EFFECT OF FIRM CHARACTERISTICS ON FINANCIAL REPORTING QUALITY OF LISTED FOOD AND BEVERAGES FIRMS IN NIGERIA

BY

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A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY ZARIA, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE (M. Sc.) DEGREE IN ACCOUNTING AND FINANCE

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DECLARATION

I declare that the work in this Thesis entitled “Effect of Firm Characteristics on Financial Reporting Quality of Listed Food and Beverages Firms in Nigeria” has been performed by me in the Department of Accounting. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this thesis was previously presented for another degree or diploma at this or any other institution.

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CERTIFICATION

This Thesis entitled "Effect of Firm Characteristics on Financial Reporting Quality of Listed Food and Beverages Firms in Nigeria" by SANUSI Junaid Hauwa meets the regulations governing the award of the degree of Master of Science (M.Sc.) in Accounting and Finance of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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ABSTRACT

Financial reporting is a hub of capital market as accounting information remain the most vital variable being used by the users of accounting information for their various decisions. Although financial reports are prepared based on accounting concepts, conventions and standards, the quality of the reports is adversely affected by the judgment and discretion of those responsible for the preparation and presentation of the financial statements (Mangers). Quality in this regard connotes the absence of purposive intervention in the financial reporting process by the management. This study examined the determinants of financial reporting quality of food and beverages firms in Nigeria. The study employed correlation research design in a sample of 16 firms for a period of seven years (2009-2015). Secondary data from the annual reports and accounts of the sample firms was used. Robust Ordinary Least Squares (OLS) regression technique of data analysis was used in the analysis, and the study found after controlling for corporate governance (board composition) that leverage, firm performance and firm size have significant negative effect on the financial reporting quality of the firms. The results also show that firm growth and has aninsignificant positive effect on the financial reporting quality during the period of the study. However, the findings indicated that assets tangibility has a significant positive effect on the financial reporting quality. The study recommends that the regulators, auditors and financial analysts should take into account firm size, firm growth and tangible assets when making decision to address the problem of earnings management in the listed food and beverages firms in Nigeria. The study also recommends that managers of the food and beverages firms in Nigeria should subscribe to the best corporate governance practices and ethical standards in discharging their duties and responsibilities, so as to enhance and improve the quality of financial reports and capital markets decisions.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The prime role of accounting and accountants in any economy is to summarize, classify and report the economic activities of an economic entity. That is, financial reporting is the output of the existing accounting system, and decisions and judgments of those responsible for the preparation and presentation of the financial statements. Financial reporting is therefore expected to provide information about a firm's financial performance and position during a period, and about how management of a firm has discharged its stewardship responsibility to owners (Financial Accounting Standard Board, 2008; International Accounting Standard Board, 2008). The main objective of financial reports according to IASB (2008) is to provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions. FASB added that the information provided by financial reports should be comprehensible to those who have a reasonable understanding of business and economic activities and are willing to study the information with reasonable diligence.

FASB concludes that the primary focus of financial reporting is information about earnings and its components. On the other the IASB framework for the preparation and presentation of financial statements required information about enterprise earnings to be based on accrual accounting. According to the framework, earnings based on accrual accounting generally provides a better indication of a firm's present and continuing ability to generate favourable cash flows than information limited to the financial effects of cash receipts and payments. Consequently, to achieve the objective of financial reporting, the framework sets qualitative characteristics of useful financial information.

The qualitative characteristics of accounting information are attributes that provide a basis upon which an enterprise financial statements will be regarded most useful to users in making decisions on the basis if information in the financial report. However, financial information is useful when it is relevant and represent faithfully what it purports to represent (IFRS framework, 2010). The framework further elaborate that the usefulness of financial information is enhanced if it is comparable, verifiable, timely and understandable. Moreover, for accounting information to be of quality, it must represent faithfully the transactions and events it purports to represent. And, this cover completeness, neutrality and freedom from error; on the other hand, the information should be adequately classified and clearly presented to be understandable. In essence the framework concludes that any complexity and ambiguity in the financial reporting process would make financial reports incomplete and potentially misleading, and as such of low or poor quality.

However, in the light of the above, financial reporting quality can be regarded as that financial report that is useful to users, that is complete, neutral and free from errors and misstatements. Quality in this regard connotes the absence of intentional or purposive error and misleading information in the financial report. It is on this strength that capital market accounting researchers and regulators in the last decade focus on the financial reporting quality. For instance, He, Labelle, Piot and Thornton (2009) while commenting on the relevance of financial reporting quality to capital markets and the entire economy laments that financial reporting quality is the mainstay of modern capital markets. They Quoted Arthur Levitt where he stated that higher quality financial reporting viz-a-viz high quality accounting standards improve liquidity and reduce capital cost. He claimed that quality accounting information is the lifeblood of strong, vibrant capital markets, without which fair and efficient markets cease to exist. In view of this and the recent financial scandals in different jurisdictions, researchers and regulators agreed that there are factors that reduces the quality of financial reporting, thus prompted researches on the determinations of financial reporting quality (He *et al*., 2009).

Accounts manipulations also known as earnings management, income smoothing, financial engineering, creative accounting and window dressing is identified as the main factor responsible for the low or poor financial reporting quality in recent times (Melis, 2007; Amat & Gowthorpe 2004; Enomoto, Kimura, & Yamaguchi 2013; He et al., 2009). Earnings management occurs when managers use judgment in financial reporting and in structuring transaction to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting practices (Healy & Wahlen, 1999). Due to the inherent flexibility in accounting standards and the accrual accounting system, earnings management is achieved either by the change in the accrual (accrual-based earnings management) or by deviating from normal business activity (real earnings management) (Enomoto et al., 2013). In another view, Bello (2010) defines earnings management as any deliberate attempt to arrive at a desired level of earnings using different means.

Earnings quality on the other hand, is the degree to which reported earnings capture economic reality, in order to appropriately assess a firm's financial performance (Krishnan and Parsons, 2008). Looking at earnings as the central function of accounting and as the measure of the direction of an entity and decision base by different users, Bello regarded earnings management through whatever means unethical practice and erode the quality of financial reporting.

Therefore, quality financial reporting is associated with the levels and extent of earnings management or the quality of reported accounting earnings. McNichols and Stubben (2008) explained further that, because earning management complicates equity valuation as it conceals the firm actual performance and marks underlying trends in revenue and earnings growth that help to build expectation of future growth and product demand. However, Wysocki (2004) opined that earning management is determined by the factors related to the management and the firm itself, in addition to other institutional factors such as laws, market mechanisms and regulation. This according to Shehu (2012) is consistent with the notion of quality financial reporting, in that the quality of financial reporting promotes transparency and deliver high quality annual report through comprehensive disclosure. Generally, researches and debates on the quality of financial reporting and its determinants heightened due to the series of accounting scandals in the early 2000s (Hermanns, 2007).

Prior empirical studies investigating financial reporting quality focused on firm attributes that are influencing quality of financial reports (such as earnings management) (Cohen et al., 2004; Barth et al., 2008). Firm characteristics such as size, profitability, leverage, listing status in most of empirical studies are hypothesized as the determinants of financial reporting quality (Oyelere, Laswad, & Fisher 2000). Moreover, Shehu (2012) and Shehu and Bello (2013) stated that are there several firm characteristic that differ systematically across firms. These characteristics according to them include structure (firm size, leverage), monitoring characteristic (institutional shareholding and board composition), and performance characteristics (profitability, liquidity and firm growth). In this regards, kim, Liu and Rhee (2003) report that firm size plays differing roles in earnings management, their empirical evidence reveal that small firms engage in more earnings management than large-or medium-sized firms to avoid reporting losses. They also document that large-and medium-sized firms exhibit more aggressive earnings management to avoid reporting earnings decreases than small-size firms.

Moreover, Defond and Jiambalvo (1991) Opined that firms engaging in earnings management are often less profitable, while Callen et al., (2002) add that firms engaging in earnings management practices have higher leverage than their industry average and lower growth rate. In essence, empirical studied on financial reporting quality assumed that the degree of earnings management will depend on the operating performance of a firm (Shehu & Bello, 2013). They further lament that managers manipulate earnings when it is unusually high; on the other hand, when the operating performance is extremely poor some managers usually apply “Big Bath Accounting”. Other determinants of financial reporting quality of a firm as revealed in the literature include asset tangibility, intangibility and growth. Earnings management which is easily perpetrated through accruals is more pronounced where tangible fixed assets are large, as this implies higher accruals from depreciations and other subjective management judgments applicable to tangible assets, which have direct link with accounting earnings. On the other, intangibles based on their accruals nature are also associated with an increase with the level of manipulations which erode the quality of earnings (Skinner, 2007).

This study in the light of the foregoing paragraphs investigates the determinants of financial reporting quality of listed food and beverages firms in Nigeria. Food and beverages companies are a subset of consumer goods sectors of the Nigerian economy with an average market capitalization of N2.62 trillion (NSE Fact-Sheet, 2015). Thus, the sector has received a large portion of investment from Nigerian individuals and corporate institutions which makes it logical to evaluate the characteristics of the firms in relation to the financial reporting quality. The study is therefore motivated by the need of quality accounting information in the capital market for informed economic decisions; and by the recurrent accounting scandal which involved earnings management in different parts of the world including Nigeria. Therefore the study will empirically test the effect of some firm characteristics on the financial reporting quality of the food and beverages companies operating in Nigeria.

1.2 Statement of the Problem

The sudden collapse of large corporate entities in the last two decades, which are linked with accounting scandals at Microstrategy, Waste Management Inc., WorldCom, Informix, Sunbeam Corp., Cendant Corp., Mckesson HBO, Rite-Aid, Enron, Cadbury, and Oceanic bank, has captured the attention of all the stakeholders, especially regulators and investors (Felo, Krishnamurthy & Solieri, 2003). This has also weakened the confidence of potential and existing investors in the corporate governance and the financial reports (Biddle, Hilary & Verdi, 2009). It also prompted the search for the factors responsible for a reliable and high financial reporting quality around the globe.

This study is an effort towards that, and it intends to focus on the population of listed food and beverages firms or consumer goods firms in Nigeria. This population is chosen because an analysis of their financial statements reveals a very large volume of credit/non-cash transactions which implied high levels of accruals, thus making them susceptible to earnings management or high managerial discretion which erodes the quality of financial reporting.

Accounting standards, institutional structures and laws, and corporate governance are presence within the Nigerian accounting system, it is not clear how the differing firm characteristics determine the quality of listed food and beverages companies in Nigeria. This therefore necessitated the need of a logical empirical study linking firms' characteristics and financial reporting quality.

Though there are existing studies on the determinants of financial reporting quality around the world, few studies examined this phenomenon in Nigeria. The study of financial reporting in Nigeria was first conducted by World Bank Group in 2004. The group lamented from their study that the Nigerian financial reporting practices are deficient. Other studies in this area include Wallace Naser and Mora (1994), Okike (2000), Adeyemi (2006) and Ofoegbu and Okoye (2006), Shehu (2012) and Shehu and Bello (2013).

Though all these studies focused on the financial reporting practices by Nigeria listed companies, this study is unique in that it introduces variables (assets tangibility and assets intangibility) that are not been previously examined by the previous researches. Moreover, a methodological gap is also discovered by this study, that is all the studies with the exception of Shehu (2012) and Shehu and Bello (2013) used accruals levels and disclosure indices to proxy financial reporting practices. This methodology is deficient due to its lack of practical relation with the accounting system that the financial reporting originated. Although the study by Shehu (2012) and Shehu and Bello (2013) is well and adequately design, and thorough in coverage, the model used in measuring the financial reporting quality (Dechow & Dichev, 2002) is deficient for its reliance on short-term or working capital accruals. These accruals do not take into consideration long-term accruals which are very vital to managers in committing earnings management.

In essence, this pointed out a specification and methodological gap for this current study to fill. However, in line with the problem identified with regard the determinants of financial reporting quality in the Nigerian context, the study put the following questions forward; how does firm size affects financial reporting quality of listed food and beverages firms in Nigeria? What is the effect of firm leverage on the financial reporting quality of listed food and beverages firms in Nigeria? To what extent firms' performances affect the quality of financial reporting quality of listed food and beverages firms in Nigeria? What is the effect of assets tangibility on the financial reporting quality of listed food and beverages firms in Nigeria? How does firm growth affect the quality of financial reporting of listed food and beverages firms in Nigeria?

1.3 Objectives of the Study

The main objective of this study is to examine the determinants of Financial Reporting Quality of listed Food and Beverages Firms in Nigeria. The specific objectives are:

i. To assess the effect of leverage on the Financial Reporting Quality of Listed Food and Beverages firms in Nigeria.
ii. To examine the effect of firm size on the Financial Reporting Quality of Listed Food and Beverages firms in Nigeria.
iii. To examine the effect of tangibility on the Financial Reporting Quality of Listed Food and Beverages firms in Nigeria.
iv. To examine the effect of firm performance on the Financial Reporting Quality of Listed Food and Beverages firms in Nigeria.
v. To investigate the effect of firm growth on the Financial Reporting Quality of Listed Food and Beverages firms in Nigeria.

1.4 Hypotheses of the Study

In line with the problem and objectives of this study, the following hypotheses are formulated in null form to guide the study;

H_{01}: Leverage has no significant effect on the Financial Reporting Quality of Listed Food and Beverages firms in Nigeria

H_{02}: Firm Size has no significant effect on the Financial Reporting Quality of Listed Food and Beverages firms in Nigeria

H_{03}: Tangibility has no significant effect on the Financial Reporting Quality of Listed Food and Beverages firms in Nigeria

H_{04}: Firm Performance has no significant effect on the Financial Reporting Quality of Listed Food and Beverages firms in Nigeria

H_{05}: Firm Growth has no significant effect on the Financial Reporting Quality of Listed Food and Beverages firms in Nigeria

1.5 Scope of the Study

This study focuses on the determinants of financial reporting quality of food and beverages firms listed on the floor of Nigerian stock exchange market as at 31st December, 2015. The study is therefore restricted to the following determinants firm size, firm leverage, firm growth, assets tangibility, and firm performance. The financial reporting quality in the context of this study refers to the earnings quality which is proxy by the residual (Discretionary accruals) of accruals Modified Jones model By Kothari *et al* (2001).The study will cover a period of seven years (2009-2015). This period is considered due to the prevalence of structural changes in the food and beverages sector.

