, 2002 to 2011
                delta:  1 year
```

1. DESCRIPTIVE STATISTICS OF THE VARIABLES

```
. su tca crev ppe cfo1 cfo2 cfo3 frq acomp afi big4 ja, detail

                            tca
-------------------------------------------------------------
      Percentiles      Smallest
 1%    -.2081811      -.2081811
 5%    -.1690663      -.1730891
10%    -.1475881      -.1650434       Obs                  40
25%    -.0972385      -.1480462       Sum of Wgt.          40

50%     .0118649                      Mean           .0053144
                       Largest       Std. Dev.      .1183971
75%      .091614       .1710656
90%     .1593214       .2086256       Variance       .0140179
95%     .2089685       .2093115       Skewness       .2200811
99%     .2818417       .2818417       Kurtosis       2.387391

                            crev
-------------------------------------------------------------
      Percentiles      Smallest
 1%    -.1633314      -.1633314
 5%    -.1247938      -.1320988
10%    -.0678555      -.1174889       Obs                  40
25%    -.0140637      -.0716009       Sum of Wgt.          40

50%     .0721474                      Mean           .0981867
                       Largest       Std. Dev.      .1428904
75%     .1919754       .3369903
90%     .3023707       .3819287       Variance       .0204177
95%      .397873       .4138173       Skewness       .4703381
99%     .4142572       .4142572       Kurtosis       2.780147
```

ppe

	Percentiles	Smallest		
1%	.0002696	.0002696		
5%	.1379792	.0303024		
10%	.2943471	.245656	Obs	40
25%	.372605	.2928942	Sum of Wgt.	40
50%	.530596		Mean	.562549
		Largest	Std. Dev.	.2543861
75%	.7978834	.9054403		
90%	.8999888	.9416439	Variance	.0647123
95%	.945726	.9498082	Skewness	-.1300239
99%	.9667532	.9667532	Kurtosis	2.224128

cfo1

	Percentiles	Smallest		
1%	-.4194726	-.4194726		
5%	-.0762203	-.07643		
10%	-.0721936	-.0760106	Obs	40
25%	.0327097	-.0724818	Sum of Wgt.	40
50%	.0901815		Mean	.0859534
		Largest	Std. Dev.	.1327333
75%	.1475112	.2524427		
90%	.24627	.292953	Variance	.0176181
95%	.2953142	.2976753	Skewness	-1.14774
99%	.3182015	.3182015	Kurtosis	6.578661

cfo2

	Percentiles	Smallest		
1%	-.128453	-.128453		
5%	-.0865093	-.08745		
10%	-.0739212	-.0855686	Obs	40
25%	.0546247	-.0819495	Sum of Wgt.	40
50%	.118597		Mean	.114741
		Largest	Std. Dev.	.1145089
75%	.1671069	.2844834		
90%	.2779641	.3089258	Variance	.0131123
95%	.3108822	.3128385	Skewness	-.1027953
99%	.3479688	.3479688	Kurtosis	2.739998

cfo3

	Percentiles	Smallest		
1%	-.0818728	-.0818728		
5%	-.0553683	-.0778042		
10%	.001209	-.0329323	Obs	40
25%	.0698029	-.010445	Sum of Wgt.	40
50%	.1500442		Mean	.1559259
		Largest	Std. Dev.	.1276113
75%	.2401045	.3625207		
90%	.3579661	.3811314	Variance	.0162847
95%	.3845049	.3878784	Skewness	.2832334
99%	.409144	.409144	Kurtosis	2.459621

frq

	Percentiles	Smallest		
1%	.0072622	.0072622		
5%	.0100699	.0100402		
10%	.0130207	.0100996	Obs	40
25%	.0300974	.0102821	Sum of Wgt.	40
50%	.0921095		Mean	.0838938
		Largest	Std. Dev.	.0541199
75%	.1331825	.1528002		
90%	.1517324	.1564248	Variance	.002929
95%	.1622336	.1680423	Skewness	.0091405
99%	.1774789	.1774789	Kurtosis	1.580492

acomp

	Percentiles	Smallest		
1%	12.84265	12.84265		
5%	12.89922	12.89922		
10%	12.89922	12.89922	Obs	40
25%	13.45628	12.89922	Sum of Wgt.	40
50%	14.71139		Mean	14.92359
		Largest	Std. Dev.	1.551741
75%	16.60349	17.00186		
90%	16.9542	17.15717	Variance	2.407899
95%	17.15717	17.15717	Skewness	.1324543
99%	17.15717	17.15717	Kurtosis	1.48302

afi

Percentiles		Smallest		
1%	0	0		
5%	0	0		
10%	0	0	Obs	40
25%	0	0	Sum of Wgt.	40
50%	0		Mean	.05
		Largest	Std. Dev.	.2207214
75%	0	0		
90%	0	0	Variance	.0487179
95%	.5	1	Skewness	4.129483
99%	1	1	Kurtosis	18.05263

big4

Percentiles		Smallest		
1%	0	0		
5%	0	0		
10%	0	0	Obs	40
25%	0	0	Sum of Wgt.	40
50%	1		Mean	.625
		Largest	Std. Dev.	.4902903
75%	1	1		
90%	1	1	Variance	.2403846
95%	1	1	Skewness	-.5163978
99%	1	1	Kurtosis	1.266667

ja

Percentiles		Smallest		
1%	0	0		
5%	0	0		
10%	0	0	Obs	40
25%	0	0	Sum of Wgt.	40
50%	0		Mean	.325
		Largest	Std. Dev.	.4743416
75%	1	1		
90%	1	1	Variance	.225
95%	1	1	Skewness	.7472647
99%	1	1	Kurtosis	1.558405

2. TEST FOR NORMAL DATA

