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AUDIT FIRM SIZE AND CASH – BASED EARNINGS MANAGEMENT OF QUOTED COMPANIES IN NIGERIA

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ABSTRACT: *This study follows prior studies on cash – based activities manipulations to investigate total levels of cash – based earnings management relative to the association between cash – based earnings management and audit firm size of companies in Nigeria. First, the study measures the normal level of real activities by focusing on three manipulation schemes namely, manipulation of sales, overproduction, and reduction in discretionary expenses. The normal levels of each type of real activities manipulation were measured as the residual from relevant estimation models. The abnormal CFO, abnormal production costs and abnormal discretionary expenses were computed as the difference between the actual values and the normal levels predicted from the respective models while the composite value of the three variables is the estimate for cash - based earnings management. Based on a sample of 342 companies – year observations from the NSE and applying audit firm size as a measure, comprehensive multivariate analyses were conducted on archival data covering 2006 – 2011. The result showed that audit firm size exerts significant negative relationship with cash - based earnings management of quoted companies in Nigeria. It is suggested that companies in Nigeria should improve their earnings quality only through sales growth and cost control strategies and present distinct reports on earnings quality; company auditors should issue Integrated Audit Quality Assurance Reports based on earnings quality assessments statutorily backed by earnings monitoring of companies in Nigeria; while regulatory agencies should issue authoritative codes of best practice in Nigeria***.***

Jel: G11, M41, M42, P34

KEYWORDS: Audit Firm Size, Audit Quality, Earnings Quality, Earnings management, Cash Flow from Operations**.**

INTRODUCTION

During the past decade, accounting scandals and business failures pervaded the corporate World proceeding from the case of Enron to Worldcom. In Nigeria in particular, shocking corporate failures proceeded from Cadbury Plc and African Petroleum Plc to the collapse of several Deposit Money Banks. This has apparently undermined the credibility of the audit process, the audit function and the auditors' reports. Consequently, there has been strong advocacy for greater reliance on continuous audit assurance and assurance reports (Alles, Kogan & Varsarhelyi, 2004). The audit process assesses the probability of material misstatements and reduces the possibility of undetected misstatement to an appropriate

assurance level (Watts & Zimmerman, 1986; Knechel, 2009). Audit quality is recognized to influence financial reporting and strongly impact on investors' confidence (Levitt, 1998). Statutory auditors typically engage in significant and greatly demanding tasks in guaranteeing the credibility of financial reports (Mautz & Sharaf, 1961; Wallace, 1987).

Against the background of the challenges that confront the audit function, a number of studies (Becker, Defond, Jiambalvo & Subramanyam, 1998; Bauwhede, Willekens & Gaeremynck, 2000; Heninger, 2001; Ebrahim, 2001; Piot & Janin, 2005; Gerayli, Yanesari & Ma'atoofi, 2011) have attempted to ascertain any distinct relationship between audit firm size and cash – based earnings management of quoted companies in many countries. The above studies show that audit firm size measures auidt quality and the quality of audit is expected to minimize the extent of a firm's manipulations of reported income but majority of the findings appear to suffer from inconsistencies and contradictions.

The demand for audit of companies' accounts is created by the agency problems which are related to the separation of corporate ownership from control (Eilifsen and Messier, 2000; Gerayli, Yanesari and Ma'atoofi, 2011). The agency problem arises from the existence of asymmetric information in the principal – agent contracts (Jenson and Messier, 2000). Some studies (Trueman and Titman, 1988; Dye, 1988; Schipper, 1989; Warfield, Wild and Wild, 1995) have shown that the existence of information asymmetry between corporate management and shareholders is a necessary condition for the perpetration of earnings management practice. The audit of a company's accounts is a monitoring and control mechanism that diminishes information asymmetry and protects the interests of the principal.

Management of organizations built on stakeholders perspectives has been perceived as a pragmatic approach. Khan (2006) has argued that for an organizational success, attention must be paid to all relevant stakeholders as those relationships can impact on and are affected by the achievement of the organization's goals. Arrunada (2000) shows that the demand for auditing services arises from a need to facilitate dealings between the parties involved in business relationships – shareholders, creditors, public authorities, employees, customers, etc. Exchanges between such parties are usually costly since information asymmetries give rise to uncertainty concerning the performance of contractual obligations. The presence of information asymmetry makes it difficult for shareholders to detect earnings management.

Auditors' theory of inspired confidence offers a linkage between the users' requirement for credible financial reports and the capacity of the audit processes to meet those needs. It sees through the development of these needs of the public (stakeholders) and the audit processes over time. The theory suggests an inspired confidence bestowed on the auditor as a confidential agent who derives his function in society extensively from the call for professional and autonomous assessment as well as the necessity for skilled and objective opinion sustained by tests and attestations. The public expectation of a low rate of audit failures means that audit process must minimize the risk of undetected material misstatements and the accountant must not betray the confidence which he commands before the rational person. However, the accountant may not produce what is greater than the public expectation (Limperg Institue, 1985). The confidence determines the existence of the process and its betrayal logically terminates the process or function. Carmichael (2004) argued about the social significance of audit and affirmed that when the confidence that society has in the effectiveness of the audit process and the audit report is misplaced, the value relevance of the

audit is destroyed. The auditors' maintenance of reasonable quality assurance eliminates audit failure, provides guarantee to the stakeholders and supports confidence in the capital markets along with financial reporting, corporate governance and regulations.

This study defines earnings management as the strategy used by company managers to deliberately manipulate company earnings to match a predetermined target and involves the planning and execution of certain activities that manipulate or smooth earnings, activate elevated income intensity and sway the firm share price (Schipper, 1989; Healy & Wahlen, 1999). Cash - based earnings management is achieved by the manipulation of the operating activities of a company. Roychowdhury (2006) defines cash – based earnings management as departures from normal operational practices, motivated by managers' desire to mislead, at least, some stakeholders into believing that certain financial reporting goals have been met in the normal course of operations. This study assumes that earnings management in an emerging market like the Nigerian Stock Exchange (NSE) is likely to present some problems for a true and qualitative earnings report.

Healy and Wahlen (1999) indicate that earnings management studies have paid only negligible attention to its real economic consequences. While there is growing evidence that firms engage in real (cash – based) earnings management (Gunny, 2005; Roychowdhury, 2006 and Zang, 2006), evidence on its economic consequences is scanty. Consistent with Graham, Harvey and Rajgopal (2005), Cohen, Dey and Lys (2008) have shown that managers have shifted away from discretionary accrual management to Cash – based earnings management in the post Sarbanes-Oxley Act (SOX) period. Anecdotal as well as empirical evidences on the effects of audit firm size on earnings management of non-financial institutions exist in the developed countries. Only a few studies may have been done on the relationship between audit firm size and earnings management in transition economies. In the case of Nigeria, evidences are not available to transmit the effects and association between audit firm size and cash - based earnings management of quoted companies in the non – financial institutions.

Problem Analyses

The presumed failure of audit process to arrest financial misstatements in its acclaimed traditional domain of attestation has prompted the ostensible upsurge of interest and attention in general financial reporting. The perceived failure of audit to fully alert equity and other stake holders concerning misrepresentations in financial position and to sufficiently report accurate operational earnings has resulted in inability of investors to undertake rational economic choices affecting companies generally. This is because the quality of reported earnings and the ability of audit quality to effectively constrain earnings management of companies across the world and Nigeria in particular, have become significantly uncertain due to recent corporate accounting scandals (Badawi, 2008; Enofe, 2010). Differences in audit quality result in variations in the credibility of auditors and the reliability of the earnings reports of companies. The recent corporate financial scandals pose a great challenge to the veracity, credibility, utility or value relevance of the audit function. Alles et al (2004:184) assert that "the degree to which assurance adds value to communication between an auditee and its audience is directly related to the credibility of the auditor. Whatever may be their real cause, the effect of the current series of corporate scandals, especially Enron and the subsequent collapse of Arthur Anderson, has been to undermine public confidence in the audit programme".