1.6 Significance of the Study

This study is significant in highlighting the crucial issue 'Financial Reporting Quality' in accounting among the regulators and the academia. This together with the current growing need of credible and quality financial reporting in recent times makes this study significant and a necessity. The findings from this study is expected to be useful to existing and potential shareholders, Creditors, Financial Reporting Council of Nigeria (FRC), Managers, Researchers and Regulators. Standard setters, such as IFRC and FRC could find this work useful as a reference point for improving standards on financial reporting quality. Similarly, the Securities and Exchange Commission (SEC) will make use of the findings from the study to know the extent of financial reporting quality of listed food and beverages firms, so that regulations to enhance and improve their operations should be provided.

Shareholders and Creditors could also benefit from this study in terms of understanding the effect of firm specific attributes on the quality of financial reports , so as to improve their rational decision making as far as investments in food and beverages firms is concerned. Managers of the listed food and beverages firms in Nigeria could also find this study useful by identifying the effect of the level of their discretionary decisions on the financial reporting quality. They could also identify their firms' fundamental determinants of the financial reporting quality, so as to lend more attention to them.

Last but not the least, researchers would also benefits in that the findings could provide empirical evidences about how firms' attributes affects the quality of disclosure, and this make them part of the beneficiaries from this study. Moreover, it will serve as a basis for developing more studies and a source of knowledge.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covers the review of existing relevant literature on financial reporting quality and the determinants of financial reporting quality. It begins with presenting the review of literature on the concept of financial reporting quality, and then the measures and determinants of financial reporting quality. It also reviews and presents empirical studies on the determinants of financial reporting quality and the theoretical framework of the study.

2.2 The Concept of Financial Reporting Quality

Financial reporting is generally design to provide information about financial position, performance and changes in financial position of a business enterprise that is relevant to different users in making economic decisions. Therefore, the issue of the quality of financial reporting has been receiving greater attention, particularly during the recent accounting scandals. However, despite the increased attention, the concept financial reporting quality which is also known as accounting quality is vague and difficult to define (Isabel & Dias, 2008). Similarly, although the objective of IASB is to develop, a uniform set of high quality accounting standards which could produce high quality financial reporting, IASB did not conceptualize term financial reporting quality.

However, researchers have provided different definitions of financial reporting quality. According to Penman (2002) financial reporting or accounting quality should be discussed in terms of owners' interests and the fair valuation of those interests. His notion of accounting quality is based on the usefulness of accounting information for the shareholders, in which financial reporting is assumed to promote shareholders' interest and consider the public interest. In this context, Penman considers that earnings quality is an important feature of financial reporting since investors buy future earnings. But despite the importance of earnings for stakeholders, the concept of earnings quality has different interpretations. While some researchers relate earnings quality to the accurate representation of underlying economic transactions and events, some authors' interpretation focuses on persistence of earnings, where earnings of higher quality are sustainable and persist into the future. Generally, financial reporting quality is a representative of an entity's actual transactions (free from intentional and unintentional errors and misstatements) that is capable of facilitative economic decisions of the owners and the general public.

In view of the above, several researches adopts different measures of financial reporting quality, such as earnings management (earnings quality), timely loss recognition and value relevance to conceptualize the term (Barth, Landsman & Lang, 2005). This study use earnings quality (that is the extent of earnings management in the financial reporting) as proxy of financial reporting quality. Earnings quality is defined by Cohen (2003) as the degree to which accounting figures more accurately represent the underlying economic fundamentals of the firm and the extent to which they map into operating cash flow realizations. In the words of Schipper and Vicent (2003) earnings quality is the extent to which reported earnings faithfully represent Hicksian income (maximum amount that can be consumed consistent with the maintenance of wealth).

Consistent with Cohen (2003), Chan et al., (2004) define earnings quality as the degree to which reported income reflects operating fundamentals. In an effort to conceptualize financial reporting quality, Yee (2006) opined that earnings quality has two guises, one as a fundamental attribute, and two as a financial reporting attribute. Fundamental earnings are the accounting profitability measure that gauges a firm's ability to make future dividend payments. Reported earnings are the imperfect signal of the fundamental earnings a firm announces. Earnings quality therefore refers to how quickly and precisely reported earnings reveal fundamental earnings.

Similarly, Kirschenheiter and Melumad (2004) consider high quality earnings as earnings that are more informative and closer to the long run value of the firm. This support the conceptualization of Revsine et al., (1999) that, earnings are of higher quality when they are sustainable. Penman and Zhang (2002) added that high quality earnings are sustainable earnings, which are a good indicator of future earnings. Penman and Zhang (2002) also link earnings quality with conservatism. In the same vein, White, Sondhi and Fried (2003) define earnings quality as the degree of conservatism in a firm's reported earnings. In another effort, McNichols (2002) see earnings quality or accruals quality as earnings that accurately represent the economic implications of underlying transactions; that is, the proportion of earnings relative to operating cash flows. According to her conceptualization, higher levels of cash components of earnings mean higher quality of earnings and the financial reporting quality.

However, the concept of financial reporting quality or earnings quality is synonymous with the concept of earnings management, in that degree or level of earnings management spells the level of the financial reporting quality. Earnings management according to Bello (2010) is any attempt to cooked/doctored or tailored financial accounting reports to a given desired level. He regarded earnings management as ethical misconduct of accountants and relates it to the recent times corporate failures and loss of investors' confidence on both financial reports and auditors.

Accounting literature devices many measures of earnings quality, however, Kaplan (1985) argues that 'normal' accruals arising in the ordinary course of business are unlikely to reflect managerial manipulations, and any manipulation of accounting number will most likely manifest in 'abnormal or discretionary' accruals. Thus, the large portion of abnormal accruals is an indication of higher earnings management and poor or low quality of earnings. Discretionary accruals can be income increasing (positive) or income-decreasing (negative).

The concept of financial reporting quality in the context of this research refers to earnings quality, that is, earnings with less errors and managerial manipulations. However, there is need to present a review of motives behind earnings management and the possible avenues of committing earnings management.

2.2.1 Motivations for Earnings Management

The issue of earnings management is not a new concept in the most advanced economies, this make a quiet number of studies to examine the issue of management motivation towards earnings management practices. For instance earlier researchers like Hepworth (1953) documented some factors considered as motivations for earnings management; these factors include the existence of tax levies based on income, confidence by shareholders and workers in management that is able to report stable earnings and psychological expectations relating to increases or decreases in anticipated income (Amat & Gowporthe, 2004).

Herrmann and Inoue (1996) and Niskanen and Keloharju (2000) found taxation as a significant motivator for earnings management and the later found similar evidence in Japan. Accounting conservatism is also reporting as a motivator in countries with highly conservative accounting systems from the evidence of income smoothing effect, as a result of the high level of provisions that accumulate. Executive compensation is also regarded as a motivator for earnings management, Healy (1985) provides evidence where managers' earnings manipulations motives are examined using executive compensation and income measurement. In the same vein, Trueman and Titman (1988) discuss managers' motivations to reduce the perception of variability in underlying economic earnings of the firm Capital market expectation is also reported as a management motivator by Beidleman (1973), where he observes the positive effects of income smoothing on expectations, securities valuation and some element of risk reduction for analysts.

Other motivations for earnings management according to Healy and Wahlen (1999) include those provided when significant capital market transactions are anticipated, and when there is a gap between the actual performance of the firm and analysts' expectations. A variant on income smoothing is to manipulate profit to tie in to forecasts. Fox (1997) reports on how accounting policies in some companies are designed, within the normal accounting rules, to match reported earnings to profit forecasts. When these companies sell products a large part of the profit is deferred to future years to cover potential upgrade and customer support costs. This perfectly respectable, and highly conservative, accounting policy means that future earnings are easy to predict.

Company directors may keep an income-boosting accounting policy change in hand to distract attention from unwelcome news. Collingwood (1991) reports on how a change in accounting method boosted a company's quarterly profit figure, by a happy coincidence distracting attention from the company slipping back from being the largest company in the industry in the USA to the number two slot.

Kamin and Ronen (1978) observe a difference in motivation between managers in owner-controlled and management-controlled firms. Owners who wish to retain control of a sizeable stake and who are therefore not interested in immediate exit strategies are less likely to be motivated to manage earnings. Another set of reasons for creative accounting, which applies to all companies, arises because companies are subject to various forms of contractual rights, obligations and constraints based on the amounts reported in the accounts (Amat & Gowporthe, 2004). However, the analysis of earnings management by Amat and Gowporthe, (2004) revealed six potential areas for earnings management, which include regulatory flexibility, a dearth of regulation, a scope for managerial judgment in respect of assumptions about the future, the timing of some transactions, the use of artificial transactions and finally the reclassification and presentation of financial numbers.

2.3 Financial Reporting Quality and its Measures

Financial reporting quality is usually regarded as an unobservable construct, and as such is measured using earnings quality through discretionary accruals and other properties of accounting earnings. Based on the classification by Dechow, et al., (2010) financial reporting quality measures are categorized into three main categories, these include properties of earnings, investor responsiveness to earnings, and external indicators of earnings misstatements. Properties of earnings deals with the earnings persistence and accruals; earnings smoothness; asymmetric timeliness and timely loss recognition; and target beating, which implied that the distance of earnings from a target (e.g., small profits) is viewed as an indication of earnings management, and earnings management assumed to destroy financial reporting quality.

The next category of financial reporting quality measure is investor responsiveness to earnings, it 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. External indicators of earnings misstatements on the other hand 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.

However, Penman (2001) proposes a model of measuring earnings quality which is on the assumption of persistence, by the use of discretionary accruals. The model estimates quality of earnings by comparing the ratios of cash flow from operation to income, the closer the ratio of operating cash flow the higher the quality of earnings. Alternatively, earnings are of high quality as the earnings closeness to cash increases, and thus, an earnings stream that is predictor of future operating cash flow is of high quality. In a similar effort Lipe (1990) explain another measure of earnings quality, predictability, that is, the ability of past earnings to predict future earnings. This model assumes any alteration in reported earnings streams make predictions of future earnings undesirable because of the bias in the quality of the earnings.

Earnings persistence is also considered as a measure of financial reporting quality. Persistent earnings also referred to as sustainable earnings is seen by Penman and Zhang (2002) as the ability of earnings before extraordinary items to be indicator of future earnings. Richardson *et al.,* (2004) define earnings persistence as the degree to which earnings performance persists into the next periods. The assumption underlying earnings persistence is that, more persistent earnings will yield better input to equity valuation models and hence a more persistent earnings number is of higher quality than a less persistent earning number (Dechow *et al*., 2010). Consistent with this assumption, they estimate earnings persistence by regressing future earnings on current earnings and infer that a higher coefficient of current earnings implies a more persistent earnings stream.

Richardson *et al.,* (2004) further lament the rationale behind earnings persistence as a quality proxy, that is, if firm 'A' has a more persistent earnings stream than firm 'B', in perpetuity, then, in firm 'A', current earnings is a more useful summary measure of future performance; and annuitizing current earnings in firm 'A' will give smaller valuation errors than annuitizing current earnings in firm 'B' (Dechow et al, 2010). They add that, this higher earning persistent is of higher quality when the earnings are also value-relevance.

Earnings smoothing is also regarded as a measure of financial reporting quality, although earnings smoothing is seen by Ewart and Wagenhofer (2010) as a favourable or an unfavourable earnings attribute, they relate smoothing as the opposite of volatility. From favourable perspective that is, non opportunistic, a smoother earnings is less volatile (low risk) and suitable for forecasting. Thus, smoother earnings are indicative of higher earnings quality. From unfavourable perspective or opportunistic, smoothness is considered as reducing the information content in earnings and mask the firm's "true" performance. Under this notion, managers can use their private information to smooth out nonrecurring effects in financial statements. Under this view, smoothness is a measure for earnings management, and if earnings management is considered undesirable, smoother earnings are associated with lower earnings quality. Dechow *et al.* (2010) further state that, accruals that lead to smoothness can hide or delay the measurement of changes in fundamental performance, which presumably would be decision useful if revealed. They conclude that smoothness is not in fact an indication of greater decision usefulness or higher financial reporting quality. Earnings smoothing is measured using the ratio of the standard deviation of earnings and the standard deviation of operating cash flow, a lower ratio indicates more smoothing of the earnings and low earnings quality (Ewart & Wagenhofer 2010; Dechow *et al.*, 2010).

From a different perspective, smoothness implies a negative correlation between changes in accounting accruals and the changes in operating cash flows. As such a significant negative correlation indicates greater smoothness (Ewart & Wagenhofer, 2010). They employed correlation between the changes in discretionary accruals and the changes in pre-discretionary income to measure earnings smoothness. On the other hand, Tucker and Zarowin (2006), Dechow *et al.,* (2010), state that smoothing earnings and cash have an effect on earnings persistence and earnings informativeness; and hence, smoothing lead to a less timely and less informative earnings number. However, the most widely used measure of financial reporting quality is Jones (1991) Model and its modifications.

2.3.1 Jones Accruals Model and Its Modifications

The Jones Model is designed to separate the two components of accruals (normal and abnormal or discretionary). Jones (1991) explains working capital accruals and depreciation as a function of sales growth and plant, property and equipment. The explanatory power of the Jones model is low, explaining only about 10% of the variation in accruals. Consistent with the assumption that the residual represents greater discretion, the discretionary component is assumed to represent accruals that are estimated by the managers; and hence suffered from errors and managerial opportunistic behaviour. In essence, higher levels of accruals that are not associated with the firm's fundamental earnings process are interpreted as low quality earnings and poor financial reporting quality. However, there are some studies which raise questions regarding the validity of the modified Jones model (such as Kothari *et al*. 2005; Collins & Hribar 2002).

For instance, Xie (2001) found that the residuals from the Jones model have lower predictive ability for year-ahead earnings than the normal accruals. The study by Dechow, Sloan, and Sweeney (1995) modify the Jones model to adjust for growth in credit sales. Credit sales are frequently manipulated, thus this modification increases the power of the Jones' model to yield a residual that is uncorrelated with non-discretionary revenue accruals and better reflects revenue manipulation. This however left the modified Jones model variants and adaptations, like DeFond and Subramanyam (1998) who estimate the Jones model regression by industry rather than by firm to lessen firm-year requirements. Chambers (1999) on the other hand added lagged accruals to the model to capture predictable reversals. Dechow, Richardson, and Tuna (2003) estimate the normal relation between credit sales and total sales to control for nondiscretionary credit sales, they also add future sales growth to capture accruals made in anticipation of future growth. However, this model suffers from the same performance related problems as described above for the Jones model.