```
. swilk tca cfo1 cfo2 cfo3 crev ppe frq acomp afi big4 ja
```

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
tca	40	0.98001	0.790	-0.496	0.69010
cfo1	40	0.91238	3.464	2.614	0.00447
cfo2	40	0.97240	1.091	0.184	0.42719
cfo3	40	0.96393	1.426	0.747	0.22762
crev	40	0.96751	1.284	0.526	0.29932
ppe	40	0.95527	1.768	1.199	0.11520
frq	40	0.91935	3.188	2.440	0.00735
acomp	40	0.91801	3.241	2.475	0.00667
afi	40	0.55735	17.497	6.023	0.00000
big4	40	0.98627	0.543	-1.287	0.90093
ja	40	0.96190	1.506	0.861	0.19449

3. COORELATION RRESULTS OF MODEL ONE

```
. pwcorr tca cfo1 cfo2 cfo3 crev ppe, star (0.05) sig
```

	tca	cfo1	cfo2	cfo3	crev	ppe
tca	1.0000					
cfo1	0.1815 0.2623	1.0000				
cfo2	-0.3652* 0.0205	0.1515 0.3506	1.0000			
cfo3	0.3120 0.0500	0.2260 0.1608	-0.0456 0.7797	1.0000		
crev	0.0473 0.7721	-0.5008* 0.0010	0.2590 0.1066	0.0880 0.5890	1.0000	
ppe	0.1143 0.4827	0.0478 0.7695	0.0837 0.6076	-0.0415 0.7993	-0.0336 0.8370	1.0000

.

4. OLS REGRESSION RESULTS OF MODEL ONE

```
. reg tca cfo1 cfo2 cfo3 crev ppe
```

Source	SS	df	MS	Number of obs =	40
				F(5, 34) =	3.76
Model	.194616861	5	.038923372	Prob > F =	0.0081
Residual	.352080244	34	.010355301	R-squared =	0.3560
				Adj R-squared =	0.2613
Total	.546697105	39	.014017874	Root MSE =	.10176

tca	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cfo1	.3613973	.1613889	2.24	0.032	.0334157	.6893789
cfo2	-.5479839	.1601019	-3.42	0.002	-.87335	-.2226177
cfo3	.1572834	.1377814	1.14	0.262	-.1227222	.4372889
crev	.3130767	.1499552	2.09	0.044	.0083311	.6178223
ppe	.073983	.0644292	1.15	0.259	-.0569529	.2049189
_cons	-.0597563	.0482462	-1.24	0.224	-.1578043	.0382917

.

5. TEST FOR HETEROSKEDASTICITY: MODEL ONE