Badawi (2008) reports a list of companies involved in cases of accounting scandals related to poor audit quality and earnings manipulations in the past decade. In Nigeria, corporate scandals include the cases of Cadbury Nigeria Plc and African Petroleum Plc (Okolie and Agboma 2008); Savannah Bank and African International Bank (Odia, 2007); Wema Bank, Nampak, Finbank and Spring Bank (Adeyemi & Fagbemi, 2010); and more recently Intercontinental Bank Plc., Bank PHB; Oceanic Bank Plc. and AfriBank Plc. These are known publicly reported cases that resulted in misleading financial reports. There is therefore a concern about the quality of accounting income and its relationship with the quality of the auditing process which has been observed to increase over time following the periodical clusters of business failures, frauds, and litigations. The issue is whether these corporate collapses are not the outcome of poor audit quality and the inability of the audit function to arrest earnings management.

The focus of external users on reported earnings as a central variable for making decisions and recent corporate scandals means that earnings management has become a matter of great concern. Using numbers, management may abuse "big bath" restructuring charges, premature revenue recognition, reserves and write-offs of purchased in-process research and development (Healy & Wahlen 1999). These practices can threaten the credibility of financial reporting. There are concerns regarding earnings management which require factual and not fictional accounting to accentuate the importance of company accounts that are true and fair. The essence of this requirement is that companies must not distort, hide, fabricate and present, in whole or in part, deceitful financial reports.

Next to the focus on reported income statement, earnings analysts and investors may focus more on cash flows rather than the income statement of a company. As a result of corporate scandals analysts and stakeholders may have lost faith in accounting income-based measurements. Sufficient cash flows from operating activities are essential for these companies to remain profitable and viable in the future. Lack of cash flows could result in bankruptcy or for a company to turn into a takeover prey. Since investors use the cash flow statement to make investment decisions, highly motivated and intelligent management teams could be involved in cash – based earnings management to create ways to influence the true picture of a company's cash flow from operations (CFO). Certain reasons may account for executives' greater willingness to engage in cash - based earnings management than through accruals management because accrual-based earnings management is more likely to draw auditor or regulatory scrutiny than real decisions such as those related to product pricing, production, and expenditures on research and development or advertising. Given the above scenario, the major problem of this study is to determine whether cash – based earnings manipulation can be significantly constrained along with its negative consequences and whether the size of audit firms significantly influences the market value per share of quoted companies in Nigeria. The study attempts to ascertain and establish whether there are significant relationships between Audit firm size, the level of cash earnings management and the Market Price per Share (MPS) of quoted companies in Nigeria.

Concept of Audit Firm Size and Audit Quality

Prior studies (DeAngelo, 1981; Palmrose, 1988; Deis & Giroux, 1992; Becker *et al*, 1998; Francis & Krishnan, 1999; Krishnan & Schauer, 2000; Kim, Chung & Firth, 2003 and Krishnan, 2003) which use size of audit firm to measure audit quality treated it as dichotomous variable and a dummy assuming 1 and 0 for large and non large audit firms. Audit firm size signifies various types of qualities. It is assumed that size (Big 4 or Big 5, Big

6 … Big 8, etc.) of audit firms suggest reputation, international affiliation, and integrity which are reflected in the audit report on the accounts of their clients. This reflects the Limperg Institutes' (1985) theory of inspired confidence. It has severally been argued that the large audit firms significantly determine the disclosure of policies of the companies they audit.

DeAngelo (1981) theoretically analyzed the relation between the quality of audit and auditor's size and argued that large audit firms have more clients and their total fees are allocated among those clients. Defining the auditor's independence by the conditional probability that the auditor will disclose any misstatement in financial statements given that this misstatement was already discovered, DeAngelo (1981) assert that large audit firms are more independent and therefore, provide higher quality of audit. In considering auditor size and earnings management, DeAngelo (1981) argues that Big-4 auditors provide better quality audits than non-Big4 auditors. This position has gained extensive support of subsequent empirical studies including Palmrose (1988); Deis and Giroux (1992); Becker, *et al (*1998); Francis and Krishnan (1999); Krishnan and Schauer (2000); Kim, Chung and Firth (2003); Krishnan (2003).

Teoh and Wong (1993) find higher earnings response coefficients for clients audited by Big-4 firms compared to those audited by non-Big4 firms. Becker et al (1998), Francis et al (1999) and Krishnan (2003) demonstrate that Big4 auditors are better at constraining client earnings management compared to non-Big4 auditors. In addition, Zhou and Elder (2001) find that Big-4 auditors are associated with less earnings management.

The results of studies by Davidson and Neu (1993); Lennox (1999); DeAngelo (1981); Dye (1988); Colbert and Murray (1998) provide additional support for the use of auditor size as proxy for audit quality. Davidson and Neu (1993) used an indirect method to support the argument that size is a good proxy for auditing quality. They argued that managers have incentives to manipulate the reported earnings to meet the analysts' forecasts. Using data for Canadian firms, their results support the expectation indicating that the auditor size is a good proxy for auditing quality. Lennox (1999) looked at the two explanations of the hypothesized positive relation between audit quality and auditor size:

1. the reputation hypothesis suggested by DeAngelo (1981) who argues that large auditors have more incentives to be accurate because they have more client-specific rents to lose if their reports are not accurate, and
2. the deep pockets hypothesis used by Dye (1988) who argued that larger audit firms tend to be more accurate because they have greater wealth that is exposed to risk in case of any litigation.

Lennox (1999) examined the relation between auditor size and litigation and found greater support to the deep pocket hypothesis than reputation hypothesis. Colbert and Murray (1998) focused on small CPA firms and the peer review activities between such firms and found some evidence that the auditor quality is positively associated with firm size.

This study adopts the auditor size (the brand name approach) as the measure to capture audit quality and assume that the higher audit quality generated, the higher the information credibility and information quality resulting in higher quality of financial statements. In accounting context, higher audit fees are reflected in higher costs resulting from greater audit

quality. Some results have shown that larger audit firms receive larger audit fees than smaller audit firms (Palmrose, 1986; Copley, 1991; Wooten, 2003). Hence, Moizer (1997) asserts that audit fee is associated with higher audit quality resulting in higher reputation of the auditors. The essence of the arguments is that an individual has an economic incentive to incur above average costs in order to produce a service of above average quality. Eventually, consumers recognize this improved quality and are prepared to pay a higher fee in order to receive the service.

Craswel, Stokes and Laughton (2002) extended the argument to show that auditor independence may be related to audit fee dependence. Using the propensity of auditors to issue qualified audit reports measured by the ratio of audit fee to total national fee of the audit firm, Craswel *et al*, (2002) argued that in a situation where public disclosure of audit fee and non-audit fee is mandatory, auditors may be willing to issue qualified audit opinions irrespective of the economic importance of the client to the auditor and issue unqualified opinion if otherwise.