In view of this, Holthausen, Larcker and Sloan (1995) and Leone, Kothari, and Wasley (2005) proposed ways to address the issue about the correlation between performance and the residuals from the Jones model and modified Jones model. They both suggested controlling for the normal level of accruals conditional on return on assets. Yoon *et al.*, (2012) investigate the validity of the estimation models of discretionary accruals with particular reference to the misspecification problems of the Jones model and its modification. Yoon et al., proposes two alternatives models due to their superiority based on financial-structure as opposed to industry. The study was based on the earnings management requirement of separating discretionary accruals from total accruals that an improper separation of discretionary components of accruals will lead to improper inferences. If nondiscretionary components are treated as discretionary or vice versa, it will be hard to discern the degree of earnings management appropriately (Yoon *et al*., 2012).

In adjusting the Jones model, Yoon *et al.*, (2012) examined how financial structures (or asset/liability composition) affect earnings management practices. They specifically investigate how current assets (like accounts receivable, inventory, and others), noncurrent assets (like plant assets and intangible assets), current liabilities, and noncurrent liabilities are related to earnings management. The assumption that earnings management may be related to financial structures is based on the notion that current assets/liabilities will be more strongly related to current accruals than to noncurrent accruals. Likewise, noncurrent assets/liabilities will be more related to noncurrent accruals than to current accruals. Their model construct is based on the assumption of the notion that noncurrent assets will be negatively related to noncurrent accruals primarily due to depreciation and amortization expenses, and that no particular relationship can be predicted between current assets/liabilities and current accruals. They emphasized that current accruals and noncurrent accruals may be related to each other in an offsetting way, thereby resulting in no noticeable impact on total accruals. In other words, even if current accruals and noncurrent accruals are managed, total accruals may look like that they are not managed.

Emanating from the foregoing discussion, Yoon *et al*., (2012) decompose total accruals into current accruals and noncurrent accruals, and then, they try to derive a statistical model and standardize the model to control for heteroscedasticity by beginning total assets. They used changes in cash-accompanying revenues as a proxy for current accruals and lagged property, plant and equipment as a proxy for noncurrent accruals in the model. As a plausible alternative, Yoon *et al*., proposed two proxies for current accruals: changes in sales and changes in net receivables. This is based on the presumption that changes in sales will control for changes in operating activities and that the current accruals will be proportionately related. And, changes in net receivables represent changes in accounts receivable less changes in accounts payable. The justification for this proxy according to them was based on the asset/liability management concept. It is known that firms typically manage assets and liabilities together for risk management purposes when they are related.

Lastly, the modification process though used plant, property and equipment as a proxy for noncurrent accrual it may fall short of sufficiently reflecting the characteristics of noncurrent accruals. An additional variable is added, which is the level of intangible assets since the significance of intangible assets normatively should increase for the information and knowledge-prone modern business environments (Yoon *et al*., 2012). They further stressed that this is another example of an industry effect that can be affected by the individual firm's point in the entity life cycle and hence, the consideration of the level of intangible assets in the model.

2.4 Review of Empirical Studies on the Determinants of Financial Reporting Quality

Empirical studies on financial reporting quality have revealed conflicting results, and hence inconclusive. For example, Singhvi and Desai (1971) the study of financial reporting quality or disclosure quality was firstly conducted by Cerf in 1961, who constructed disclosure index by specifying and weighing some related items which appeared in annual reports. Cerf (1961) reported that the disclosure index scores were positively related with firm characteristics (asset size, number of shareholders and profitability). Following this development, there was an extensive accounting literature relating to the use of disclosure indexes by way of measuring the quality of information in the financial statements, which vary among different studies.

However, the study of the determinants of financial reporting quality has been the most systematic and sustained research efforts in the accounting and capital market literature. As such previous studies have empirically examined financial reporting practices in different socio-economic and political settings with the aim of improving the reporting quality and the knowledge of the dynamics of disclosure practices.

2.4.1 Firm Size and Financial Reporting Quality

Firm Size is generally considered as a corporate characteristic, which many reasons have been advanced in the literature supporting the association of the size with financial reporting quality. Three reasons are advanced by Singhvi and Desai (1971) and Buzby (1975); first, larger firms generally have a more diverse product range and more complex distribution networks than smaller firms. As a result, larger and more complex management information systems and databases are required for management control purposes. Consequently, disclosure costs may be generally lower for larger firms. Second, larger firms make more extensive use of capital markets for external financing relative to smaller firms. It is further argued that firms can increase the marketability of their securities in capital markets, and obtain capital more easily and cheaply through more extensive disclosure. Last, smaller firms may consider themselves to be placed at a competitive disadvantage relative to larger firms through more detailed corporate disclosure.

Moreover, Street and Bryant, (2000) argued that firm size is usually reported as a significant firm characteristics in previous researches. For instance, while Wallace, Naser and Mora (1994) stated that, there is a wide support for a positive relationship between firm size and financial reporting quality, but the theoretical basis is unclear, because the relationship could be positive or negative. They further explained that, large firms with multiple products and have several divisional units, are likely to have well-built information system that enables them to track all financial and non-financial information. With this type of well-structured internal reporting system, the incremental costs of supplying information to external users will be minimal. This will therefore make them report high quality information than their smaller firms. This view is supported by Owusu-Ansah (1998) who opined that theory, intuition and empirical studies suggest that firm size influences the quality of financial reports positively.

In another effort, Watts and Zimmerman (1990) posit that larger firms are likely to show more information in order to improve the confidence of stakeholders and reduce political costs. Meek et al, (1995) therefore concluded that large firms disclose more information than smaller ones. In contrast Wallace et al., (1994) and Wallace and Naser, (1995) stated that large firms are visible and susceptible to political attacks, in the form of pressure including greater regulation and higher corporate taxes. In this regard, large firms disclose less detailed information in their financial reports to avoid political attacks and pressures. These arguments are based on the political cost arguments which presuppose a positive association between firm size and financial disclosure quality.

Buzby (1975) study the relationship between financial reporting quality and firm size or assets size, he discovered an association between asset size and financial reporting quality. He concluded that the size of the firm is a special characteristic of financial reporting. Adelopo, (2010) finds a significant positive relationship between voluntary disclosure and firm size, measured as the natural logarithm of total asset. His study also found a significant positive relationship between markets based definition of firm performance and voluntary disclosure. Percentage of block share ownership and percentage of managerial share ownership were found to be negatively related to firm disclosures which means share dispersion is positively associated with mandatory reporting.

In addition, Burgstahler and Dichev (1997), and Yangseon et al., (2003) documented that there is no difference between large and small firms, because both large-and small-sized firms manage earnings to avoid reporting small negative earnings or small earnings decreases, which reduces financial reporting quality. However, Burgstahler and Dichev (1997) revealed that small firms engage in more earnings management than large-or medium-sized firms to avoid reporting losses. Furthermore, large and medium sized firms exhibit more aggressive earnings management to avoid reporting earnings.

In Nigeria, Shehu (2012) examines the impact of firms' characteristics from perspective of structure, monitoring and performance elements on the quality of financial reporting measured by modified model of Dechew and Dechev (2002) of quoted manufacturing firms in Nigeria. The study adopted correlational research design with pooled panel data in a sample of 24 firms. The study found that firm size, leverage, institutional shareholding and firm growth are significant and positively associated with the earning quality at 5% level of significance. The study concludes that larger and more leveraged firms in Nigerian manufacturing sector are less likely to manage earnings and increase in sales as well as institutional investors serve as a monitoring tool of preventing managers from opportunistic behaviour in managing earnings.

The study on the other hand, found that profitability and independent directors are positively associated with earnings quality while liquidity is inversely related with quality of financial reporting despite significant at 1% level of significance.

A similar study by Shehu and Bello (2013) examined firm characteristics from perspective of structure, monitoring and performance elements and the quality of financial reporting measured by modified model of Dechew and Dechev (2002) of listed manufacturing firms in Nigeria. The study revealed that larger and more leveraged firms in Nigerian manufacturing sector are less likely to manage earnings. The study also provide evidence that profitability and independent directors are positively associated with earnings quality while liquidity is inversely related with quality of financial reporting despite significant at 1% level of significance.

Uwuigbe, Olubukunola and Bernard (2015)assessed the effects of firms' characteristics on earnings management of listed companies in Nigeria. To achieve the objectives of this study, a total of 20 listed firms in the Nigerian stock exchange market were selected and analyzed for the study using the judgmental sampling technique. The corporate annual reports for the period 2006-2010 were used for the study. In testing the research hypothesis, the study adopted the use of both descriptive statistics and econometric analysis using the pooled ordinary least square regression for the listed sampled firms. Findings from the study revealed that while firm size and firms' corporate strategy have a significant positive impact on earnings management (proxied by discretionary accruals); on the other hand, the relationship between firms' financial leverage and discretionary accruals of the sampled firms in Nigeria was not significant. Thus, the study concludes that large firms tend to have higher motivations and more prospects to engage in the manipulation earnings and exaggerate earnings due to the intricacy of their operations and the complexity for users to identify overstatement.

2.4.2 Firm Leverage and Financial Reporting Quality

According to Shehu (2012) agency theory is usually the premise of explaining the linkage between firm leverage and financial reporting quality. That is, as leverage increases, there are wealth transfers from fixed claimants to residual claimants. As debenture holders are able to 'price protect' themselves, managers and shareholders have an incentive to voluntarily increase the level of monitoring, such as by increasing the disclosure of additional information about the firm's activities (Schipper, 1981). Alsaeed (2006) further lamented that higher debt firms have higher agency costs and therefore need to have more information disclosed in order to satisfy the needs of creditors for information.

Therefore, level of leverage and financial reporting quality using the level of disclosure are found to be correlated. Craig and Diga (1998) found from their results a significant positive relationship between debt ratio and level of disclosure. However, a study by Alsaeed (2006) found an insignificant relationship between the level of disclosure and firm leverage. This finding could be attributed to the fact that creditors may have shared private information with their debtors.

From different perspective, Rahman and Ali, (2006) provide evidence of negative relationship between firm leverage and financial reporting quality. According to their study, higher leverage firms are argued to have higher bankruptcy risk, which in turn will lead to litigation risk and thus, increase management's tendency to manipulate firm's financial reporting to overcome this risk. This view was supported by Klein (2002b) who found that a company's leverage is significantly positively related to the level of abnormal accruals. Additionally, the findings of Davidson, Stewart and Kent (2005) also supported Rahman and Ali (2006) and Klein (2002b) who found a significant positive relationship between leverage and financial reporting quality (discretionary accruals). On the contrary, studies by Rahman and Ali (2006) and Yang and Krishnan (2005) found an insignificant relationship between firm leverage and discretionary accruals, suggesting a lack of significant effect on the financial reporting quality.

Moreover, extant empirical studies in respect of firm leverage and financial reporting quality provide mixed and inconclusive results. For example, Lau (1992), Malone et al. (1993), Hossain et al.(1994), Hossain et al.(1995), Patton and Zelenka (1997), Adelopo (2010) found that leverage is positively associated with financial reporting quality. And, on the contrary, studies by Ahmed and Nicholls, (1994), Wallace et al., (1994), Raffournier, (1995), (Wallace and Naser, (1995), Ahmed, (1996) and Inchausti, (1997)) did not find any relationship between leverage and financial reporting quality.

In a similar effort, a study by Zarzeski, (1996) documented a negative association between leverage and financial reporting quality, implying that highly levered firms tend to disclose private information to their creditors which may not be reflected in their financial reports. In contrast to the findings of Zarzeski (1996), Owusu-Ansah (1998) and Collett and Hrasky, (2005) did not find any association between raising new debt capital and disclosure. These conflicting results provide genuine incentives for further investigation of this relationship.

Sara, Mohamed, and Aiman (2015) assess the impact of firm characteristics on earnings management of the listed firms in Egypt. It selects the 50 most active firms in the Egyptian stock exchange and the analysis is done using the financial statements from the disclosure book for the period 2007-2011.After excluding banks and insurance companies, for having different disclosure requirements and different corporate governance code, the final count for the firms included in the paper is 60 firms in five years so this leave us with a total of 300 observations. The tests for this research are done using the random effect generalized least square regression model using the stata program. Findings found that there is a significant positive relationship between firms' financial leverage and earnings management while other variables of the firm characteristics which are firm size, firm age and firms' audit quality have an insignificant relationship with earnings management.

Norhayati, Rahayu, Noor (2015) examine the association between leverage and Real Earnings Management (REM) activities. It analyses how leverage is able to reduce earnings management (EM). This study uses Abnormal Cash Flow from Operation, Abnormal Production Cost and Abnormal Discretionary Expenses model by Roychowdhury, 2006, as a proxy for REM. Using a sample of 3,745 firm-year observations for the period of 2006-2011, which listed on *Bursa Malaysia*, the study find that a significant negative association between leverage and REM. The finding reveals that leveraged firms have lower levels of REM. This supports the view that leverage limits the REM activities, which in turn, could affect the quality of accounting earnings.

Aries (2015) determine the effect of leverage and firm size on earnings management. The study found that operating leverage, financial leverage, and the size have no significant impact on the earnings management of the sample firms. That is means that there is no effect of operating leverage, financial leverage, and the size of the companies jointly to earnings management.

2.4.3 Firm Performance and Financial Reporting Quality

One of the motivators of earnings management and also a determinant of financial reporting quality in the corporate reporting is performance. Loebbecke, Eining and Willingham (1989) argued that poor financial performance often causes management to place undue emphasis on earnings and profitability, thereby increasing the likelihood of financial statement frauds and misstatements. In addition, 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). This also suggests that firms which have experienced losses for several years could also have the tendency to engage in earnings management and hence lower financial reporting quality. On the other hand, Alsaeed (2006) opined that 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, existing empirical evidences provide inconclusive results regarding firm performance and financial reporting quality. For instance, Klein (2002b) and Davidson, Stewart and Kent (2005) examined the relationship between changes in profit and financial reporting quality using manipulation of accounting accruals. Their study revealed that the changes in profit influence the manipulation of accounting accruals. Their results show a significant positive relationship between changes in net income and accruals in financial reports. On the other hand, Yang and Krishnan (2005) and Rahman and Ali (2006) investigate the association of financial reporting quality (using discretionary accruals) and firm performance (using the level of income). Their findings did not reveal any significant relationships between the level of net income and discretionary accruals. This inconsistency could be due to differences in the measure of firm performance used.