```
. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of tca

         chi2(1)      =     0.07
         Prob > chi2  =   0.7981
```

6. TEST FOR MULTICOLLINEARITY: MODEL ONE

```
. vif
```

Variable	VIF	1/VIF
crev	1.73	0.578321
cfo1	1.73	0.578617
cfo2	1.27	0.790000
cfo3	1.16	0.858891
ppe	1.01	0.988430
Mean VIF	1.38	

7. FIXED EFFECT REGRESSION RESULTS: MODEL ONE

```
. xtreg tca cfo1 cfo2 cfo3 crev ppe, fe

Fixed-effects (within) regression               Number of obs      =        40
Group variable: id                              Number of groups   =         4

R-sq:  within  = 0.5062                         Obs per group: min =        10
       between = 0.5804                                        avg =      10.0
       overall = 0.2273                                        max =        10

                                                F(5,31)            =      6.36
corr(u_i, Xb)  = -0.5621                        Prob > F           =    0.0004

------------------------------------------------------------------------------
         tca |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        cfo1 |   .3878623    .147348     2.63   0.013     .0873441    .6883806
        cfo2 |  -.3093589   .1652574    -1.87   0.071    -.6464036    .0276858
        cfo3 |   .4126783   .1483878     2.78   0.009     .1100394    .7153173
        crev |   .3382335    .149445     2.26   0.031     .0334385    .6430285
         ppe |   .2396861   .0864212     2.77   0.009     .0634289    .4159433
       _cons |    -.22492   .0666035    -3.38   0.002    -.3607588   -.0890812
-------------+----------------------------------------------------------------
     sigma_u |   .0895317
     sigma_e |  .09121659
         rho |  .49067906   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(3, 31) =     3.77                 Prob > F = 0.0204

. est store fixed

.

. predict e
(option xb assumed; fitted values)


. swilk e1

                    Shapiro-Wilk W test for normal data
    Variable |   Obs        W          V          z     Prob>z
-------------+--------------------------------------------------
          e1 |    40    0.95394      1.821      1.261  0.10365
```

8. RANDOM EFFECT REGRESSION RESULTS: MODEL ONE

```
. xtreg tca cfo1 cfo2 cfo3 crev ppe, re

Random-effects GLS regression                   Number of obs      =        40
Group variable: id                              Number of groups   =         4

R-sq:  within  = 0.3986                         Obs per group: min =        10
       between = 0.0388                                        avg =      10.0
       overall = 0.3560                                        max =        10

Random effects u_i ~ Gaussian                   Wald chi2(5)       =     18.79
corr(u_i, X)       = 0 (assumed)                Prob > chi2        =    0.0021

------------------------------------------------------------------------------
         tca |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        cfo1 |   .3613973   .1613889     2.24   0.025      .045081    .6777137
        cfo2 |  -.5479839   .1601019    -3.42   0.001    -.8617778     -.23419
        cfo3 |   .1572834   .1377814     1.14   0.254    -.1127633      .42733
        crev |   .3130767   .1499552     2.09   0.037     .0191699    .6069835
         ppe |    .073983   .0644292     1.15   0.251    -.0522959     .200262
       _cons |  -.0597563   .0482462    -1.24   0.216     -.154317    .0348044
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |  .09121659
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store random

.
```

9. HAUSMAN SPECIFICATION TEST RESULTS: MODEL ONE

```
. hausman fixed random
```

	Coefficients (b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
cfo1	**.3878623**	**.3613973**	**.026465**	**.**
cfo2	**-.3093589**	**-.5479839**	**.238625**	**.0409561**
cfo3	**.4126783**	**.1572834**	**.255395**	**.0550928**
crev	**.3382335**	**.3130767**	**.0251568**	**.**
ppe	**.2396861**	**.073983**	**.1657031**	**.0575977**

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(**5**) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= **13.77**
Prob>chi2 = **0.0171**
(V_b-V_B is not positive definite)

10. RANDOM EFFECT TEST RESULTS: MODEL ONE