Audit Independence may be defined as an auditor's unbiased mental attitude in making decisions throughout the audit and financial reporting. Independence refers to the quality of being free from influence, persuasion or bias. In the absence of independence, the value of the audit service will be greatly impaired (Sweeney, 1994). An auditor's lack of independence increases the possibility of being perceived as not being objective. This means that the auditor will not likely report a discovered breach. Prior studies contend that high fees paid by a company to its external auditor increase the economic bond between the auditor and the client and thus the fees may impair the auditor's independence (Frankel, Johnson & Nelson, 2002; Li & Lin, 2005). The impaired independence results in poor audit quality and allows for greater earnings management resulting in lower earnings quality.

DeAngelo (1981) theorizes that larger firms perform better audits because they have a greater reputation at stake. In addition, because larger firms have more resources at their disposal, they can attract more highly skilled employees. Others have theorized that large auditors attract a fee premium because their greater wealth reduces clients' exposures in litigation (the deep pockets theory). Others have theorized that there is no real audit quality difference, but the perception exists because large firms are well known and have gained a reputation for high quality. On the whole, the evidence is mixed, but it appears that there is some relationship between audit firm size and audit quality. What is unclear is whether this difference is actual or perceived. Based on DeAngelo's (1981) reports, many other studies use auditor size to differentiate audit quality levels (Copley, 1991; Clarkson & Simunic, 1994; Becker, Defond, Jiambalvo, & Subramanyam, 1998; Bauwhede, Willekens & Gaeremynck, 2000; Zhou & Elder, 2001; Krishnan, 2003).

Some studies have used audit fees as quality measures. Palmrose (1986) finds that there is a significant association between audit fees and auditor size measured by Big 8 vs non – Big 8 dichotomy. Copley (1991) finds that using audit fees as audit quality measure, has greater power than Big 8 vs non – Big 8 dichotomy in explaining variation levels of local government disclosures. Colbert and Murray (1998) measure audit quality using the results of peer review.

Summing up, DeAngelo (1981); Palmrose (1988); Deis & Giroux (1992); Becker, *et al* (1998); Francis and Krishnan, (1999); Krishnan and Schauer (2000); Kim, Chung and Firth,

(2003) and Krishnan, (2003) agree on audit quality as a function of audit firm size and demonstrate that larger audit firms possess greater capacity to measure audit quality. Wooten (2003) found that detecting material misstatements is influenced by how well the audit team performs the audit, which in turn is influenced by the quality control system and management resources of the audit firm. The major proposition of this study is that earnings management depends on audit quality and audit quality is a function of audit firm size.

Earnings Management Concept

Corporate earnings represent the end product of a company and have been recognized as the distinct central item in financial statements which exclusively indicates the amount of value-added activities of a company (Lev, 1989). Earnings signal the direction of resource allocation in capital markets as the speculative value of a company's shares is the present value of its future earnings. Hence, increase or decrease in earnings represent an increase or decrease in the value of a company (Lev, 1989).

Schipper (1989) says earnings management refers to a purposeful intervention in the external financial reporting process with the intent of obtaining some private gain while Healy and Wahlen (1999) assert that earnings management occurs when management uses judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about underlining economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers. Managing earnings is the process of taking deliberate steps, prompted by constraints of generally accepted accounting principles, to bring to a desired level of reported earnings (Davidson, Stickney & Weil, 1987). Earning management may take the form of either income-increasing or income-decreasing accounting choices. Opportunities for such manipulations arise because of flexibility permitted by GAAP and because it is costly to require and enforce less flexible financial reporting rules (Dye, 1988, Evans and Sridhar, 1996).

For the purpose of the study, cash – based earnings management means a purposeful action by management of a company to alter reported earnings in a particular direction, achieved by changing the timing and/or structuring of an operation, investment and/or financial transaction with cash flow effects resulting in sub-optimal business consequences. This definition is based on definitions given by Healy & Wahlen (1999) and Zang (2006). From the definition, it is learnt that there should be managerial intent in order to influence earnings by structuring transactions. The way a firm accounts for a transaction depends on the form of the transaction. Consequently, if a firm can design a transaction to give it a specific form, it will be able to record this transaction in a desired way. This is what Healy and Wahlen (1999) call "structuring transaction" (Stolowy & Breton, 2004). the negative value implications of manipulating real activities are thought to be one of the most serious forms of earnings management (Ewart & Wagenhofer, 2005). Discretionary accrual management does not directly affect cash flows, but merely changes the timing of revenue and expense recognition. However, cash – based earnings management can adversely affect cash flows both in the short and in the long run by altering discretionary expenditures and other operating costs.

Dechow and Skinner, (2000) declared that earnings management can be classified into three categories, namely: Fraudulent Accounting, Accruals Management, and Cash Flow earnings management (CFEM) which is more often referred to as Real Earnings Management (REM). Fraudulent Accounting involves accounting choices that violate GAAP; Accruals

Management involves choices within-GAAP that try to "obscure" or "mask" true economic performance. Cash – Based earnings management occurs when managers undertake actions that involve changing a firm's underlying operations in an effort to boost current period earnings. Fraudulent accounting and accruals management are not accomplished by changing the underlying economic activities of the firm but through the choice of accounting methods used to represent those underlying activities. Dechow and Skinner (2000) further emphasized that accruals can be used to modify the timing of earnings recognition, thus causing earnings to either increase or decrease.

Many of the previous accounting studies (Healy, 1985; Jones, 1991; Sweeney, 1994; Defond & Jiambalvo, 1994)) examined the different motivations for earnings management and specifically, point to bonus plans motivations, the motivations to satisfy the debt covenants, or the motivations to reduce the political costs. The earning management motivations may exist around the time of CEO change. According to DeAngelo, et al (1994), a new CEO may take a "*big bath*" in the year of change to increase the probability of higher future earnings against future performance measurement, especially when low earnings in the change year can be blamed on the previous CEO. Big Bath in accounting is an earnings management technique whereby a one-time charge is taken against income in order to reduce assets, which results in lower expenses in the future (Nikolai & Jefferson, 2010).

The desire to achieve a high stock price and/or to meet the earnings benchmark induces corporate managers to engage in earnings management. To meet a certain earnings target, managers can wait until the year-end to use discretionary accruals to manage reported earnings. But this strategy runs the risk that the amount of earnings that needs to be manipulated is greater than the available discretionary accruals because the discretion on accruals is bounded by GAAPs (Barton and Simko, 2002). Given the underlying economic transactions of a firm, a manager's ability to report accrued earnings is limited. As a result, the earnings target may not be reached using discretionary accruals at year end (Graham et al, 2005). Managers can reduce this risk by manipulating real operating activities during the year. Graham et al (2005) find evidence that managers take real economic actions to maintain accounting appearances, and sometimes are more likely to use real actions than to use accruals to apply earnings management.

Specifically, if the compensation of managers is associated with companies' performance, then managers have incentives to misreport earnings. In consonance with agency problem (Jensen & Meckling, 1976) and because part of the financial reporting process depends on the judgment of managers, they have the opportunity to manage reported earnings to achieve their own goals. The capital market institutions (SEC, NSE, etc.) and other stakeholders may be more concerned with earnings management activities of firms because these activities may have a significant effect on the quality of information provided to investors, (Healy & Wahlen, 1999).

Recent studies (Bradshaw & Sloan, 2002) have examined the issue of cash flow versus GAAP earnings and document a growing rift between the two measures and show that investors typically react more to the cash flow numbers. Lougee and Marquardt (2002) provide support for opportunistic management through their examination of cash flow. Lougee and Marquardt (2002) found that a greater incidence of losses, higher market-to-book and debt-to-equity ratios, greater sales growth, a higher proportion of special items, and greater earnings variability characterize firms reporting cash flow earnings.