Empirical evidences on financial performance and financial reporting or disclosure quality also revealed mix findings. In a study of voluntary disclosure and financial performance Haniffa and Cooke (2002) documented a significant positive relationship between return on equity (ROE) and voluntary disclosure. A contrary result was reported by Alsaeed (2006) who found an insignificant relationship between firm performance and information disclosure quality.

An empirical investigation of financial reporting fraud and abnormal accruals by Beasley (1996) provide evidences on lack of significant relationship between financial reporting fraud and the quality of financial reporting. Similar evidence by Klein (2002b) also revealed that there is no significant association between firms' and financial reporting quality proxy by abnormal accruals.

2.4.4 Growth and Financial Reporting Quality

Extant financial reporting literature documented firm growth as a determinant of financial reporting quality; Penman and Zhang (2002) provide evidence about how the accounting system is affected by the level of growth. As a result Richardson et al., (2005) posited that growth is associated with greater measurement error and more manipulation opportunities, which reduces the quality of financial reporting.

Nissim and Penman, (2000) found that high growth firms have less sustainable earnings, this reflect the fact that earnings summarize performance of the firm's earnings process during the reporting period. Hence, if the fundamental process changes or grows, so will earnings, and properties of earnings like persistence, and smoothness will be adversely affected. Empirical studies however, examined growth as a determinant of the external indicators of financial reporting quality. For instance, Doyle et al., (2007a) and Ashbaugh-Skaife et al. (2007) find that young growth firms disclose more internal control weaknesses. On the other hand, Lee et al. (2006) found no evidence supporting the association between restated amounts and growth.

Collins and Kothari (1989) and Easton and Zmijewski (1989) all find that earnings response coefficients are a function of growth and risk. Skinner and Sloan (2001) find that the market severely penalizes growth firms for negative earnings surprise. Thus, managers of high growth firms are likely to have strong incentives to meet earnings benchmarks.

Richardson et al., (2002) also finds that restatement firms tend to be high growth firms which are under pressure to inflate earnings to meet or beat analysts' forecasts. Pincus and Rajgopal (2002) document a positive association between firms growth level and earnings management. They explain that growth firms are more likely to hedge cash flows to assure the availability of funds.

Young (1999) finds that discretionary accruals are positively associated with firm growth since firms experience large growth will incur large current assets and current liabilities. He further points out that the impact of firm growth on current assets accruals and current liabilities accruals is not symmetrical; rather, most of the variation in working capital accruals is from current assets. Firth et al. (2007) recently point out that it is easier for fast growing firms to engage in earnings management than it is for mature firms since it is difficult to observe the business activities of fast growing firms.

2.4.5 Assets Tangibility and Financial Reporting Quality

Assets tangibility generally covers fixed assets which are generally plant, property and equipment, such tangible assets increases managerial discretion through depreciations, estimations and judgments. However, firm's tangible assets structure plays an important role in determining its capital structure, since the degree to which the firm's assets are tangible should result in the firm having greater liquidation value (Harris & Raviv, 1991). Moreover, firms that invest heavily in tangible assets also have higher financial leverage since they borrow at lower interest rates if their debt is secured with such assets (Bradley *et al.*, 1984).

Abarbanell and Bushee (1998) examined assts tangibility and other current assets, their study observed whether the application of fundamental analysis can result in abnormal return. Fundamental analysis in this research was performed by observing changes in inventory, accounts receivable, gross margins, selling expenses, capital expenditures, effective tax rates, inventory methods, audit qualifications, and labor force sales productivity. The result shows that changes in inventory, gross margin, and selling and administrative expenses provide information about firm's future return which is associated with earnings announcement in the future. Among all variables in this research, changes in inventory, capital expenditure, effective tax rates are strong indicators in predicting firm's future earnings.

2.4.6 Board Composition and Financial Reporting Quality

Leila and Naseer (2012) examine the relationship between corporate governance characteristics and earnings management among the listed companies at the Palestine Stock Exchange (PSE). Earnings management has been quantified by discretionary accruals, using Modified Cross Sectional Jones Model. Linear Multiple Regression indicates the presence of an overall significant relationship between corporate governance and earnings management in both years 2009 and 2010. Only in year 2010, results reveal that there is some indication that corporate governance measures are playing an effective role in restraining earnings management. Among the corporate governance variables that had consistent results in both years, were CEO duality and board independence, an insignificant and significantly positive relationship with earnings management; respectively.

In Nigeria, Bello (2011) using the probit analysis in a related study on earnings management observed that there was a positive significant relationship between board size, board performance and ethical accounting practices. The study also observed that board composition has a significant negative effect on ethical accounting practices. Mohamad, Abdul *et al.*, (2012) examined the role of corporate governance in reducing earnings management in Malaysian government-linked companies. They find that some corporate governance aspect has the impact to the level of earnings management. The duality role in the company whose CEO and Chairman are the same can lead to the opportunistic behavior and higher earnings management activities. Firms with non-duality have lower level of discretionary accruals. Moreover, more number of board meeting also help to reduce earnings management.

Fodio et al (2013) investigated the effect of corporate governance mechanisms on reported earnings quality of listed Insurance companies in Nigeria. The study found that board size, board independence and audit committee size are negatively and significantly associated with earnings management while audit committee independence and independent external audit have positive relationship with discretionary accruals.

Omoye and Eriki (2014) investigated how corporate governance mechanisms relate to the categories of earnings management levels. The study revealed that, quoted companies in Nigeria prefer to use high earnings management practices; Board independence had a positive and significant influence on the probability of Nigerian companies adopting absolute high earnings management, Audit committee independence had a negative and significant influence on the probability of Nigerian companies adopting absolute high earnings management, Board gender representation had a negative and significant influence on the probability of Nigerian firms adopting absolute high earnings management and Also Board size and CEO shareholding were found to be statistically not significant in influencing the likelihood of Nigerian quoted companies adopting high earnings management levels. The control variables; firm size, auditors type and industry class were found to be positive and statistically significant in determining absolute high earnings management levels of Nigeria quoted companies.

Uwuigbe et al (2014) examined the effects of corporate governance mechanism on earnings management in Nigeria. A total of 40 listed firms in the Nigerian stock exchange market were selected and analyzed for this study using the judgmental sampling technique. The choice of the selected firms arises based on the nature and extent of corporate financial failures and scandals that has been witnessed in the industry overtime. Also, the corporate annual reports for the period 2007-2011 were used for the study. The regression analysis method was employed as a statistical technique for analysing the data collected from the annual report of the selected firms. Findings from the study revealed that while board size and board independence have a significant negative impact on earnings management (proxied by discretionary accruals); On the other hand, CEO duality had a significant positive impact on earnings management for the sampled firms in Nigeria. Hence the paper concludes that firms with larger boards and diverse knowledge are more likely to be more effective in constraining earnings management than smaller boards since they are likely to have more independent directors with more corporate or financial expertise.

Kantudu and Samaila (2015) examined the impact of monitoring characteristics on financial reporting quality of the Nigerian listed oil marketing firms. Financial reporting quality is represented with the qualitative characteristics of financial statement. It was discovered that Power separation, independent directors, managerial shareholdings and independent audit committee are all significant implying monitoring characteristics is influencing financial reporting quality of quoted oil marketing firms in Nigeria. Also, the control variable size measured natural log of total asset is significantly influencing the quality of financial report of oil marketing companies in Nigeria.

Cyrus et al (2015) study the effect of corporate governance practices on earnings management of companies listed at the Nairobi Security Exchange (NSE). The target population consisted of the 49 companies that had been continuously and actively trading at the NSE between January 2010 and December 2012. Secondary data was used covering the period 2010 to 2012 and analyzed using linear regression to test the effect of the independent variables on the dependent variable. The study found that earnings management is negatively related to ownership concentration, board size and board independence but positively related to board activity and CEO duality. The study recommended the need for effective corporate governance practices in listed companies in Kenya to contribute to reduced earnings management and avert possible collapse of listed companies in Kenya

Ibadin and Elijah (2015) use the agency theoretical framework to examine audit committee attributes in constraining accrual-based distortion of financial reporting credibility. To assess this arguments, audit committee size, audit committee financial literacy, audit committee attendance at meetings, audit committee independence and audit meetings frequency of meeting were regressed on financial reporting quality measured by discretionary accruals. The findings for the full sample and negative discretionary accruals sample confirm our expectation that audit committee characteristics have a constraining effect on earnings management. Specifically, audit committee financial expertise, audit committee size, audit committee independence and diligence showed an inverse and significant relationship with earnings management. This is in tandem with theoretical expectations and suggest that increases in these variables will exert a declining influence on earnings management. The study concludes that there is the need for companies to focus on attributes that strengthen the effectiveness of their audit committees.

Abbadi, Sinan, Hijazi, Qutaiba, and Ayat (2015) investigated the effect of corporate governance quality on earnings management in Jordan. This paper provides evidence that earnings management is affected negatively by corporate governance quality. In particular; the results show that earnings management is affected negatively by overall categories of governance index represented by board of director, board meeting, Audit and nomination and compensation committee. Furthermore, results suggest that corporate governance quality has increased over time. Thus, its ability to constrain earnings management has also increased. Patrick, Ezelibe and Akoh (2015) explore the influence of corporate governance and earnings management practices in Nigerian quoted companies. Jones Model is explored to investigate the influence of corporate governance on earnings management. The research findings show that corporate governance practices such as the board size, firm size, board independence, and strength of the audit committee have significant influence on earnings management practices among Nigerian quoted companies.

2.5 Theoretical Framework

Generally, the quality of financial reporting is a product of three major construct, the accounting system in place, the corporate governance mechanisms and the audit. Financial reporting quality determinants on the other hand are constructs and attributes that provide an avenue for those involved in the financial reporting process to exercise some influence, which could be favourable or unfavourable. The need for financial reports evolved from the requirements of stewardship of the management about the firm resources under their control. This also covers the principal-agent relationship between the shareholders as owners and the managers as agents; in this regard, where the interests of management conflicts with the interests of the shareholders and the fact that management compensation often is based on reported earnings, managers have incentives to manage reported earnings (Dang 2004), which in return affect the quality of the reports.

Amat and Gowthorpe (2004) opined that within the agency framework, it is both logical and inescapable that management behaviour will be self-serving, and because of this, agency can, therefore, provide a solid framework for the understanding of earnings management and managers behaviour (opportunistic theory). On the other hand, Schipper, (1989) sees the informational perspective as a key element underpinning the study of the earnings management phenomenon. According to him, a conflict is created by the information asymmetry that exists in complex corporate structures between a privileged management and a more remote body of stakeholders. Under such circumstance managers may choose to exploit their privileged position for private gain, by managing financial reporting disclosures in their own favour. The informational perspective assumes that accounting disclosures have an information content that possesses value to stakeholders in providing useful signals (Schipper, 1989).

However, this agency problem between the owners and managers led to the hiring of an auditor who provides independent assurance to corporate owners and other stakeholders (Watts & Zimmerman, 1986). Auditing in this context is considered as an assurance services as to the quality and credibility of financial reports prepared by the managers. Similarly the corporate governance mechanisms with regard financial reporting quality have established an audit committee, which comprises of independent directors with accounting knowledge to ensure the integrity of financial reports. This is in addition to the work of external auditors who sometimes are held accountable for their actions in respect of the financial statements they audited.

In an effort to link firms attributes with the quality of financial reports, Shehu (2012) and Shehu and Bello (2013) assert that, although financial reporting is regulated by legislations, certain quality can be compromised by the management to achieve a given desired results. Based on his schema he hypothesized that financial reporting quality is a function of firm characteristics, and that firm characteristics or financial reporting quality determinants are those incentive variables that relatively sticky at firms' level across time. In this regard, the determinants of financial reporting quality are classified in to firm structure variables (size, leverage, tangibility, and intangibility), monitoring variables (board of directors and ownership structure) and performance variables (profitability, liquidity and growth) (Wallace et al., 1994; Chen & Jaggi, 2000).

From the management opportunistic behaviour, financial reporting quality is seen as a function of structure variables, which could have an effect on quality of financial reports. That is, managements could hide behind the firm structure and perpetrate opportunistic earnings management or self-interested managerial reporting behaviour, which is undesirable to the owners. This opportunistic managerial practice would be captured by the financial reporting and misled users; thus diminishes the quality of the reports. For instance empirical evidence on firm size, found a negative association between financial reporting quality and the size of the firm (Schipper & Vincent, 2003; Myers et al., 2003; Defond et al. 2004). The conclusion here is that since larger firms choose their accounting methods in response to their managerial decision needs, there should be indirect relationships. Similarly, a negative correlation is predicted between leverage and financial reporting quality, because high leverage indicates that debt holders would exercise control over firm's management and reporting and hence managers of highly levered firms could follow practices to present higher than actual income or manipulate financial statements to please debt holders (Watts and Zimmerman, 1986). Additionally, this relationship is found in Balsam et al., (1995) who used debt structure to measure leverage and relate it with different measures of earnings quality.

Evidences in the financial reporting literature have indicated that firm performance could have an impact on the financial reporting quality from efficiency contracting theory. From this perspective, managers are psychologically expected to perform efficiently, and as such they sort to exercise accounting discretion in an efficient manner in order to maximize the value of the firm in the long run. Financial reporting quality is therefore a function of firm Performance. For instance, De Angelo et al., (1994) and Keating and Zimmerman (1999) have found evidence supporting the correlation of weak firm performance poor financial reporting quality. This implies that poor firm performances send a bad signal to the market and hence managers might indulge in earnings manipulations or window dressing, which implies poor financial reporting quality.