```
. xttest0
```

Breusch and Pagan Lagrangian multiplier test for random effects

tca[id,t] = Xb + u[id] + e[id,t]

Estimated results:

	Var	sd = sqrt(Var)
tca	**.0140179**	**.1183971**
e	**.0083205**	**.0912166**
u	**0**	**0**

Test: Var(u) = 0
chi2(1) = **0.01**
Prob > chi2 = **0.9258**

11. CORRELATION RESULTS: MODEL OF THE STUDY

```
. pwcorr frq acomp afi big4 ja, star (0.05)sig
```

	frq	acomp	afi	big4	ja
frq	1.0000				
acomp	0.8278*	1.0000			
	0.0000				
afi	0.8081*	0.6929*	1.0000		
	0.0000	0.0000			
big4	-0.5643*	-0.5370*	-0.3416*	1.0000	
	0.0001	0.0004	0.0310		
ja	-0.5080*	-0.4427*	-0.3557*	0.5375*	1.0000
	0.0008	0.0042	0.0243	0.0003	

12. OLS REGRESSION RESULTS: MODEL OF THE STUDY

```
. reg frq acomp afi big4 ja
```

Source	SS	df	MS
Model	101.661852	4	25.415463
Residual	22.0164161	35	.629040459
Total	123.678268	39	3.17123764

Number of obs	40
F(4, 35)	40.40
Prob > F	0.0000
R-squared	0.8220
Adj R-squared	0.8016
Root MSE	.79312

frq	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
acomp	.0781559	.0219822	3.56	0.001	.0335297	.1227821
afi	.6661976	.1470788	4.53	0.000	.3676118	.9647833
big4	-.5385931	.3357392	-1.60	0.118	-1.22018	.1429936
ja	-.3501319	.3270004	-1.07	0.292	-1.013978	.3137141
_cons	1.88389	.3700006	5.09	0.000	1.132749	2.635031

13. TEST FOR HETEROSKEDASTICITY RESULTS: MODEL OF THE STUDY

```
. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of frq

         chi2(1)      =     0.42
         Prob > chi2  =   0.5145
```

14. TEST FOR MULTICOLLINEARITY RESULTS: MODEL OF THE STUDY

```
. vif
```

Variable	VIF	1/VIF
acomp	**2.42**	**0.413363**
afi	**1.95**	**0.512991**
big4	**1.68**	**0.595255**
ja	**1.49**	**0.670401**
Mean VIF	**1.89**	

15. TEST FOR THE RESIDUALS NORMALITY: MODEL OF THE STUDY

```
. swilk e2
```

	Shapiro-Wilk W test for normal data				
Variable	Obs	W	V	z	Prob>z
e2	**40**	**0.96564**	**1.358**	**0.644**	**0.25966**

16. FIXED EFFECT REGRESSION RESULTS: MODEL OF THE STUDY

```
. xtreg frq acomp afi big4 ja, fe

Fixed-effects (within) regression               Number of obs      =        40
Group variable: id                              Number of groups   =         4

R-sq:  within  = 0.7225                         Obs per group: min =        10
       between = 0.9513                                        avg =      10.0
       overall = 0.8043                                        max =        10

                                                F(4,32)            =     20.83
corr(u_i, Xb)  = -0.6954                        Prob > F           =    0.0000

------------------------------------------------------------------------------
         frq |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       acomp |   .1147371   .0274284     4.18   0.000     .0588673    .1706069
         afi |    .616041   .1455608     4.23   0.000     .3195433    .9125387
        big4 |  -.1673346   .5088089    -0.33   0.744    -1.203744    .8690751
          ja |  -1.020052   .5636621    -1.81   0.080    -2.168195    .1280897
       _cons |   1.553269   .4600232     3.38   0.002     .6162324    2.490306
-------------+----------------------------------------------------------------
     sigma_u |  .57302454
     sigma_e |   .7728705
         rho |  .35471764   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(3, 32) =     1.62                 Prob > F = 0.2042

. est store fixed
```

17. RANDOM EFFECT REGRESSION RESULTS: MODEL OF THE STUDY

```
. xtreg frq acomp afi big4 ja, re

Random-effects GLS regression                   Number of obs      =        40
Group variable: id                              Number of groups   =         4

R-sq:  within  = 0.7034                         Obs per group: min =        10
       between = 0.9812                                        avg =      10.0
       overall = 0.8220                                        max =        10