Roychowdhury (2006) defines real (cash – based) activities manipulation as departures from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations. Real cash – based earnings management involves managing earnings through the manipulations of Cash Flows, Sales and the operational activities of a firm. Bruns and Merchant (1990) and Graham et al (2005) studies have shown that financial executives demonstrate a greater willingness to manipulate earnings through real activities rather than accruals. There are at least two possible reasons for this. First, accrual manipulation is more likely to draw auditor or regulatory scrutiny than real decisions about pricing and production. Second, relying on accrual manipulation alone entails a risk. The realized year-end shortfall between earnings that are not manipulated (unmanaged earnings) and the desired threshold can exceed the amount by which it is possible to manipulate accruals. If that happens, and reported income falls below the threshold, real activities cannot be manipulated at year-end.

The underlying fundamental real economic activities manipulation is accomplished by a wide variety of operating decisions. These operating decisions may be suboptimal and weaken the firm's operating performance in the long run. Real cash – based activities manipulation can reduce firm value because actions taken in the current period to increase earnings can have a negative effect on cash flows in future periods. Aggressive price discounts aimed at increasing sales volumes and meeting some short-term earnings target may lead customers to expect such discounts in future periods. This can imply lower margins on future sales. Overproduction generates excess inventories that have to be sold in subsequent periods and imposes greater inventory holding costs on the company (Roychowdhury, 2006). Thomas and Zhang (2002) furnished evidence of real cash – based earnings management through overproduction. Another type of real cash – based earnings management may be strategic timing of exercise of Employee Stock Options to affect the denominator of Earnings per Share. Bens, Nagar and Wong (2002) and Bens, Nagar, Skinner and Wong (2003) further furnished evidence about cash – based earnings management.

Bartov (1993) documents that, firms with negative earnings changes report higher incomes from asset sales. Dechow and Sloan (1991), find that CEOs reduce spending on Research and Development (R&D) toward the end of their tenure to increase short-term earnings. Baber, Fairfield and Haggard (1991) and Bushee (1998) also find evidence consistent with reduction of R&D expenditures to meet earnings benchmarks. In Iran, Mashayekhi, Mehrani, Mehrani and Karami (2006) find that listed firms in Tehran Stock Exchange (TSE) do earnings management when their operating performance is poor and they tend to choose income increasing accounting strategies. Mehrani and Arefmanesh (2008) provide some evidence that income have had a weaker performance leading to a higher motivation compared with non-income smoother in TSE. Haghighat and Raigan (2009) show that the Iranian investors prefer smoothed income and on this regard, managers try to smooth income and on the base one classification of management incentives for income smoothing.

Although cash – based earnings management has not been as widely studied as accrual-based earnings management, survey by Graham et al (2005) finds that managers prefer real cash – based activities manipulation to accruals manipulation as a way to manage earnings by such means as reducing discretionary expenditures. These cash – based real earnings management activities are significantly different from accrual-based ones as they have direct cash flow effects. There are few studies about how managers use specific transactions, other than

cutting R&D expenditures, to influence earnings. Some of the studies focus on stock repurchases (Hribar, Jenkins & Johnson, 2006; Bens et al, 2003); some examine the sales of fixed assets (Herrmann, 2003; Bartov 1993); some sale price reductions (Jackson & Wilcox 2000); some overproduction, managing of sales, advertising, SG&A expenses (Roychowdhury 2006; Gunny 2005); and others examine the tradeoff between discretionary accruals management and cash – based earnings management (Zang 2006).

Herrmann. (2003) examines the usage of income from the sale of fixed assets and marketable securities to manage earnings. They found a negative relation between income from asset sales and management forecast error. When current reported operating income is below (above) management's forecast of operating income, firms increase (decrease) earnings through the sale of fixed assets and marketable securities. Bartov (1993) examines sales of fixed assets and shows that the profit from sales of assets is negatively correlated with earnings changes. He uses this to argue that firms facing earnings declines boost profits through increased asset sales. Jackson and Wilcox (2000) in their study, made an investigation into whether managers grant sales price reductions in the fourth quarter to accelerate customer purchases and, as a result, avoid losses and declines in earnings and sales. Consistent with expectations, their results of univariate and multivariate tests indicate that firm managers grant sales price reductions in the fourth quarter to meet annual financial reporting targets.

Management of sales, reduction of discretionary expenses, overproduction are examined by Roychowdhury (2006). In his study, he develops the empirical methods to detect real activities manipulation other that reduction of R&D expenses. The results suggest that drawing inferences on earnings management by analyzing only accruals may be inappropriate, because suspect firm-years manipulate real activities to avoid reporting losses. Additionally, firms appear to be managing real operating activities to a greater extent if they have a higher proportion of current liabilities. Gunny (2005) examines the extent to which real earnings management affects subsequent operating performance (as measured by both earnings and cash flow) and whether investors anticipate the performance consequences of real management. The results provide evidence that real (cash – based) earnings management has an economically significant impact on future performance.

There appears to be a tradeoff between accrual based earnings management and cash – based earnings management. Zang (2006) studies whether managers use real manipulation and accrual manipulation as substitutes in managing earnings and the order in which managers make these decisions. Zang (2006) study follows the prior study on cash – based earnings management (Roychowdhury 2006; Gunny 2005). She found that managers determine real manipulation before accrual manipulation. Based on this result, she used an empirical model that captures the sequence of real and accrual manipulations to test the tradeoffs between the two. Cohen et al. (2008) document that, following the passage of SOX, accrual-based earnings management declined significantly, while cash – based earnings management increased significantly. Consistent with the results of a recent survey by Graham et al. (2005), this suggests that firms switched to managing earnings using cash - based methods possibly because these techniques, while more costly, are likely to be more difficult for auditors and regulators to detect. Ewart and Wagenhofer (2005) found factors that determine the intensity of the substitution of accounting accruals by cash – based earnings management and the welfare effects, such as substitution rates between accrual and cash – based earnings

management by managers, the real cost of earnings management, and the precision of the market knowledge about the manager's incentives.

Specifically, the models have been developed by Dechow, Kothari and Watts (1998) and used by Roychoadhury, (2006) and Cohen et al (2008) to consider three metrics used to study and estimate the levels of manipulations of fundamental economic activities of management. These metrics include Abnormal levels of Cash Flow from Operations (CFO); Abnormal levels of Discretionary expenses (Disex); and Abnormal levels of Production Cost (Prod.) represented by cost of goods sold (COGS) plus inventory growth for manufacturing companies or cost of sales (COS) plus stock growth for non-manufacturing firms. The composite value or sum of the three measures is the estimate for cash - based earnings management. The study is based on three cash –based earnings manipulation techniques (Gunny, 2005; Cohen & Zarowin, 2008; Fazeli & Rasouli, 2011) and their impacts on the three identified variables as follows:

1. Acceleration of the timing of sales through increased discounts or lenient credit terms. Such discounts and lenient credit terms will temporarily increase sales volumes, but these are likely to disappear once the company reverts to old prices. The additional sales will boost current period earnings, assuming the margins are positive. However, both price discounts and more lenient credit terms will result in lower cash flows in the current period.
2. Reporting of lower cost of goods sold through increased production. Managers can increase production more than necessary in order to increase earnings. When managers produce more units they can spread the fixed overhead costs per unit. As long as the reduction in fixed cost per unit is not offset by any increase in marginal cost per unit, total cost per unit declines. This decreases reported cost of goods sold and they can report higher operating margins. However, the firm will still incur other production, acquisition and holding costs that will lead to higher annual production costs relative to sales, and lower cash flows from operations given sales levels.
3. Decreases in discretionary expenses which include Advertising (Adv); Research and Development (R&D) costs; Selling, General and Administrative (SG&A) expenses. R&D costs may not be significant items in Nigerian companies and as such may not be reported as separate items in the financial statements. Reducing discretionary expenses will boost current period earnings. It could also lead to higher current period cash flows (at the risk of lower future cash flows) if the firm generally paid for such expenses in cash.