Growth could be in form of size of the firm's assets or increase in the size of revenue; hence this could take a form of tangible fixed assets or intangible assets. The assumption with respect to growth is that as firm grows the managerial discretion also increases; this could be in terms of increase in depreciations and amortization, or as a result of increase in the volume of revenue which also implies increase in current accruals levels. However, while Ashbaugh-Skaife et al., (2007) reported a negative relationship between growth and financial reporting quality using the measures of earnings quality, Nissim and Penman (2001) study firm growth and earnings persistence, they found evidence that high growth firms have lower earnings persistence, which suggest a low financial reporting quality.

This study is an effort to empirically examine the effect determinants of financial reporting quality on the financial reporting quality of listed food and beverages firms in Nigeria. Based on the above paragraphs, there are three theories that connected the determinants with the financial reporting quality as documented in the literature, and hence provide a framework for this study. On one hand, the efficient contracting theory explained the link between managers and earnings management which is the main factor that destroy the quality of financial reports, on the other hand, Klein (2002) reported that the opportunist theory predict the consequences of self-centred behaviour that managers have a short-term self interest as an incentive to form poor firm structure to manage earnings for their own benefit, as such deteriorate the financial reporting quality. In addition, agency theory is a general ground for studying the contractual interrelation between managements and their principals.

Therefore, this study in view of the mentioned theoretical construct hypothesized that financial reporting quality is a function the size of the firm, leverage, growth, profitability, assets tangibility, and assets intangibility. However, a variable of monitoring will be used to control for the role of corporate governance in financial reporting quality.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the methods and techniques adopted to achieve the research objectives are critically discussed and presented. The chapter begins with the discussion of the research design, and then population and sample of the study. It also present and discussed the sources and method of data for the study and the technique of data analysis. The chapter also presents the definition measurements of the variables and models of the study and the justification of the methods and techniques adopted.

3.2 Research Design

The study adopts correlation research design from quantitative research methodology, which is based on positivists' paradigm. The choice of correlational research design in this study is informed by the fact that, the aim of the study is to investigate the relationships between variables and to estimate the impact of one the variable (independent variable) on another (dependent variable), so as to establish a causal relationship or otherwise among the variables. This is therefore consistent with the objective of the study.

3.3 Population of the Study

The population of the study comprises of all the twenty one (21) food and beverages firms listed on the floor of Nigerian Stock Exchange (NSE) as at the end of 2015 accounting period, and are operating throughout the period of the study (2009-2015). This population covers seven (7) Beverages Brewers/Distillers Firms, one (1) Beverages Non-Alcoholic Firm, eleven (11) Food Products Firms, and two (2) Food Products Diversified Firms (see Table 3.1).

Table 3.1: Population of the Study

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

3.4 Sample Size and Sampling Technique

From the population of 21 firms as in table 3.1, three (3) firms; Jos International Breweries, Golden Guinea Breweries and Honeywell plc firms were not on the NSE listing for some years, while two (2) firms; Big Treat plc and MultiTrex Food plc have their data inaccessible, these are filtered out and 16 firms emerge as a new population and the sample of the study.

S/N	SAMPLE
1	Cadbury Nigeria Plc
2	Nestle Nigeria Plc
3	Guinness Nigeria Plc
4	Nigerian Breweries Plc
5	International Breweries Plc
6	Flour Mills of Nigeria Plc
7	7-Up Bottling Company Plc
8	Northern Nigerian Four Mills Plc

9	UTC Nigeria Plc
10	National Salt Company Plc
11	Champion breweris
12	Dangote Sugar
13	Nigerian Breweries Plc
14	Dangote Flour Mills Plc
15	Union Dicon Salt Plc
16	P S Mandrides Plc

3.5 Source and Method of Data Collection

The study uses Secondary data, which is financial statements of all the sampled food and beverages firms in the study, for the period of seven years (2009 – 2015). The use of secondary data in this study is informed by the fact that the study is based on the quantitative research methodology that requires quantitative data to test research hypotheses.

3.6 Technique of Data Analysis

Panel multiple regression technique was employed. Regression technique is chosen in this study because of the effectiveness and efficiency of the technique in providing the statistical estimate of the relationship/impact of one variable on another variable. Which is consistent with the objective of this study.

However, in view of the panel nature of the data (cross-sectional and time series) for the study, the study employed different regression models, which include Ordinary Least Squares (OLS) Model, Fixed Effect (FE) Model and Random Effect (RE) Model. Appropriate tests such as Hausman Specification Test and Breusch and Pagan Lagrangian Multiplier Test for Random Effects were used to select the most suitable model for the study. The study on the other hand conducted robustness tests to ensure the validity and fitness of the results. This include test for Heteroskedasticity and Multicolinearity, this is an efforts to comply with the classical assumption of OLS and the model of the study in general. In addition, data normality test is applied; in essence, the study in this regard ensures that the results produce estimators that are best linear unbiased estimators. The analysis is conducted using STATA 13.0 version.

3.7 Variable Measurement and Model Specifications

Table 3.3 Variables Definition and Measurement

Variables	Definition/Measurements
Financial Reporting Quality (FRQ)	Is defined as the inverse of earnings management (inverse of absolute discretionary accruals), measured by the residual of Jones Accruals Model as modified by Dechow et el (1995), Kothari et al (2002), and Yoon, Kim and Woodruff (2012).
Firm Leverage (FLEV)	Is measured as the total long-term debt to owners' equity plus total long-term debt.
Firm Size (FSIZ)	Is defined as the total current assets plus total non-current assets, measured by logarithm of the total assets.
Assets Tangibility (TANG)	Is defined as the total tangible fixed assets, measured as the ratio of tangible fixed assets to total assets.
Firm Performance (FPER)	Is defined as the profitability, measured as the ratio of profit after tax to total assets
Firm Growth (FGRW)	Is defined as the change in total revenue, measured as the current sales revenue minus previous year sales revenue.
Board Composition (BCOM)	As a variable controlling for the role of corporate governance, is measured by the ratio of composition of independent/outside directors to total number of directors sitting on the board

This study proxied financial reporting quality from Modified Jones Model, by Dechow et el (1995), Kothari et al (2002), and Yoon, Kim and Woodruff (2012), the model is as follows:

$TACC_{it}/TA_{t-1} = \beta_0 + \beta_1 \Delta REV_{it}/TA_{t-1} + \beta_2 \Delta REC_{it}/TA_{t-1} + \beta_3 PPE_{it-1}/TA_{t-1} + \beta_4 FPER_{it}/TA_{t-1} + \varepsilon_{it}$..i

Where:

$TACC_{it}/TA_{t-1}$ = Total Accruals (net income minus operating cash flows) of firm I in year t, scaled by lagged total assets.

$\Delta REV_{it}/TA_{t-1}$ = changes in revenue (current year revenue minus previous year revenue) of firm I in year t, scaled by lagged total assets.

$\Delta NREC_{it}/TA_{t-1}$ = changes in net receivables (current year net receivables minus previous year receivables) of firm I in year t, scaled by lagged total assets.

PPE_{it-1}/TA_{t-1} = lagged property, plant and equipment of firm I in year t, scaled by lagged total assets

$FPER_{it}/TA_{t-1}$ = firm performance of firm I in year t, scaled by lagged total assets.

Intercept = β_0; β_1, β_2, β_3, β_4 = Coefficients

ε_{it} = Residual (discretionary/abnormal accruals)

Therefore, the residual from model one above is used as a proxy of financial reporting quality in the model of the study (model ii). The model of the study is mathematically express as follows;

$$FRQ_{it} = \beta_0 + \beta_1 FLEV_{it} + \beta_2 FSIZ_{it} + \beta_3 TANG_{it} + \beta_4 FPER_{it} + \beta_5 FGRW_{it} + \beta_6 BCOM_{it} + \varepsilon_{it} \ldots\ldots \text{ii}$$

Where:

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

$FLEV_{it}$ = Leverage of firm I in year t

$FSIZ_{it}$ = Size of firm I in year t

$TANG_{it}$ = Asset Tangibility of firm I in year t

$FPER_{it}$ = Performance of Firm I in year t

$FGRW_{it}$ = Growth of firm I in year t

$BCOM_{it}$ = Board Composition of firm I in year t, controlling for corporate governance role in financial reporting quality.

Intercept = β_0; β_1, β_2, β_3, β_4, β_5, β_6, β_7 = Coefficients

ε_{it} = Residuals

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATIONS

4.1 Introduction

This chapter presents the descriptive and inferential results obtained from the data analysis. The analysis and interpretations of the results are discussed and presented. The chapter begins with the analysis of the descriptive statistics of the data collected, and then the correlation matrix of the variables of the study. This is followed by the interpretation of the regression results and test of hypotheses of the study. The chapter ends with the discussions of the major findings and the policy implications of the findings.

4.2 Descriptive Statistics

The descriptive statistics are presented and analyzed in this section, as presented in Table 4.1; it entails the minimum, maximum and the average values from the data. It also contain the standard deviation, skewness and kurtosis.

Table 4.1: Descriptive Statistics

Variables	Mean	SD	Min	Max	Skewness	Kurtosis	Obs
FRQ	0.2951	0.7672	0.0003	6.822	6.796	53.669	112
FLEV	0.5439	0.1944	0.1301	1.0490	-0.2269	2.9502	112
FSIZ	7.3396	0.8811	4.8400	8.5500	-1.309	4.443	112
TANG	0.5509	0.1988	0.1277	0.9908	0.1040	2.5760	112
FPER	0.335	0.2019	-0.9326	0.2652	-2.5191	10.899	112
FGRW	0.0795	0.2179	-0.9651	0.7346	-0.9009	8.5421	112
BCOM	0.6874	0.0958	0.4200	0.8600	-2.2007	2.6408	112

Source: STATA OUTPUT (Appendix A1)

The results in Table 4.1 indicates that the measure of financial reporting quality (FRQ), which is the inverse of absolute discretionary accruals of the sampled food and beverages firms has an average value of 0.2951 with standard deviation of 0.7672, and minimum and maximum values of 0.0003 and 6.822 respectively. The value of standard deviation signifies that the dispersion of the data from the mean value from both sides is wide, implying that the data is dispersed from the mean value. The coefficient of Skewness 6.796 indicates that the data is positively skewed, that is, most of the data are on the right side of the normal curve, and the data does not follow the normal distribution. Similarly, the value of kurtosis 53.669 on the other hand, suggests that the data does not follow the normal curve as requires by the Gausian distribution assumption.

The Table also indicates that the sample food and beverages firms have an average leverage (FLEV) 54.39% (i.e, 45.61% equity) during the period of the study, from the mean of 0.5439 with standard deviation of 0.1944, and the minimum and maximum value of 0.1301 and 1.049 respectively. The standard deviation suggests that the data is dispersed from the mean. The kurtosis value of 2.9502 shows the peakedness of the data which is not normally distributed, on the other hand, the coefficient of Skewness -0.2269 implies that the data is negatively skewed, and thus, the normal distribution assumption is been met.

Table 4.1 also shows that the average firm size (FSIZ) of the sample food and beverages firms during the period of the study is 7.3396 with standard deviation of 0.8811. This implies that the data deviate from the mean from both sides by 0.8811%, the standard deviation suggests that the data is dispersed from the mean. The minimum and maximum values of FSIZ are 4.84 and 8.55 respectively. The coefficient of Skewness -1.309 implies that the data is negatively skewed, and therefore does conform to the normal distribution requirement of normal data. Similarly, the coefficient of Kurtosis 4.443 also supports that the variable does meet the Gausian distribution criterion of the normal data.

Moreover, table 4.1 indicates that the average value of assets tangibility (TANG) of the sample food and beverages firms is 0.5509 with standard deviation of 0.1988. This implies that the data deviate from the mean from both sides by 0.1988; the minimum and maximum values of the TANG are 0.1277 and 0.9908 respectively. The value of skewness of 0.1040 indicates that the data is positively skewed; hence the variable does meet the normal distribution requirement of normal data. This is also supported by the coefficient of kurtosis of 2.5760 which implies that the Gausian distribution assumption of normal data is been met.

The Table also shows that, the average performance (FPER) of the sampled food and beverages firms in Nigeria is 0.3350 with standard deviation of 0.2019. This implies that the data is widely dispersed from the mean value; the minimum and maximum values of FPER are -0.9326 and 0.2652 respectively. The coefficient of Skewness -2.5191 implies that the data is negatively skewed, and therefore does conform to the symmetrical distribution requirement of normal data. Similarly, the coefficient of Kurtosis 10.899 also indicates that the variable does not meet the Gausian distribution assumption of normal data.

The table on the other hand indicates that the sample food and beverages firms have an average growth (FGRW) of 7.95% during the period of the study, from the mean of 0.0795 with standard deviation of 0.2179, and the minimum and maximum values of -0.9651 and 0.7346 respectively. The standard deviation suggests that the data is dispersed from the mean by 0.2179. The kurtosis value of 8.5421 shows that the data is not normally distributed, on the other hand, the coefficient of Skewness -0.9009 implies that the data is negatively skewed, and thus, the normal distribution assumption is not been met.

Lastly, the Table indicates that the sample food and beverages firms have an average board composition (BCOM) of 68.74% during the period of the study, from the mean of 0.6874 with standard deviation of 0.0958, and the minimum and maximum value of 0.4200 and 0.8600 respectively. The standard deviation suggests that the data is dispersed from the mean. The kurtosis value of 2.6408 shows that the data is not normally distributed, on the other hand, the coefficient of Skewness -2.2007 implies that the data is negatively skewed, and thus, the normal distribution assumption is not been met.

In view of the descriptive statistics of the variables of the study which suggests that the data does not follow the normal distribution, the study adopts Shapiro Wilk test for normal data to find statistical evidence as to whether the data of the variables of the study follow the normal curve or not. The results of the test are presented in table 4.2 as follows;

Table 4.2: Normality Test

Variables	W	V	Z	P-Values	Obs
FRQ	0.3070	62.916	9.245	0.0000	112
FLEV	0.9775	2.039	1.591	0.0559	112
FSIZ	0.8706	11.746	5.499	0.0000	112
TANG	0.9859	1.279	0.550	0.2912	112
FPER	0.7455	23.107	7.009	0.0000	112
FGRW	0.8910	9.896	5.116	0.0000	112
BCOM	0.9777	2.023	1.572	0.0579	112

Source: STATA OUTPUT (Appendix A2)

Under this technique, null hypothesis principle is used in the Shapiro-WIlk (W) test for normal data, under the principle; null hypothesis that 'the data is normally distributed' is tested. Table 4.2 indicates that data from the variables (FRQ, FSIZ, FPER and FGRW) are not normally distributed because the P-values are significant at 1% level of significance (p-values of 0.0000, 0.0000, 0.0000, 0.000 and 0.0000 respectively). On the other hand, data from FLEV, TANG and BCOM variables which are not significant at 5% level of significance (p-value of 0.0559, 0.2912 and 0.0579). Therefore, the null hypothesis (that, the data is normally distributed) is rejected for FRQ, FSIZ, FPER and FGRW while not rejected for the FLEV, TANG and BCOM. This may lead to some problems in OLS regression and, hence the need for a more generalized regression models.