Random effects u_i ~ Gaussian                   Wald chi2(4)       =    161.61
corr(u_i, X)       = 0 (assumed)                Prob > chi2        =    0.0000
```

frq	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
acomp	.0781559	.0219822	3.56	0.000	.0350717	.1212402
afi	.6661976	.1470788	4.53	0.000	.3779285	.9544667
big4	-.5385931	.3357392	-1.60	0.109	-1.19663	.1194436
ja	-.3501319	.3270004	-1.07	0.284	-.9910409	.290777
_cons	1.88389	.3700006	5.09	0.000	1.158702	2.609078
sigma_u	0					
sigma_e	.7728705					
rho	0	(fraction of variance due to u_i)				

```
. est store random
```

18. **HAUSMAN SPECIFICATION TEST RESULTS: MODEL OF THE STUDY**

```
. hausman fixed random
```

	Coefficients (b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
acomp	.1147371	.0781559	.0365811	.0164043
afi	.616041	.6661976	-.0501566	.
big4	-.1673346	-.5385931	.3712585	.3823162
ja	-1.020052	-.3501319	-.6699205	.4591141

```
                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)
                        =        5.18
              Prob>chi2 =      0.2689
              (V_b-V_B is not positive definite)
```

19. RANDOM EFFECT TEST RESULTS: MODEL ONE: MODEL OF THE STUDY

```
. 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 |  3.171238       1.780797
                   e |  .5973288       .7728705
                   u |          0              0