METHODOLOGY

This study is based on 342 companies – year observations from the NSE for the fiscal years, 2006 to 2011. We apply audit firm size (AFS) in terms of Big-4 and Non-Big-4 audit firms after controlling for the effects of audit fees (AF) as a measure of auditor independence. The study adopts the models developed by Dechow, Kothari and Watts (1998), applied by Roychoadhury (2006) and Cohen et al (2008) to consider three metrics used to measure the levels of manipulations of fundamental economic activities of management. The hypothesis of this study applies to Cash – Based Earnings Management as follows:

H_0: There is no significant relationship between Audit Firm Size and Cash - Based Earnings Management
(CBEM) of quoted companies in Nigeria

In order to investigate the company's total level of earnings management through cash flow manipulations, first, we generate and measure the normal level of cash - based earnings management activities using the three manipulation schemes. Second, the abnormal levels of each type of real activities manipulation are measured as the residual from the relevant estimation models as follows:

Abnormal Levels of Cash Flow from Operation (CFO)

Abnormal CFO is actual CFO minus the normal level of CFO calculated using the estimated coefficients from the regression equation below. All variables in the model are scaled by lagged total assets ($A_{i, t-1}$). This model is functionally expressed and run as a cross-sectional regression for each company and year as follows:

$$\frac{CFO_{it}}{Assets_{i,t-1}} = \beta_{1t}\frac{1}{Assets_{i,t-1}} + \beta_2\frac{Sales_{it}}{Assets_{i,t-1}} + \beta_3\frac{\Delta Sales_{it}}{Assets_{i,t-1}} + \epsilon_{it} \quad \text{(1)}$$

Where: CFO = Normal (expected) Cash Flow from operations,

$Assets_{i, t-1}$ = Total Assets of company i, in year t – 1,

Sales = Sales Revenues,

ΔSales = Change in sales revenues over time ($S_t - S_{t-1}$),

$e_{i,t}$ = Error Term

The abnormal CFO is then computed as actual CFO minus the normal level of CFO estimated using the coefficient from the above equations.

Abnormal Level of Production Costs (Prod)

To estimate the normal level of production costs, defined as the sum of cost of goods sold (COGS) and change in inventory during the year, we estimate COGS as a linear function of contemporaneous sales as follows:

$$\frac{COGS_{it}}{Assets_{i,t-1}} = \beta_{1t}\frac{1}{Assets_{i,t-1}} + \beta_2\frac{Sales_{it}}{Assets_{i,t-1}} + \epsilon_{it} \quad \text{(2)}$$

We use the model for inventory growth stated as a linear function of the contemporaneous and lagged change in sales to estimate inventory cost as follows:

$$\frac{\Delta INV_{it}}{Assets_{i,t-1}} = \beta_{1t}\frac{1}{Assets_{i,t-1}} + \beta_2\frac{\Delta Sales_{it}}{Assets_{i,t-1}} + \beta_3\frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}} + \epsilon_{it} \quad \text{(3)}$$

Using the sum of the above two equations, we estimate the normal level of production costs:

$$\frac{Prod_{it}}{Assets_{i,t-1}} = \beta_1 + \frac{1}{Assets_{i,t-1}} + \beta_2\frac{Sales_{it}}{Assets_{i,t-1}} + \beta_3\frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}} + \beta_4\frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}} + \epsilon_{it} \quad \text{(4)}$$

Where: $Prod._{i,t}$ = COGS plus INV. = Normal (expected) Production Cost for company i in year t.

$Assets_{i,t-1}$ = Total Assets of company i in year t – 1,

$Sales_{i,t}$ = Sales Revenues for company i, in year t,

$\Delta Sales_{i,t}$ = Change in Sales for company i, in year t,

$\Delta Sales_{i,t-1}$ = Sales Revenues for company i, in year t – 1,
$e_{i,t}$ = Error Term for company i, in year t,

The abnormal production cost is computed as the (residual) difference between the value of the sum of COGS plus change in stock and the normal level predicted by equation (4).

Abnormal Level of Discretionary Expenses (Disex)

We express discretionary expenses as a function of lagged sales and estimate the following model to derive 'normal' levels of discretionary expenses:

$$\frac{DiscExp_{it}}{Assets_{i,t-1}} = \beta_{1t}\frac{1}{Assets_{i,t-1}} + \beta_2\frac{Sales_{i,t-1}}{Assets_{i,t-1}} + \epsilon_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5)$$

For every firm year, abnormal discretionary expenses (Abdisex) represent the (residual) difference between the actual disex and normal (expected) disex calculated using the corresponding company – year parameters. CBEM is estimated as the sum of abnormal CFO, abnormal production cost and abnormal discretionary expenses.

Model Specifications

In this section, we specify the models used to deal with the effects and relationships between the dependent and independent variables contained in the hypothesis. The model expressed is used to test for the effects and relationships between the dependent variable and the identified independent variables in the estimation model using linear regression analyses.

$$CBEM_{i,t} = a_0 + \beta_1 AFS_{i,t} + \beta_2 AF_{i,t} + \beta_5 CFO_{i,t} + \beta_6 Gwth_{i,t} + \beta_7 CoySize_{i,t} + \beta_8 Lev_{i,t} + e_{i,t} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6)$$

CBEM defines the aggregate of abnormal levels of CFO, abnormal production cost and abnormal discretionary expenses. Other variables remain as described under in table 3.1.

Techniques of Data Analyses

The preliminary analysis involves descriptive statistics and correlation analysis of data. The regression assumption tests for the variables precede the multiple regression analysis conducted on the data. For robustness purposes, the regression analysis was conducted using the Pooled OLS, Panel OLS (without effects) and the panel OLS (with effects). A series of preceding statistical tests such as the Hausman test for fixed and random effects and the panel unit root were performed on the data.

Table 3.1: Measurement of Variables

S/N	VARIABLES	DEFINITION	TYPE	MEASUREMENT	Construct Validity Source
1	CBEM	Cash - Based Earnings Management	Dependent	Abn. CFO + Abn. Prod. Cost + AbDisex.	Dechow et al (1998); Roychowdhury, (2006); Cohen et al, (2008).
2	AFS	Audit Firm Size	Independent	Dichotomous: '1' if company is audited by a Big4, '0' otherwise	DeAngelo, 1981; Deis and Giroux, 1992; Becker et al, 1998; Francis and Krishnan, 1999; Krishnan and Schauer, 2000; and Krishnan, 2003
3	AF	A measure of Auditor Independence	,,	Natural Log of the Audit Fees Paid by the company.	Palmrose, 1988, Copley (1991), Frankel et al, 2002; Li & Lin, 2005; Gerayli et al, 2011
4	CFO	Cash Flow From Operations	Control	CFO as % of Total Assets at end of Year 't'.	Adapted from Dechow et al (1995); Yang (1999); Bauwhede et al (2000).
5	Gwth	Growth Prospects of the Company	,,	(Market Value divided by Book Value of Equity) = MPS/BVPS	Zhou and Elder (2001); Bowen, et al (2005)
6	CoySize	Company Size	,,	Natural log of company Total Assets	Bauwhede et al, 2000; Gerayli et al, 2011
7	Lev.	Leverage	,,	$\frac{\text{Total Debts}}{\text{Equity}}$	Becker et al (1998), Watts & Zimmerman, (1986)

Presentation and Analysis of Data

The models specified in the previous section were examined empirically in this section and used to test the causal-relationships between audit firm size and cash – based earnings management of the sampled companies.