4.3 Correlation Results

This section covers the analysis of the Pearson correlation Coefficients of the variables of the study as presented in Table 4.3as follows. The correlation matrix from Table 4.3 shows the relationships among the determinants of financial reporting quality of the listed food and beverages firms in Nigeria.

Table 4.3: Correlation Matrix

Variables	FRQ	FLEV	FSIZ	TANG	FPER	FGRW	BCOM
FRQ	1.0000						
FLEV	0.1858	1.0000					
	(0.0498)						
FSIZ	-0.3401	-0.7261	1.0000				
	(0.0002)	(0.0000)					
TANG	0.5077	0.0955	-0.2555	1.0000			
	(0.0000)	(0.3163)	(0.0065)				
FPER	-0.4188	-0.6322	0.6527	-0.3979	1.0000		
	(0.0000)	(0.0000)	(0.0000)	(0.0000)			
FGRW	0.4928	-0.0504	0.0753	0.1529	0.0908	1.0000	
	(0.0000)	(0.5977)	(0.4301)	(0.1076)	(0.3411)		
BCOM	0.0604	0.0983	-0.0017	-0.0038	-0.1093	0.0470	1.0000
	(0.5267)	(0.3025)	(0.9859)	(0.9679)	(0.2512)	(0.6230)	

P-Values in Parentheses
Source: STATA OUTPUT (Appendix A11)

Table 4.3 shows a positive relationship between financial reporting quality (FRQ) and the firms' leverage (FLEV) from the correlation coefficient of 0.1858 which is statistically significant at 5% level of significance (p-value of 0.0498). A negative relationship between financial reporting quality (FRQ) and firm size (FSIZ) was recorded, from the correlation coefficient of -0.3401 which is statistically significant at 1% level of significance (p-value of 0.0002).

Table 4.3 on the other hand indicates a significant positive relationship between financial reporting quality (FRQ) and assets tangibility (TANG), from the correlation coefficient of 0.5077 which is statistically significant at 1% level of significance (p-value of 0.0000). A significant negative association between financial reporting quality (FRQ) and financial performance (FPER) was recorded, from the correlation coefficient of -0.4188 which is statistically significant at 1% level of significance (p-value of 0.0000).

The correlation matrix indicates a significant statistical positive relationship between financial reporting quality (FRQ) and firm growth (FGRW), from the correlation coefficient of 0.4928 which is statistically significant at 1% level of significance (p-value of 0.0000). Lastly, there is no significant relationship between financial reporting quality (FRQ) and board of directors' composition (BCOM), from the correlation coefficient of 0.0604 which is not statistically significant at all levels of significance (p-value of 0.5267).

4.4 Regression Results and Hypotheses Testing

This section presents and analyzes the regression results of the model of the study. The section begins with the analysis of model two as presented in table 4.4;

Table 4.4: Robust OLS Regression Results

Variables	Statistics	P-Values
R Square	0.5563	
F-Statistics	144.38	0.0000
Hausman Chi2	6.82	0.3382
Hettest: Chi2	360.56	0.0000
Mean VIF	1.80	
Random Effect (LM) Test: Chi2	0.00	1.0000

Source: STATA OUTPUT (Appendix A13, A14, A17, A18,& A19)

The classical regression assumptions of OLS with regard panel data require the model to be fit and unbiased for a valid interpretations and conclusions. As such this study subjected the model to Fixed and Random Effects regression in addition to OLS and other robustness tests to achieve a reliable result. Table 4.4 shows a presence of Heteroskedasticity in the panel as indicated by the Breuch Pagan/Cook-Weisberg test for heteroskedasticity Chi2 of 360.56 with p-value of 0.0000. This proved that the assumption of constant variance of the error term (homocedasticity) is not been met, and as a result OLS estimators may not be best linear unbiased estimators (BLUE). This is corrected using robust OLS (heteroskedasticity corrected standard errors), after the results of random effect test, Breusch and Pagan

Lagrangian Multiplier Test for Random Effects indicated that there is no statistical significant variance among the units in the panel (Chibar2 of 0.00 with p-value of 1.0000), implying that robust OLS technique is appropriate with respect to model one. The table on the other hand, indicated the absence of the perfect multicolinearity among the explanatory variables, as shown by the mean VIF of 1.80. The decision criterion for the Variance Inflation Factor is that a value of 10 and above implies the presence of perfect multicollinearity.

Table 4.4 indicates that the independent variables of the study explained 55.63% of the total variations in the dependent variable (financial reporting quality), from the coefficient of determination (R^2 value of 0.5563). The table also shows that the model is fit from the F-Statistic of 144.38 which is statistically significant at 1% level of significance (as indicated by the P-value of 0.0000). Therefore, the study examines the determinants of financial reporting quality of food and beverages firms by the test of the hypotheses formulated in the following section.

4.5 Hypotheses Testing

In this section, the study tests the hypotheses formulated for the study, Table 4.5 presents the coefficients of the variables of the study from which the hypotheses are tested.

Table 4.5: Robust OLS Estimators

Variables	Coefficients	t-values	P-Values
FLEV	-0.0428	-1.71	0.091
FSIZ	-0.2106	-2.13	0.035
TANG	0.2280	2.88	0.005
FPER	-0.9272	-4.13	0.000
FGRW	1.1847	1.44	0.154
BCOM	0.1745	0.48	0.632
CONSTANT	1.5492	1.96	0.053

Source: STATA OUTPUT (Appendix A19)

Table 4.5 indicates that firm leverage (FLEV) has a significant negative effect on the financial reporting quality of sampled food and beverages firms in Nigeria, from the coefficient of -0.0428 with t-value of -1.71, which is statistically significant at 10%level of significance (p-value of 0.091). This result suggests that, the higher the level of debts in the capital structure food and beverages firms, the lower financial reporting quality, it is statistically significant at 10% level. Based on this, the study rejects the null hypothesis one (H_{01}) which states that, leverage has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria. This contradict the theory, which debt serves as a monitoring mechanism. The study therefore infers that firm leverage is a significant determinant of financial reporting quality of listed food and beverages companies in Nigeria during the period covered by the study. This result contradict the findings of Craig and Diga (1998), Klein (2002b), Adelopo (2010), Alsaeed (2006), Rahman and Ali, (2006), and Davidson, Stewart and Kent (2005), Shehu (2012) who found that leverage is significantly and negatively related with financial reporting quality. However, the finding supports the findings of Yang and Krishnan (2005), and Rahman and Ali, (2006) who found that leverage and financial reporting quality are not significantly related.

Table 4.5 also shows that firm size (FSIZ) has significant negative effect on the financial reporting quality of sampled food and beverages firms in Nigeria, from the coefficient of -0.2106 with t-value of -2.13, which is statistically significant at 5% level of significance (p-value of 0.035). This result suggests that, an increase in firm size reduces the quality of financial reporting of firms. Based on this, the study rejects the null hypothesis two (H_{02}) which states that, firm size has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria. The study therefore infers that the size of a firm is a significant determinant financial reporting quality in the listed food and beverages companies in Nigeria during the period covered by the study. The finding however does not support those of Owusu-Ansah, (1998), Ferguson et al., (2002), Yangseon et al., (2003), Adelopo (2010), Shehu (2012). On the other hand the finding is in line with the findings of Gray, (2001). The study also found that firm performance has an insignificant positive effect on the financial reporting quality of food and beverages firms in Nigeria. The finding supports those of Alsaeed (2006), Shehu and Bello (2013) and Yang and Krishnan (2005) and Rahman and Ali (2006). On the other hand the finding is in line with the findings of Haniffa and Cooke (2002), Klein (2002b) and Davidson, Stewart and Kent (2005).

The Table also shows that firm performance (FPER) has a significant negative effect on the financial reporting quality of listed food and beverages firms in Nigeria, from the coefficient of -0.9272 with t-value of -4.13, which is statistically significant at 1% level of significance (p-value of 0.000). Based on this, the study rejects the null hypothesis three (H_{03}) which states that, firm performance has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria. The study therefore infers that firm financial performance is a significant determinant of financial reporting quality in the listed food and beverages firms in Nigeria during the period covered by the study.

Similarly, the regression results show that firm growth (FGRW) has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria, from the coefficient of 1.1847 with t-value of 1.44, which is not statistically significant (p-value of 0.154). Based on this, the study failed to reject the null hypothesis four (H_{04}) which states that firm growth has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria. The study infers that growth in the listed food and beverages firms in Nigeria is not a significant determinant of financial reporting quality. The finding is consistent of Young (1999), Shehu (2012) who found that leverage is significantly and negatively related with financial reporting quality. However, the finding contradicts the findings of Nissim and Penman (2000), Lee et al. (2006), Pincus and Rajgopal (2002).

The Table also shows that assets tangibility (TANG) has significant positive effect on the financial reporting quality of listed food and beverages firms in Nigeria, from the coefficient of 0.2280 with t-value of 2.88, which is statistically significant at 1% level of significance (p-value of 0.005). Based on this, the study rejects the null hypothesis five (H_{05}) which states that, assets tangibility has no significant effect on the financial reporting quality of listed food and beverages firms in Nigeria. The study therefore infers that assets tangible is a significant determinant of financial reporting quality in the listed food and beverages firms in Nigeria during the period covered by the study.

Lastly, Table 4.5 shows that the corporate governance variable (BCOM) has positive effect on the financial reporting quality of listed food and beverages firms in Nigeria, from the coefficient of 0.1745 with t-value of 0.48, which is not statistically significant at all levels of significance (p-value of 0.632).

4.5 Policy Implication of the Findings

The findings from this study implied that for a firm in the food and beverages sector to achieve higher quality financial reporting, firm size growth in total revenue and tangible assets has to be considered. It is also implied that managers, auditors and policy makers are to treat firms in terms of their size, growth and the level of tangible assets in order to address the problem of earnings management in the food and beverages firms in Nigeria. This could results in higher quality financial reporting.

Essentially, firms' managers use the intrinsic features of their firms to alter the contents of financial statements. Hence, this study identify some of the firm characteristics that determine the quality of financial reporting, the findings therefore implied that to reduce the earnings management practices which affect the financial reporting quality, size of firms, debts composition in the capital structure, firm growth and asset tangibility should be considered.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The main objective of this study is to examine the determinants of financial reporting quality of listed food and beverages firms in Nigeria. Correlation research design using panel data was employed in the study in a sample of 16 food and beverages firms listed on the floor of Nigerian Stock Exchange for the period 2009-2015. Panel regression technique of data analysis using robust OLS was used and the study found that firm size, firm leverage, assets tangibility and firm performance are significant determinants of financial reporting quality in the listed food and beverages firms in Nigeria during the period under review. The study on the other hand found that firm growth is not significant determinants of financial reporting quality of food and beverages companies in Nigeria.

5.2 Conclusions

Based on the findings, the study concludes after controlling for corporate governance that firm size, leverage, assets tangibility and firm performance have significantly impacted on the financial reporting quality of the listed food and beverages companies in Nigeria during the period covered by the study. The study specifically concludes that firm leverage have a significant negative impact on the financial reporting quality of listed food and beverages firms in Nigeria during the period. The study also concludes that firm performance of the food and beverages firm have a significant negative impact on the financial reporting quality; while firm size of the food and beverages firms has a significant negative impact on the financial reporting quality. On the other hand, assets tangibility has a significant positive impact on the financial reporting quality of the listed food and beverages firms during the period. In essence, the study concludes that firm leverage, performance and assets tangibility are significant determinants of financial reporting quality of listed food and beverages firms in Nigeria.

5.3 Recommendations

In the light of the conclusions of the study, the following recommendations are offered:

i. That the regulators, auditors and financial analysts should take into account firm size, firm growth and tangible assets when making decision to address the problem of earnings management in the listed food and beverages firms in Nigeria. This will assist in improving the financial reporting quality of the firms, and safeguard their going-concern. The following recommendations are also offered:

ii. Managements of food and beverages firms should make policies towards optimal debt level in their capital structure (this should be below the average of 54.39%). This will improve the leverage as a control over financial reporting and thus a quality reports.

iii. The regulators should make policies with regard earnings management in relation to size of the firms and in terms of the effectiveness of the corporate governance mechanisms of the firms. This will facilitate the identification of manipulative accounting practices easily.

iv. Auditors in the food and beverages firms should thoroughly investigate growing firms when auditing them, and ensure that the revenue levels are accordance with the economic realities of the firms. This is to avoid reporting a window dressed accounting information to the market.

v. Tangible fixed assets of the food and beverages firms should be adequately reviewed by both managers and the auditors to ensure that their carrying amount reflect their economic realities and to avoid manipulations through them.

vi. Managers of the food and beverages firms in Nigeria should subscribe to the best corporate governance practices and ethical standards in discharging their duties and responsibilities, so as to enhance and improve the quality of financial reports and capital markets decisions.

5.4 Limitations of the Study

There are many factors that determine financial reporting quality both in theory and practice. This study is limited to firm size, firm leverage, firm performance, firm growth and assets tangibility. The findings of the study are limited to food and beverages companies listed on the floor of Nigerian stock exchange market. This is because other firms have their own characteristics that may render the findings from the food and beverages inconsistent. Thus, the following limitations;

i. Other determinants such as auditor type, audit committee independent, firm age and risk are not been covered by this study.
ii. The study solely relies upon quantitative data (secondary), no attempts were made to incorporate opinion and perception of users of financial reports.
iii. The study did not take into cognizance macro-economic determinants
iv. The study did not cover all the listed food and beverages firms in the NSE

5.5 Suggestions for Further Studies

In view of the identified limitations of the current study, the study suggested that future researches in this area should;

i. Includes other determinants not covered in this study like auditor type, audit committee independent, firm age and risk

ii. Make use of both quantitative and qualitative methodologies

iii. Incorporate macro-economic determinants

iv. Use all the population and even other sectors of the economy.