        Test:   Var(u) = 0
                                chi2(1) =     0.41
                              Prob > chi2 =     0.5200
```

Data of the study

YEARS	ID	CFOt-1	CFOt	CFOt+1	REV	PPE
2002	1	1669363000	-577324000	3339303000	8741820000	2999418000
2003	1	-577324000	3339303000	1949773000	10198926000	3715480000
2004	1	3339303000	1949773000	5412141000	12567156000	4010608000
2005	1	1949773000	5412141000	2767081000	15815247000	5067102000
2006	1	5412141000	2767081000	3424000000	16771564000	5464737000
2007	1	2767081000	3424000000	5904812000	16473955000	6001000
2008	1	3424000000	5904812000	2748918000	21378197000	9385477000
2009	1	5904812000	2748918000	2671401000	17193974000	9471762000
2010	1	2748918000	2671401000	8734442000	19153655000	23652260000
2011	1	2671401000	8734442000	3315218000	20780234000	55853923000

2002	2	-1357973000	-277014000	169848000	1913906000	1060789000
2003	2	-277014000	169848000	1321175000	3305812000	2008620000
2004	2	169848000	1321175000	894012000	5530497000	2021572000
2005	2	1321175000	894012000	2189342000	5916167000	191545000
2006	2	894012000	2189342000	-84244000	6374331000	3813040000
2007	2	2189342000	-84244000	697532000	8042946000	5397885000
2008	2	-84244000	697532000	3411553000	9878093000	6355415000
2009	2	697532000	3411553000	830711000	11868786000	6995026000
2010	2	3411553000	830711000	1678359000	11181439000	7803998000
2011	2	830711000	1678359000	1089589000	13915099000	8247549000
2002	3	-791076000	2509291000	4944870000	11218614000	25678414000
2003	3	2509291000	4944870000	2458454000	12674039000	35271474000
2004	3	4944870000	2458454000	6230092000	21925978000	37274848000
2005	3	2458454000	6230092000	15061157000	26463835000	38122051000
2006	3	6230092000	15061157000	7052516000	39517587000	40596467000
2007	3	15061157000	7052516000	13775297000	38664795000	42715347000
2008	3	7052516000	13775297000	9459432000	43273809000	53971430000
2009	3	13775297000	9459432000	12593125000	45589798000	82076572000
2010	3	9459432000	12593125000	30901992000	43841325000	1.14542E+11
2011	3	12593125000	30901992000	24415859000	62211143000	1.13834E+11
2002	4	9576000	-36401000	55552000	252064000	69614000
2003	4	-36401000	55552000	45922000	412561000	212563000
2004	4	55552000	45922000	6555000	352689000	247297000
2005	4	45922000	6555000	81469000	417564000	264060000
2006	4	6555000	81469000	-55329000	450707000	303402000

2007	4	81469000	-55329000	138807000	367129000	295923000
2008	4	-55329000	138807000	25881000	442660000	349071000
2009	4	138807000	25881000	-52138000	425356000	362397000
2010	4	25881000	-52138000	19920000	379802000	374918000
2011	4	-52138000	19920000	-23689000	492112000	374334000

YEARS	ID	AFEE	TA	CA	CL	CASH	DEBT
2002	1	5000000	8761552000	7224940000	2769050000	2984822000	0
2003	1	6000000	11738131000	9859774000	5100879000	5731484000	0
2004	1	6000000	13227961000	10728786000	5455671000	6075028000	0
2005	1	8000000	17300110000	13223094000	4929887000	7983725000	0
2006	1	1200000	18474436000	10403497000	5890300000	3798124000	0
2007	1	1600000	22259692000	9528000000	9971000000	2137390000	0
2008	1	1600000	24996000000	8399000000	10076000000	1636441000	968155000
2009	1	20000000	25618000000	6525000000	9648000000	849614000	0
2010	1	20000000	28125125000	9346439000	7706713000	3191998000	0
2011	1	20000000	65211835000	15644842000	10770706000	10765549000	0
2002	2	400000	3237334000	1627646000	2067220000	355266000	401898000
2003	2	500000	3644413000	1563992000	2648768000	53360000	932449000
2004	2	500000	5370299000	2943189000	3508387000	428266000	845922000

2005	2	500000	6321118000	3606030000	4328569000	547467000	1052187000
2006	2	1200000	8065517000	3923434000	6155661000	299080000	917435000
2007	2	1200000	9118563000	4662997000	5574628000	284255000	553175000
2008	2	1200000	8795420000	4137089000	3630905000	399702000	1091790000
2009	2	3000000	9804192000	4786864000	4327470000	626266000	670942000
2010	2	3000000	10721362000	5285982000	4783830000	767904000	1098373000
2011	2	3000000	12576092000	6738651000	4055925000	608502000	231572000
2002	3	16000000	33651216000	8092347000	13152479000	629470000	6828194000
2003	3	16000000	38955054000	7691021000	20963055000	708558000	9849523000
2004	3	18000000	39244607000	7789049000	15953344000	1927711000	7309522000
2005	3	14000000	42616500000	11656295000	14936515000	2871059000	5269710000
2006	3	16500000	48753321000	16328186000	16396206000	8048400000	5124450000