Descriptive Statistics

Table 4.1 below presents the result for the descriptive statistics conducted on the variables. It was observed that:

CBEM has a mean value of 305.324 and a standard deviation of 67788.19 which is quite large and suggests the presence of considerable dispersion of CBEM for individual firms from the sample average. The maximum, minimum and median values stood at 554242.3, -26938.7 and 26938.7 respectively. The Jacque-Bera statistic of 5198.002 alongside its p-value (p=0.00<0.05) indicates that the data satisfies normality.

AFS is 0.702 (70.2%). This approximates to one (1) and suggests that on the average, over 70% of the companies in the sample were audited by the Big-4 audit firms. The standard deviation of 0.458 suggests considerable cluster of firm's choice around the Big-4. The Jacque-Bera statistic of 76.421 alongside its p-value (p=0.00<0.05) indicates that the data satisfies normality.

AF was observed to have a mean value of 6.8217 and a standard deviation of 0.5778 suggesting considerable clustering of audit fees for the distribution around the mean value. The maximum, minimum and median values are 8.223, 5.04 and 6.9 respectively. The Jacque-Bera statistic of 16.927 alongside its p-value (p=0.00<0.05) indicates that the data satisfies normality.

Table 4.1: Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std.Dev	Jarque-Bera	Probability
CBEM	305.3242	-26938.7	554242.3	-108663	67688.19	5198.002	0.000
AFS	0.702771	1	1	0	0.457615	76.42107	0.000
AF	6.821742	6.9	8.22	5.04	0.577794	16.92742	0.000
CFO	11.66365	11.7	99.49	-126.16	16.67328	3494.981	0.000
GWTH	8.667909	2.7	1228.33	-24.64	72.64753	922498.7	0.000
COSIZE	9.879723	9.97	11.66	7.87	0.790002	10.88827	0.004
LEV	5.505743	1.39	685.82	-15.7	43.15786	696687	0.000

Source: computation derived from Eviews 7.0 by the author

CFO was observed to have a mean value of 11.664 and standard deviation of 16.673. The maximum, minimum and median values stood at 99.49, -126.16 and 11.7 respectively. The Jacque-Bera statistic of 3494.981 alongside its p-value (p=0.00<0.05) indicates that the data satisfies normality.

GRWTH measured as the market value divided by book value of equity has a mean of 8.668 and standard deviation of 72.647. The maximum, minimum and median values are 122.833, -24.64 and 2.7 respectively. The Jacque-Bera statistic of 922498 alongside its p-value (p=0.00<0.05) indicates that the data satisfies normality.

COSIZE measured as the natural log of company total assets was observed to have a mean value of 9.8797 and standard deviation of 0.790. The maximum, minimum and median values stood at 11.66, 7.87 and 9.97 respectively. The Jacque-Bera statistic of 10.888 alongside its p-value (p=0.00<0.05) indicates that the data satisfies normality.

LEV shows a mean value of 5.505 and standard deviation of 43.157. The maximum, minimum and median values stood at 685.82, -15.7 and 1.39 respectively. The Jacque-Bera statistic of 696687 alongside its p-value (p=0.00<0.05) indicates that the data satisfies normality.

Regression Assumptions Tests

Table 4.1 above has revealed that the p-values associated with Jarque-Bera statistics for the variables are all less than 0.05 indicating the normality of data and suitability for generalization. It also suggests the absence of outliers in the data. Table 4.2 below presents the regression assumptions tests results.

Table 4.2a above shows the regression assumptions test for the variables in the model and reveals that COSIZE appear to have VIF's values exceeding 10 and hence the variable is dropped from the multiple regression models relating to CBEM and AFS.

The Breusch-pagan-Godfrey test for heteroscedasticity was performed on the residuals as a precaution. The results showed probabilities less than 0.05 which suggest the likely existence of heteroscedasticity. The Lagrange Multiplier (LM) test for serial correlation reveals that the hypotheses of zero autocorrelation in the residuals were not rejected. This was because the probabilities (Prob. F, Prob. Chi-Square) were greater than 0.05. The LM test did not therefore reveal serial correlation problems for the model. The performance of the Ramsey RESET test showed high probability values that were greater than 0.05, meaning that there was no significant evidence of misspecification.

Table 4.2a: Regression assumptions test (Dependent Variable = CBEM)

Variance inflation test for Multicollinearity		
Variable	Coefficient Variance	Centered VIF
C	8.85E+09	NA
AFS	2.10E+08	4.883
AF	5.06E+08	4.883
CFO	135007	1.1585
GWTH	9397.693	3.111
COSIZE	5.08E+08	10.120*
LEV	17515.89	2.8020
Breusch-Godfrey Serial Correlation LM Test:		
F-statistic	0.526353	Prob. F(1,182) 0.4709
Obs*R-squared	0.608941	Prob. Chi-Square(1) 0.4352
Heteroskedasticity Test: Breusch-Pagan-Godfrey		
F-statistic	3.34704	Prob. F(9,184) 0.0043
Obs*R-squared	19.1978	Prob. Chi-Square(9) 0.0076
Scaled explained SS	96.39948	Prob. Chi-Square(9) 0.0023

Ramsey RESET Test		
	Value	Probability
t-statistic	0.45634	0.783
F-statistic	0.6736	0.325
Likelihood ratio	0.5423	0.231

Source: Computation derived from Eview 7.0 by the author. *VIF values exceed 10.

Table 4.2b below shows the regression assumptions test for model relating MPS to AFS. The performance of the Ramsey RESET test showed high probability values that were greater than 0.05. This means that there was no significant evidence of misspecification. The Breusch-pagan-Godfrey test for heteroscedasticity was performed on the residuals and the results showed probabilities less than 0.05 which suggests the presence of heteroscedasticity in the residuals. Treatment for Heteroskedasticity was conducted by adapting Robust Standard Errors to address the errors that were not independent and identically distributed. In addition, we also utilized the Estimated General Least Squares in conducting the panel OLS.

The Lagrange Multiplier (LM) test for serial correlation indicates that the probabilities (Prob. F, Prob. Chi-Square) were less than 0.05, suggesting the presence of serial correlation in the model. In correcting for serial correlation in the model, the Cochrane Orcutt method was adopted to include an autoregressive (AR) term as part of the exogenous variables and re-estimating the model (Eviews, 7.0). However, in the case of panel data (with effects) where the inclusion of AR terms is not allowed, the EGLS (Estimated General Least Squares) was applied.

Panel Unit Root Test

In conducting the panel unit root, the Augmented Dicky Fuller test was utilized. In order to achieve robustness, the unit root was conducted using the Breitung t-stat and the Im, Pesaran and Shin W-stat. All tests are conducted at intercept and trend and the results are presented and analyzed:

Table 4.3a, b & c above provide summary reports of panel unit root tests on the residuals of the regressions reports. The p-values reported in Table 4.3a suggest that the hypothesis of no unit root can be rejected at least at the 5% level. The ADF Fisher statistic (570.45) and the Choi Z-stat. (-17.214) for the stacked residuals indicate that the null hypothesis of non-stationarity is strongly rejected. In addition, the Breitung Unit Root Test is also performed and the results shows that the Breitung t-stat (-7.2286) and p-value (0.00) as presented in table 4.3b suggest that the null hypothesis of non-stationarity is strongly rejected at 5%. The Im, Pesaran and Shin unit root test were also performed as an additional check to confirm the stationarity of the data. The results show that the Im, Pesaran and Shin W-stat (-109.105) and p-value (0.000) as presented in table 4.3c suggest that the null hypothesis of non-stationarity is strongly rejected at 5%.