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APPENDIX A

```
. xtset id year, yearly
       panel variable:  id (strongly balanced)
        time variable:  year, 2009 to 2015
                delta:  1 year
```

1. DESCRIPTIVE STATISTIC

```
. su tacc crev cnrec ppe frq flev fsiz tang fper fgrw bcom, detail

                            tacc
-------------------------------------------------------------
      Percentiles      Smallest
 1%        -6.05          -6.62
 5%          -.6          -6.05
10%         -.34          -1.29       Obs                 112
25%          -.2          -1.02       Sum of Wgt.         112

50%          -.1                      Mean          -.2392232
                        Largest       Std. Dev.      .8564804
75%         -.04            .22
90%          .08            .22       Variance       .7335587
95%         .213            .28       Skewness       -6.57262
99%          .28           .534       Kurtosis       47.30412

                            crev
-------------------------------------------------------------
      Percentiles      Smallest
 1%         -.64           -.83
 5%         -.37           -.64
10%          -.1           -.47       Obs                 112
25%            0            -.4       Sum of Wgt.         112

50%          .08                      Mean             .08675
                        Largest       Std. Dev.      .2370721
75%          .19            .52
90%          .31            .57       Variance       .0562032
95%          .48            .61       Skewness      -.2712697
99%          .61           .991       Kurtosis       6.522093
```

cnrec

	Percentiles	Smallest		
1%	-.83	-.83		
5%	-.4	-.83		
10%	-.38	-.64	Obs	112
25%	-.065	-.64	Sum of Wgt.	112
50%	-.01		Mean	-.0479554
		Largest	Std. Dev.	.2057277
75%	.035	.27		
90%	.11	.27	Variance	.0423239
95%	.22	.4	Skewness	-1.591038
99%	.4	.4	Kurtosis	6.866443

ppe

	Percentiles	Smallest		
1%	.108	.106		
5%	.14	.108		
10%	.2105	.113	Obs	112
25%	.415	.114	Sum of Wgt.	112
50%	.6		Mean	.5658527
		Largest	Std. Dev.	.2279082
75%	.75	.91		
90%	.85	.91	Variance	.0519422
95%	.9	.92	Skewness	-.3429608
99%	.92	.93	Kurtosis	2.166336

frq

	Percentiles	Smallest		
1%	.0030514	.0003278		
5%	.0088619	.0030514		
10%	.030772	.005062	Obs	112
25%	.0623889	.006528	Sum of Wgt.	112
50%	.1231128		Mean	.2951824
		Largest	Std. Dev.	.767196
75%	.2317374	1.341753		
90%	.5476258	1.406015	Variance	.5885898
95%	.7996446	4.178658	Skewness	6.796487
99%	4.178658	6.821843	Kurtosis	53.66887

flev

	Percentiles	Smallest		
1%	.13007	.13007		
5%	.143362	.13007		
10%	.3344	.133	Obs	112
25%	.4276	.134513	Sum of Wgt.	112
50%	.5635		Mean	.5438849
		Largest	Std. Dev.	.1943796
75%	.6799	.883		
90%	.7552	.9099	Variance	.0377834
95%	.8365	1.0085	Skewness	-.2269936
99%	1.0085	1.0494	Kurtosis	2.950179

fsiz

	Percentiles	Smallest		
1%	4.84	4.84		
5%	4.95	4.84		
10%	6.41	4.84	Obs	112
25%	6.935	4.85	Sum of Wgt.	112
50%	7.61		Mean	7.339554
		Largest	Std. Dev.	.8810982
75%	7.905	8.47		
90%	8.14	8.54	Variance	.776334
95%	8.4	8.54	Skewness	-1.308874
99%	8.54	8.55	Kurtosis	4.443401

tang

	Percentiles	Smallest		
1%	.154	.1277		
5%	.2155	.154		
10%	.2984	.1909	Obs	112
25%	.41715	.2052	Sum of Wgt.	112
50%	.5447		Mean	.5509741
		Largest	Std. Dev.	.1988144
75%	.6877	.9483		
90%	.8089	.9517	Variance	.0395272
95%	.916	.9801	Skewness	.1040163
99%	.9801	.9908	Kurtosis	2.576003

fper

	Percentiles	Smallest		
1%	-.8899	-.9326		
5%	-.386811	-.8899		
10%	-.2287	-.6124	Obs	112
25%	.02195	-.4629	Sum of Wgt.	112
50%	.07195		Mean	.0335445
		Largest	Std. Dev.	.2019334
75%	.1441	.2376		
90%	.2088	.2588	Variance	.0407771
95%	.2259	.2609	Skewness	-2.519071
99%	.2609	.2652	Kurtosis	10.89972

fgrw

	Percentiles	Smallest		
1%	-.6241	-.9651		
5%	-.2261	-.6241		
10%	-.1083	-.4894	Obs	112
25%	-.0016	-.4155	Sum of Wgt.	112
50%	.0786		Mean	.0795492
		Largest	Std. Dev.	.2178662
75%	.1748	.5277		
90%	.2888	.5513	Variance	.0474657
95%	.438	.662	Skewness	-.9009157
99%	.662	.7346	Kurtosis	8.542075

bcom

	Percentiles	Smallest		
1%	.42	.42		
5%	.54	.42		
10%	.56	.54	Obs	112
25%	.63	.54	Sum of Wgt.	112
50%	.7		Mean	.6874107
		Largest	Std. Dev.	.0958203
75%	.78	.86		
90%	.8	.86	Variance	.0091815
95%	.83	.86	Skewness	-.2007077
99%	.86	.86	Kurtosis	2.640824

2. NORMAL DATA TEST

```
. swilk tacc crev cnrec ppe frq flev fsiz tang fper fgrw bcom
```

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
tacc	112	0.29593	63.922	9.280	0.00000
crev	112	0.92676	6.649	4.229	0.00001
cnrec	112	0.82234	16.129	6.207	0.00000
ppe	112	0.95921	3.703	2.922	0.00174
frq	112	0.30700	62.916	9.245	0.00000
flev	112	0.97754	2.039	1.591	0.05585
fsiz	112	0.87062	11.746	5.499	0.00000
tang	112	0.98591	1.279	0.550	0.29120
fper	112	0.74549	23.107	7.009	0.00000
fgrw	112	0.89100	9.896	5.116	0.00000
bcom	112	0.97772	2.023	1.572	0.05795

3. CORRELATION RESULTS: MODEL ONE

```
. pwcorr tacc crev cnrec ppe fper, star (0.05) sig

             |     tacc     crev    cnrec      ppe     fper
-------------+---------------------------------------------
        tacc |   1.0000
             |
             |
        crev |  -0.6137*  1.0000
             |   0.0000
             |
       cnrec |  -0.0124   0.0999   1.0000
             |   0.8971   0.2945
             |
         ppe |  -0.7253*  0.9413*  0.0281   1.0000
             |   0.0000   0.0000   0.7689
             |
        fper |   0.3670*  0.0080   0.0663  -0.1358   1.0000
             |   0.0001   0.9334   0.4874   0.1535
```

4. OLS REGRESSION: MODEL ONE

```
. reg tacc crev cnrec ppe fper

      Source |       SS       df       MS              Number of obs =     112
-------------+------------------------------           F(  4,   107) =   42.07
       Model |  71.4958452     4  17.8739613           Prob > F      =  0.0000
    Residual |  45.4641854   107  .424898929           R-squared     =  0.6113
-------------+------------------------------           Adj R-squared =  0.5968
       Total |  116.960031   111  1.05369397           Root MSE      =  .65184

------------------------------------------------------------------------------
        tacc |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        crev |   .3763503   .2104637     1.79   0.077    -.0408695    .7935701
       cnrec |  -.1276605   .2309635    -0.55   0.582    -.5855187    .3301978
         ppe |  -.5099916   .0993895    -5.13   0.000    -.7070197   -.3129635
        fper |   .8696059    .255468     3.40   0.001     .3631703    1.376041
       _cons |   .1714753   .0794319     2.16   0.033     .0140109    .3289397
------------------------------------------------------------------------------
```

5. HETEROSKEDASTICITY TEST: MODEL ONE

```
. hettest

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

         chi2(1)      =    23.48
         Prob > chi2  =   0.0000
```

6. FIXED EFFECT REGRESSION: MODEL ONE

```
. xtreg tacc crev cnrec ppe fper, fe

Fixed-effects (within) regression               Number of obs      =       112
Group variable: id                              Number of groups   =        16

R-sq:  within  = 0.6916                         Obs per group: min =         7
       between = 0.8725                                        avg =       7.0
       overall = 0.6043                                        max =         7

                                                F(4,92)            =     51.57
corr(u_i, Xb)  = -0.5713                        Prob > F           =    0.0000

------------------------------------------------------------------------------
        tacc |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        crev |   .6230874   .2244664     2.78   0.007     .1772778    1.068897
       cnrec |  -.0811172   .2444035    -0.33   0.741    -.5665236    .4042892
         ppe |  -.6893132   .1086713    -6.34   0.000    -.9051438   -.4734825
        fper |   1.358638   .3520871     3.86   0.000      .659363    2.057914
       _cons |   .2729671   .0808354     3.38   0.001     .1124211    .4335132
-------------+----------------------------------------------------------------
     sigma_u |  .41004344
     sigma_e |   .6114115
         rho |  .31023643   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(15, 92) =     1.97             Prob > F = 0.0255

. est store fixed
```

7. RANDOM EFFECT REGRESSION: MODEL ONE

```
. xtreg tacc crev cnrec ppe fper, re

Random-effects GLS regression                   Number of obs      =       112
Group variable: id                              Number of groups   =        16

R-sq:  within  = 0.6845                         Obs per group: min =         7
       between = 0.8752                                        avg =       7.0
       overall = 0.6113                                        max =         7

                                                Wald chi2(4)       =    168.27
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------------------------------------------------------------------
        tacc |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        crev |   .3763503   .2104637     1.79   0.074     -.036151    .7888517
       cnrec |  -.1276605   .2309635    -0.55   0.580    -.5803406    .3250197
         ppe |  -.5099916   .0993895    -5.13   0.000    -.7047914   -.3151918
        fper |   .8696059    .255468     3.40   0.001     .3688977    1.370314
       _cons |   .1714753   .0794319     2.16   0.031     .0157917    .3271589
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |   .6114115
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store random
```

8. HAUSMAN SPECIFICATION TEST: MODEL ONE

```
. hausman fixed random
```

	Coefficients (b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
crev	.6230874	.3763503	.2467371	.0780396
cnrec	-.0811172	-.1276605	.0465433	.0799307
ppe	-.6893132	-.5099916	-.1793216	.0439453
fper	1.358638	.8696059	.4890325	.2422837

```
                           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)
                          =       44.05
                Prob>chi2 =      0.0000
```

9. RANDOM EFFECT TEST: MODEL ONE

```
. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

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

        Estimated results:
```

	Var	sd = sqrt(Var)
tacc	1.053694	1.026496
e	.373824	.6114115
u	0	0

```
        Test:   Var(u) = 0
                             chibar2(01) =     0.00
                          Prob > chibar2 =   1.0000
```

10. ROBUST OLS REGRESSION: MODEL ONE

```
. reg tacc crev cnrec ppe fper, robust

Linear regression                                      Number of obs =     112
                                                       F(  4,   107) =   16.77
                                                       Prob > F      =  0.0000
                                                       R-squared     =  0.6113
                                                       Root MSE      =  .65184
```

tacc	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
crev	.3763503	.3821473	0.98	0.327	-.3812122	1.133913
cnrec	-.1276605	.1460072	-0.87	0.384	-.4171028	.1617819
ppe	-.5099916	.2024208	-2.52	0.013	-.9112673	-.1087159
fper	.8696059	.1914927	4.54	0.000	.489994	1.249218
_cons	.1714753	.0923243	1.86	0.066	-.0115469	.3544975

```
. predict residuals
(option xb assumed; fitted values)
```

11. CORRELATION RESULTS: MODEL TWO

```
. pwcorr frq flev fsiz tang fper fgrw bcom, star (0.05) sig
```

	frq	flev	fsiz	tang	fper	fgrw	bcom
frq	1.0000						
flev	0.1858*	1.0000					
	0.0498						
fsiz	-0.3401*	-0.7261*	1.0000				
	0.0002	0.0000					
tang	0.5077*	0.0955	-0.2555*	1.0000			
	0.0000	0.3163	0.0065				
fper	-0.4188*	-0.6322*	0.6527*	-0.3979*	1.0000		
	0.0000	0.0000	0.0000	0.0000			
fgrw	0.4928*	-0.0504	0.0753	0.1529	0.0908	1.0000	
	0.0000	0.5977	0.4301	0.1076	0.3411		
bcom	0.0604	0.0983	-0.0017	-0.0038	-0.1093	0.0470	1.0000
	0.5267	0.3025	0.9859	0.9679	0.2512	0.6230	

12. OLS REGRESSION: MODEL TWO

```
. reg frq flev fsiz tang fper fgrw bcom
```

Source	SS	df	MS
Model	36.3472852	6	6.05788086
Residual	28.9861779	105	.276058838
Total	65.3334631	111	.588589758

```
Number of obs =      112
F(  6,   105) =    21.94
Prob > F      =   0.0000
R-squared     =   0.5563
Adj R-squared =   0.5310
Root MSE      =   .52541
```

frq	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
flev	-.04277	.0224801	-1.90	0.060	-.0873439	.001804
fsiz	-.2106411	.0900527	-2.34	0.021	-.389199	-.0320833
tang	.2280256	.0656197	3.47	0.001	.097914	.3581373
fper	-.9271896	.2836554	-3.27	0.001	-1.489626	-.3647533
fgrw	1.184706	.1623513	7.30	0.000	.8627938	1.506619
bcom	.1745348	.523944	0.33	0.740	-.8643494	1.213419
_cons	1.549187	.7358907	2.11	0.038	.0900514	3.008322