2007	3	22000000	50595931000	17179657000	15748127000	4219886000	4712880000
2008	3	24200000	61768416000	18587114000	18099375000	5974078000	7112544000
2009	3	28266000	87163067000	17422052000	10674274000	3627704000	0
2010	3	28266000	1.18481E+11	17668945000	58070071000	5248241000	46594780000
2011	3	28266000	1.52415E+11	24936208000	32165354000	11351526000	4038215000
2002	4	400000	283380000	213766000	191007000	14791000	72449000

2003	4	378000	476266000	321834000	212535000	1152000	42556000
2004	4	400000	509597000	344606000	200405000	2492000	71713000
2005	4	400000	626749000	478393000	293040000	521000	205234000
2006	4	600000	675792000	524641000	305943000	13395000	73228000
2007	4	650000	632693000	512867000	210029000	8943000	92868000
2008	4	750000	769469000	622137000	331500000	26832000	9746000
2009	4	950000	670118000	537149000	377413000	1510000	30807000
2010	4	1250000	636221000	526427000	314351000	5571000	115260000
2011	4	2000000	719325000	642262000	395656000	12297000	113000000

YEARS	ID	BIG4	JA	Aind	ΔCA	ΔCL
2002	1	1	1	0	-1317417000	-1.166E+09
2003	1	1	1	0	2634834000	2331829000
2004	1	1	1	0	869012000	354792000
2005	1	1	1	0	2494308000	-525784000
2006	1	1	1	0	-2819597000	960413000
2007	1	1	1	0	-875497000	4080700000
2008	1	1	1	0	-1129000000	105000000
2009	1	1	1	0	-1874000000	-428000000
2010	1	1	1	0	2821439000	-1.941E+09
2011	1	1	1	0	6298403000	3063993000
2002	2	0	0	0	965535000	737806000
2003	2	0	0	0	-63654000	581548000
2004	2	0	0	0	1379197000	859619000
2005	2	0	0	0	662841000	820182000

2006	2	0	0	0	317404000	1827092000
2007	2	0	0	0	739563000	-581033000
2008	2	0	0	0	-525908000	-1.944E+09
2009	2	0	0	0	649775000	696565000
2010	2	0	0	1	499118000	456360000
2011	2	0	0	1	1452669000	-727905000
2002	3	1	1	0	-368764000	5152081000
2003	3	1	1	0	-401326000	7810576000
2004	3	1	1	0	98028000	-5.01E+09
2005	3	1	0	0	3867246000	-1.017E+09
2006	3	1	0	0	4671891000	1459691000
2007	3	1	0	0	851471000	-648079000
2008	3	1	0	0	1407457000	2351248000
2009	3	1	0	0	-1165062000	-7.425E+09
2010	3	1	0	0	246893000	4.7396E+10
2011	3	1	0	0	7267263000	-2.59E+10
2002	4	0	0	0	-54034000	-10764000
2003	4	0	0	0	108068000	21528000
2004	4	0	0	0	22772000	-12130000
2005	4	0	0	0	133787000	92635000
2006	4	0	0	0	46248000	12903000
2007	4	0	0	0	-11774000	-95914000
2008	4	0	0	0	109270000	121471000
2009	4	0	0	0	-84988000	45913000
2010	4	0	0	0	-10722000	-63062000

2011	4	0	0	0	115835000	81305000

YEARS	ID	ΔCASH	ΔDEBT	TCA	ΔREV
2002	1	-1.373E+09	0	1221829000	92763000
2003	1	2746662000	0	-2.444E+09	1457106000
2004	1	343544000	0	170676000	2368230000
2005	1	1908697000	0	1111395000	3248091000
2006	1	-4.186E+09	0	405591000	956317000
2007	1	-1.661E+09	0	-3.295E+09	-297609000
2008	1	-500949000	968155000	235104000	4904242000
2009	1	-786827000	-968155000	-1.627E+09	-4184223000
2010	1	2342384000	0	2420342000	1959681000
2011	1	7573551000	0	-4.339E+09	1626579000
2002	2	320872000	-257742000	-350885000	1339665000
2003	2	-301906000	530551000	187255000	1391906000
2004	2	374906000	-86527000	58145000	2224685000
2005	2	119201000	206265000	-70277000	385670000
2006	2	-248387000	-134752000	-1.396E+09	458164000
2007	2	-14825000	-364260000	971161000	1668615000
2008	2	115447000	538615000	1840983000	1835147000
2009	2	226564000	-420848000	-694202000	1990693000
2010	2	141638000	427431000	328551000	-687347000
2011	2	-159402000	-866801000	1473175000	2733660000
2002	3	-186866000	2209111000	-3.125E+09	-767974000
2003	3	79088000	3021329000	-5.27E+09	1455425000

2004	3	1219153000	-2540001000	1348585000	9251939000
2005	3	943348000	-2039812000	1900915000	4537857000
2006	3	5177341000	-145260000	-2.11E+09	13053752000
2007	3	-3.829E+09	-411570000	4916494000	-852792000
2008	3	1754192000	2399664000	-298319000	4609014000
2009	3	-2.346E+09	-7112544000	1493869000	2315989000
2010	3	1620537000	46594780000	-2.175E+09	-1748473000
2011	3	6103285000	-42556565000	-1.549E+10	18369818000
2002	4	6819000	14946000	-35143000	-7689000
2003	4	-13639000	-29893000	70286000	160497000
2004	4	1340000	29157000	62719000	-59872000
2005	4	-1971000	133521000	176644000	64875000
2006	4	12874000	-132006000	-111535000	33143000
2007	4	-4452000	19640000	108232000	-83578000
2008	4	17889000	-83122000	-113212000	75531000
2009	4	-25322000	21061000	-84518000	-17304000
2010	4	4061000	84453000	132732000	-45554000
2011	4	6726000	-2260000	25544000	112310000