Table 4.3a Augmented Dickey Fuller (ADF) Unit Root Test

Null Hypothesis: Unit root (individual unit root process)		
Exogenous variables: Individual effects		
Automatic selection of maximum lags		
Automatic lag length selection based on AIC: 0 to 14		
Method	Statistic	Prob.**
ADF - Fisher Chi-square	570.45	0.000
ADF - Choi Z-stat	-17.2136	0.000

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Table 4.3b Breitung Unit Root Test

Null Hypothesis: Unit root (common unit root process)		
Exogenous variables: Individual effects, individual linear trends		
User-specified maximum lags		
Automatic lag length selection based on AIC: 0 to 3		
Method	Statistic	Prob.**
Breitung t-stat	-7.22855	0.000

Source: Computation derived from Eview 7.0 by the author

Table 4.3c Im, Pesaran and Shin unit root test

Null Hypothesis: Unit root (individual unit root process)		
Exogenous variables: Individual effects, individual linear trends		
User-specified maximum lags		
Automatic lag length selection based on AIC: 0 to 3		
Method	Statistic	Prob.**
Im, Pesaran and Shin W-stat	-109.105	0.000

Source: Computation Derived from Eviews 7.0

Multiple Regression Tests and Test Results

The regression tests were conducted to include an examination of the sensitivity of the endogenous variables contained in the baseline equations to cater for the effect of inclusion of a second proxy (audit fees) as a control.

Table 4.4: Regression tests (Dependent Variable = CBEM)

	POOLED OLS		PANEL OLS (FIXED EFFECTS)		PANEL OLS (RANDOM EFFECTS)
Variable	Coefficient	Prob.	Coefficient	Prob.	Coefficient
C	-7.886	0.965	-81635.1	0.264	6636.137
		0.000*			
EXPLANATORY	***VARIABLES***				
AF	9275.325	0.586	-16610.3	0.057**	-8126.98
		0.001*			
AFS	-21120.7	0.314	9319.279	0.437	-46344.9
		0.000*			
CONTROL	***VARIABLES***				
CFO	34.188	0.353	30.311	0.498	-151.022
		0.142			
GWTH	4.635	0.001*	3.598	0.000*	25.645
		0.002*			
LEV	-8.154	0.000*	-8.061	0.000*	31.0125
		0.073**			
AR(1)	0.279	0.000*			
R^2	0.893		0.899		0.11
ADJ R^2	0.879		0.887		0.07
F-Stat	63.756		77.781		2.831
P(f-stat)	0.000		0.000		0.008
D.W	1.64		1.75		1.5
Hausman test	**0.632**				

Source: Computation derived from Eview 7.0 by the author. * Significant at 5% **significant at 10%.

Pooled (Stacked) OLS Regression Test Result (Dependent Variable = CBEM)

The pooled (stacked) OLS results has an R^2 value of 0.893 and suggests that the model explains about 89% of systematic variations in the dependent variable with an adjusted value of 0.879. The F-stat (63.759) and p-value (0.00) indicates that the null hypothesis is rejected while the alternative hypothesis of a significant relationship between the dependent and independent variables is accepted at 5% level. The slope coefficients were examined to evaluate the effects of the explanatory variables on CBEM. AFS has a negative coefficient (-21120.7) but is insignificant at 5% (p=0.314) while AF has a positive coefficient (9275.325) and also insignificant at 5% (p=0.586). CFO appeared positive (0.34) and insignificant at 5% (p=0.353); Gwth has a positive slope coefficient (4.635) and is statistically significant at 5% (p=0.001) while leverage appeared positive (-0.025) and statistically significant at 5% (p=0.000). The D. W. statistics of 1.64 indicates the absence of serial correlation of the residuals in the model.

Panel OLS (Fixed Effects) Regression Test Result (Dependent Variable = CBEM)

The Panel OLS (Fixed effects) estimation was conducted. The R^2 value of 0.899 suggests an approximately 90% explanatory ability of the model for the systematic variations in the dependent variable with an adjusted value of 0.887. The F-stat (77.781) and p-value (0.00) indicates that the null hypothesis is rejected while the alternative hypothesis of a significant relationship between the dependent and independent variables are accepted at 5% level. The slope coefficients were examined as an evaluation of the effects of the explanatory variables on the CBEM. AFS appeared positive (9319.279) but insignificant at 5% (p=0.437) while AF appeared negative (-16610.3) and significant at 10% (p=0.057). CFO is seen to impact positively on CBEM as depicted by the slope coefficient (30.311) but insignificant at 5% (p=0.498); Gwth is seen to impact positively on CBEM as depicted by the slope coefficient (03.598) and statistically significant at 5% (p=0.00); leverage appeared negative (-8.061) and statistically significant at 5% (p=0.000). The D. W. statistics of 1.75 indicates the absence of serial correlation of the residuals in the model.

Panel OLS (random Effects) with Hausman Regression Test Result (Dependent Variable = CBEM)

The Random effects panel data estimation was conducted and suggests that the causal-relationship between AFS, AF and CBEM in the sample is influenced by cross-section specific effects which are realizations of independent random variables with mean zero, finite variance and uncorrelated with the idiosyncratic residuals. The R^2 value stood at 0.11 which explains only 11% of the systematic variations in the dependent variable with an adjusted value of 0. 07. The F-stat (2.831) and p-value (0.008) indicates that the null hypothesis of no significant relationship between the dependent and independent variables cannot be accepted at 5% level.

On evaluation of the effects of the explanatory variables (AFS & AF) on CBEM, the slope coefficients were examined. AFS is observed to impact significantly (p=0.000) on CBEM with a negative slope coefficient (-46344.9) while AF is seen to impact negatively (-8126.98) and significantly at 5% (p=0.001) on CBEM. From the outcome of the analysis, there is evidence that audit quality measures (specifically Audit Firm Size and Audit Fees) impact significantly on CBEM and hence hypothesis ($H_0$1) of no significant relationship between AFS and CBEM is rejected.

CFO appeared negative (-151.022) and insignificant at 5% (p=0.142); Gwth appeared positive (25.645) and statistically significant at 5% (p=0.002); leverage appeared positive (31.1025) and statistically significant at 10% (p=0.073). The D. W statistics of 2.13 indicates the absence of serial correlation of the residuals in the model.

DISCUSSION OF RESULTS

In estimating the models, the pooled OLS and Panel effects estimations were employed. Preference is placed on the descriptive statistic and Hausman Test results as bases for discussing the variable estimates.

Descriptive statistics showed the mean value of Audit firm Size (0.702) and suggests that majority of the companies in the sample were audited by the Big-4 Audit Firms. This may be related to the level of perceived audit firm quality being associated with Audit Firm Size (in terms of the Big-4 audit brand names) by quoted companies in Nigeria. This result agrees with the findings of previous studies (DeAngelo, 1981; Copley, 1991; Clarkson & Simunic,

1994; Becker, et al, 1998; Bauwhede et al, 2000; Zhou & Elder, 2001; Krishnan, 2003). Other prior studies agree on audit quality as a function of audit firm size and demonstrate that larger audit firms possess greater capacity to constrain and minimise earnings management (Palmrose, 1988; Deis & Giroux, 1992; Francis & Krishnan, 1999; Krishnan & Schauer, 2000; Kim, Chung & Firth, 2003). The results show a considerable cluster of audit firm choice around the Big-4 audit brand names.

The mean value of CBEM (305.3242) along with the standard deviation (67688.19) indicates a large presence of 'Cash – Based Earnings' manipulations by the companies in the sample. This result is a probable validation of the evidence in the USA by Graham et al (2005) and Cohen et al (2008) that accrual –based earnings management is more likely to draw audit and regulatory scrutiny than real cash flow based decisions. Hence, corporate managers are apt to shift from discretionary accrual management to cash – based earnings management in the post Sarbanes – Oxley Act (SOX) period. This situation appears to be ostensibly replicated in Nigeria, perhaps because of the effects of globalization of World accounting and economic policies and an anticipation of the adoption of SOX, IFRSs and similar codes of best practices, the apparent partial presence of which is indicated by the promulgation of Financial Reporting Council of Nigeria Act, 2011.

Audit Firm Size is observed to impact significantly (p=0.000) on cash – based earnings management with a negative slope coefficient (-46344.9) while Audit Fees impacts significantly (0.001) on cash – based earnings management with a negative slope coefficient (-8126.98). These results provide strong evidence to reject the null hypothesis ($H_0 1$) and accept the alternative hypothesis of a significant negative relationship between audit firm size and cash – based earnings management activities of quoted companies in Nigeria.

The results imply that when audit quality is high cash – based management activities will be minimized. However, since there are no codes of best practice to provide sanction when cash - based earnings management is detected by the Auditor; there is a propensity for corporate managers to shift away from managing discretionary accruals to engaging more in cash – based earnings management activities, resulting in associated increase in cash - based earnings management. This probably accounts for the dominant (heavy) presence of cash - based earnings management among the companies in our sample. This finding corroborates the findings in USA by Graham et al (2005) and Cohen et al (2008).

The market perceives audit firm size (Big-4 audit) to be of higher quality than others and rewards (punishes) companies with larger improvements or falls in share prices accordingly (Teoh & Wong, 1993; Krishnan & Yang, 1999; Menon & Williams, 1994). Empirical evidence (Teoh & Wong, 1993; Krisnan & Yang, 1999) provides that audit quality measured in terms of auditors' brand names (Big-4 and non-Big-4) is positively associated with the client's quality of earnings and therefore the earnings response coefficient of companies. This study posits that audit quality constrains earnings management by reducing the impact information asymmetry on share prices of quoted companies in Nigeria.

SUMMARY OF FINDINGS

The summary of findings of this study is based on results of both the descriptive statistics and the various tests conducted on the OLS multiple regression models. The summary of findings is as follows:

1. The results of the tests conducted provide extensive evidence of a significant relationship between audit Firm Size and Cash - based Earnings Management of quoted companies in Nigeria;
2. The result of descriptive statistics also reveals a dominant presence of 'Cash – Based Earnings' Management by the companies in the sample, and that majority of the companies in the sample were audited by the Big-4 Audit Firms which is a possible reflection of the level of perceived audit firm quality being associated with Audit Firm Size (in terms of the Big-4 audit brand names) by quoted companies in Nigeria;

POLICY IMPLICATIONS OF FINDINGS

The reported results and findings of this study present obvious implication for regulators such as the Securities and Exchange Commission in its supervisory position to distinguish between legitimacy, outright fraudulent reporting and earnings statements that reflect the desires of management rather than the underlying performance of the company and to impose appropriate disciplinary penalties on offenders. A rather overriding presence of CBEM among all the companies in the sample imply that managers are induced to shift from accrual – based earnings management to cash – based earnings activities in order to avoid legally required detection of discretionary accruals manipulations. Cash - based earnings management by implication, have probably become a 'comfortable zone' for opportunistic behaviours of corporate managers during the post US SOX period (Graham et al, 2005; Cohen et al, 2008), consequent upon the highly publicized accounting scandals (Badawi, 2005, 2008; Enofe, 2010), a situation which this study shows to be replicated in Nigeria.

RECOMMENDATIONS

This study recommends that:

1. The management of quoted companies in Nigeria should, as a legal mandate, provide a "statement of the quality of its earnings" arrived at using acceptable and uniform criteria and make assertions that the earnings of the company have not been manipulated (managed) during the period. Management should be responsible for making an assertion about the company's quality of earnings, *vis–a–vis* the presently required financial statement assertions.
2. The auditors of quoted companies in Nigeria should conduct Earnings Quality Assessment (EQA) using earnings management detection metrics and various techniques enumerated in this study and issue "Integrated Audit Reports" which will include EQA reports and Internal Control Reports in addition to normal annual audit reports. The conduct and completion of the EQA should be a legislative mandate while the auditors should be held responsible for EQA report they issue.
3. Attention should also be focused on companies' attempts to smooth or increase earnings to beautify its attractions in the stock market through unnecessary manipulation of cash – based economic activities. Companies can only be permitted to generate quality income via sales growth and cost control activities that present rather predictable earnings from sales and cost reductions make the company's income as qualitative attractive to investors.
4. In order to enhance high Audit Quality and minimize Earnings Management, Companies in Nigeria should adapt to or engage in an outright adoption of currently available best practices, codes, standards, frameworks and guidelines accompanied by statutorily backed earnings scrutiny of companies in Nigeria.

CONTRIBUTIONS TO KNOWLEDGE

This study adds to existing evidences concerning the association between audit firm size and cash – based earnings management of companies. Therefore, this study contributes to knowledge by providing significant basis for developing a uniform and consistent model for earnings quality by relating audit firm size to cash – based earnings management of companies in Nigeria as a recognized metric for handling the fragilities of GAAP and for considering issues that can potentially shape future earnings yet are not overtly disclosed in financial reports.

SUGGESTIONS FOR FURTHER STUDIES

Further studies should focus on quoted companies in the financial services sector as the non-inclusion of financial institutions in this study is a major constraint to the generalization of the findings of this study to all the quoted companies in Nigeria. Unquoted companies in Nigeria and other businesses located within the informal sector should also be studied since the financial data for such firms also need to be evaluated in order to be able to make general policies that will favourably affect such institutions and consequently the entire economy.

CONCLUSION

This study has examined and documented evidences that are consistent with the association and effects which audit firm size exerts on cash – based earnings management of companies quoted on the Nigerian Stock Exchange. Based on a sample of 342 companies – year observations from the NSE for the fiscal years, 2006 to 2011, and using audit firm size after controlling for the effects of audit fees and other exogenous variables together for purpose of robustness, a comprehensive multivariate analysis was conducted. The result showed that audit firm size exerts significant negative relationship with real cash – based earnings management and substantially mininizes the in cash – based earnings manipulations by quoted companies in Nigeria.

In arriving at the above conclusions, quoted financial institutions, unquoted companies and other firms located within the informal sector of the Nigerian economy were ignored; the sample covered six years data drawn from annual reports of sampled companies. The effects of inflation on figures related to financial statements and the estimation of cash - based operating activity manipulations of quoted companies in Nigeria were also neglected.

The reported results and findings of this study present obvious implication for regulators such as the Securities and Exchange Commission, the professional accountancy bodies, the Financial Reporting Council of Nigeria, the National Assembly, etc. in their supervisory responsibilities to distinguish between legitimacy, outright fraudulent reporting and earnings statements that reflect the desires of management rather than the underlying performance of the company and to impose appropriate disciplinary sanctions on offenders.

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