13. HETEROSKEDASTICITY TEST: MODEL TWO

```
. hettest

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

         chi2(1)      =   360.56
         Prob > chi2  =   0.0000
```

14. MULTICOLINEARITY TEST: MODEL TWO

```
. vif
```

Variable	VIF	1/VIF
fsiz	2.53	0.395036
flev	2.53	0.395269
fper	2.32	0.431880
tang	1.34	0.747213
fgrw	1.06	0.939112
bcom	1.04	0.964733
Mean VIF	1.80	

15. FIXED EFFECT REGRESSION: MODEL TWO

```
. xtreg frq flev fsiz tang fper fgrw bcom, fe

Fixed-effects (within) regression               Number of obs      =       112
Group variable: id                              Number of groups   =        16

R-sq:  within  = 0.4617                         Obs per group: min =         7
       between = 0.5272                                        avg =       7.0
       overall = 0.3927                                        max =         7

                                                F(6,90)            =     12.87
corr(u_i, Xb)  = -0.7119                        Prob > F           =    0.0000

------------------------------------------------------------------------------
         frq |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        flev |   .0174772   .1144451     0.15   0.879     -.209888    .2448424
        fsiz |  -.5310039   .4328821    -1.23   0.223       -1.391    .3289921
        tang |   .0998155   .1071475     0.93   0.354    -.1130517    .3126826
        fper |  -1.060658   .3303007    -3.21   0.002    -1.716858   -.4044575
        fgrw |   1.215912   .2207185     5.51   0.000     .7774163    1.654408
        bcom |   .2522127   .6924849     0.36   0.717     -1.12353    1.627955
       _cons |   3.835571   3.214016     1.19   0.236    -2.549632    10.22077
-------------+----------------------------------------------------------------
     sigma_u |  .51647828
     sigma_e |  .53608996
         rho |  .48137426   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(15, 90) =     0.72              Prob > F = 0.7544

. est store fixed
```

16. RANDOM EFFECT REGRESSION: MODEL TWO

```
. xtreg frq flev fsiz tang fper fgrw bcom, re

Random-effects GLS regression                   Number of obs      =       112
Group variable: id                              Number of groups   =        16

R-sq:  within  = 0.4507                         Obs per group: min =         7
       between = 0.8499                                        avg =       7.0
       overall = 0.5563                                        max =         7

                                                Wald chi2(6)       =    131.66
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------------------------------------------------------------------
         frq |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        flev |    -.04277   .0224801    -1.90   0.057    -.0868302    .0012903
        fsiz |  -.2106411   .0900527    -2.34   0.019    -.3871412   -.0341411
        tang |   .2280256   .0656197     3.47   0.001     .0994135    .3566378
        fper |  -.9271896   .2836554    -3.27   0.001    -1.483144   -.3712352
        fgrw |   1.184706   .1623513     7.30   0.000     .8665038    1.502909
        bcom |   .1745348    .523944     0.33   0.739    -.8523766    1.201446
       _cons |   1.549187   .7358907     2.11   0.035     .1068674    2.991506
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |  .53608996
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store random
```

17. HAUSMAN SPECIFICATION TEST: MODEL TWO

```
. hausman fixed random

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |     fixed        random       Difference          S.E.
-------------+----------------------------------------------------------------
        flev |    .0174772      -.04277        .0602472        .1122156
        fsiz |   -.5310039    -.2106411       -.3203627        .4234117
        tang |    .0998155     .2280256       -.1282102        .0847033
        fper |   -1.060658    -.9271896       -.1334679        .1692281
        fgrw |    1.215912     1.184706        .0312057        .1495283
        bcom |    .2522127     .1745348        .0776779        .4527892
------------------------------------------------------------------------------
                           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(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =        6.82
                Prob>chi2 =      0.3382
```

18. RANDOM EFFECT TEST: MODEL TWO

```
. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

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

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+-----------------------------
                     frq |   .5885898       .767196
                       e |   .2873924        .53609
                       u |          0             0

        Test:   Var(u) = 0
                             chibar2(01) =     0.00
                          Prob > chibar2 =   1.0000
```

19. ROBUST OLS REGRESSION: MODEL TWO

```
. reg frq flev fsiz tang fper fgrw bcom, robust

Linear regression                                      Number of obs =     112
                                                       F(  6,   105) =  144.38
                                                       Prob > F      =  0.0000
                                                       R-squared     =  0.5563
                                                       Root MSE      =  .52541

------------------------------------------------------------------------------
             |               Robust
         frq |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        flev |    -.04277   .0250438    -1.71   0.091    -.0924272    .0068872
        fsiz |  -.2106411   .0986926    -2.13   0.035    -.4063303   -.014952
        tang |   .2280256   .0790512     2.88   0.005     .0712818    .3847695
        fper |  -.9271896   .2243869    -4.13   0.000    -1.372107   -.4822718
        fgrw |   1.184706   .8249806     1.44   0.154    -.4510778    2.820491
        bcom |   .1745348   .3636466     0.48   0.632    -.5465092    .8955788
       _cons |   1.549187   .7903456     1.96   0.053    -.0179227    3.116296
------------------------------------------------------------------------------
```

APPENDIX C: DATA

year	id	tacc	crev	cnrec	ppe	frq	flev
2009	1	-0.13	0.18	0.27	0.78	0.151302	0.7496
2010	1	-0.17	0.19	0.16	0.64	0.054619	0.7316
2011	1	-0.14	0.3	0.09	0.67	0.019584	0.7868
2012	1	-0.15	0.22	-0.01	0.66	0.040435	0.7696
2013	1	-0.25	0.1	-0.4	0.8	0.099469	0.7552
2014	1	-0.25	0.27	-0.38	0.74	0.044386	0.6898
2015	1	-0.18	0.08	-0.64	0.8	0.033138	0.6464
2009	2	-0.23	0.05	0.03	0.47	0.095844	0.4983
2010	2	-0.13	0.14	0.07	0.46	0.01646	0.543
2011	2	-0.07	0.17	0.05	0.43	0.104649	0.5071
2012	2	-0.11	-0.02	-0.03	0.41	0.033468	0.501
2013	2	-0.01	0.06	-0.06	0.42	0.10883	0.4442
2014	2	0	-0.12	0.11	0.37	0.030772	0.5995
2015	2	-0.09	-0.09	-0.04	0.53	0.092279	0.5677
2009	3	-0.57	-0.05	0	0.86	0.688476	1.3007
2010	3	-0.49	-0.03	0.08	0.85	0.667539	1.3007
2011	3	-0.49	-0.03	0.06	0.74	0.374093	1.3007
2012	3	-0.22	0	-0.2	0.81	0.38705	1.5045
2013	3	-0.33	0.07	0	1.06	0.454863	1.5043
2014	3	-0.19	0.12	0.01	0.75	0.235571	0.388
2015	3	-0.13	0.02	0	0.72	0.18167	0.3105
2009	4	0.09	0.03	0.16	0.29	0.162537	0.4625
2010	4	0.22	0.1	0.09	0.2	0.253108	0.3435
2011	4	-0.11	0.28	-0.01	0.26	0.233971	0.4577
2012	4	-0.2	0	-0.4	0.25	0.208177	0.4422
2013	4	0.28	-0.04	-0.38	0.5	0.063333	0.4351
2014	4	-0.05	-0.1	-0.64	0.61	0.013497	0.446
2015	4	-0.04	0.07	-0.83	0.59	0.100627	0.4334
2009	5	-0.03	0.48	0.4	0.44	0.103969	0.7281
2010	5	-0.19	0.19	-0.3	0.44	0.08045	0.6289
2011	5	-0.06	0.22	0.04	0.5	0.04452	0.6938
2012	5	0.03	0.12	-0.01	0.64	0.077175	0.6464
2013	5	-0.05	0.19	-0.01	0.62	0.047935	0.7006
2014	5	-0.07	0.11	-0.06	0.6	0.069722	0.7189
2015	5	-0.05	-0.08	0	0.71	0.199248	0.754
2009	6	0.03	0.27	-0.16	0.49	0.203018	0.5732
2010	6	-0.2	0.27	-0.02	0.52	0.162802	0.5638
2011	6	-0.02	0.18	-0.02	0.59	0.109928	0.5632
2012	6	-0.1	-0.08	0	0.83	0.165312	0.6358
2013	6	-0.12	0.06	0.01	0.83	0.145292	0.6197
2014	6	-0.08	-0.11	0	0.75	0.189544	0.6595

2015	6	-0.19	0.07	0	0.66	0.083294	0.6046
2009	7	-6.62	1.86	0.02	8.38	4.178658	1.883
2010	7	-6.05	9.91	0.04	21.05	6.821843	1.0085
2011	7	-0.2	0.52	-0.06	0.82	0.034486	0.9099
2012	7	2.13	0.52	0.01	0.82	0.0618	0.6481
2013	7	5.34	0.01	0.03	0.69	0.085872	0.5928
2014	7	-0.18	0.05	-0.02	0.81	0.145113	0.5376
2015	7	-0.05	0.09	-0.07	0.93	0.20392	0.5967
2009	8	0.05	0.12	-0.12	0.39	0.229504	0.432
2010	8	0.05	0.02	-0.02	0.31	0.214337	0.3401
2011	8	-0.19	0.19	-0.01	0.44	0.210567	0.4362
2012	8	-0.05	0.31	0.07	0.36	0.320665	0.3847
2013	8	0.08	-0.24	0.02	0.54	0.008604	0.397
2014	8	-0.2	0.04	-0.16	0.58	0.04047	0.4977
2015	8	-0.15	0.39	0.11	0.54	0.141167	0.565
2009	9	-0.07	0.57	-0.11	0.87	0.148615	0.7617
2010	9	-0.06	0.33	0.22	0.91	0.014933	0.7537
2011	9	-0.06	0.25	1.89	0.91	0.255277	0.7014
2012	9	-0.12	0.24	-0.02	0.8	0.062978	0.6157
2013	9	-0.16	0.18	-0.12	0.74	0.056022	0.6248
2014	9	-0.01	0.09	-0.03	0.62	0.075251	0.6611
2015	9	-0.15	0.07	-0.06	0.65	0.047124	0.6812
2009	10	-0.09	0.18	-0.04	0.66	0.134611	0.5647
2010	10	-0.08	0.2	0.17	0.69	0.103768	0.5614
2011	10	-0.14	0.22	0	1.08	0.156164	0.67
2012	10	-0.08	0.18	0.08	0.6	0.053451	0.6316
2013	10	-0.21	0.06	0.06	0.6	0.028583	0.5555
2014	10	-0.07	-0.01	-0.2	0.77	0.093532	0.5076
2015	10	-0.1	0.08	0	0.56	0.008862	0.5162
2009	11	-0.06	1.29	-0.08	0.15	0.66512	0.6865
2010	11	0.22	0.61	-0.04	0.14	0.385281	0.5264
2011	11	-0.33	0.48	0.22	0.31	0.261771	0.6244
2012	11	0.22	0.3	-0.1	0.17	0.211752	0.5946
2013	11	-0.27	-0.29	-0.09	0.25	0.000328	0.5569
2014	11	0.08	-0.09	0.01	0.19	0.101606	0.457
2015	11	-0.08	-0.47	0	0.16	0.045702	0.4232
2009	12	-0.06	0.3	0.02	0.43	0.14697	0.3521
2010	12	-0.16	-0.33	-0.02	0.45	0.097312	0.3436
2011	12	0.1	0.05	0.4	0.42	0.003051	0.4024
2012	12	-0.01	0.09	-0.3	0.35	0.09941	0.3344
2013	12	-0.07	-0.01	0.04	0.38	0.032812	0.3577
2014	12	-0.03	0.02	-0.01	0.34	0.069146	0.3644
2015	12	0	0	-0.01	0.36	0.048114	0.3851
2009	13	-0.37	0.43	0	1.14	0.112861	0.1851
2010	13	-0.28	0.17	0.2	1.16	0.324274	0.3416
2011	13	-0.12	-0.03	-0.16	1.13	0.389158	0.6534

2012	13	0.02	-0.09	-0.02	0.51	0.145331	0.673
2013	13	-0.1	-0.37	-0.02	0.39	0.253426	0.7251
2014	13	-0.04	0.17	0	0.4	0.068199	0.8247
2015	13	-0.17	0.12	0.01	0.42	0.222238	1.0494
2009	14	-0.05	0.3	0	0.42	0.220539	0.6536
2010	14	-0.2	0.1	-0.04	0.5	0.099401	0.6786
2011	14	-0.2	0.31	0.02	0.55	0.153798	0.7013
2012	14	-0.05	0.03	0.04	0.6	0.005062	0.7248
2013	14	-0.19	0.12	-0.06	0.64	0.006528	0.7797
2014	14	0.1	-0.1	0.01	0.57	0.112303	0.8365
2015	14	-0.32	0.08	0.03	0.6	0.087545	0.8405
2009	15	-0.81	0	-0.07	0.62	1.341753	14.3362
2010	15	-1.29	0	0.09	0.9	1.406015	15.808
2011	15	-0.6	0	-0.12	0.89	0.799645	16.5731
2012	15	-0.47	0	-0.02	0.92	0.494738	13.3
2013	15	-0.34	0	-0.01	0.7	0.065367	13.5206
2014	15	-1.02	0	0	0.76	1.027113	13.4513
2015	15	0.1	0	0.27	0.67	0.23808	17.9772
2009	16	-0.03	0.16	0.09	0.74	0.133365	0.4768
2010	16	-0.08	0.09	-0.01	0.74	0.143987	0.4844
2011	16	0.1	-0.01	-0.4	0.9	0.146908	0.4673
2012	16	-0.2	-0.4	-0.38	0.82	0.547626	0.6516
2013	16	-0.06	-0.38	-0.64	0.88	0.391761	0.3667
2014	16	-0.12	-0.64	-0.83	0.85	0.596237	0.3945
2015	16	-0.15	-0.83	-0.4	0.84	0.790672	0.3442

year	id	fsiz	tang	fper	fgrw	bcom	_est_fixed	_est_random
2009	1	7.5	0.5832	0.048	0.1404	0.416667	1	1
2010	1	7.52	0.6141	0.0566	0.178	0.666667	1	1
2011	1	7.6	0.5553	0.0566	0.2442	0.666667	1	1
2012	1	7.65	0.6006	0.0467	0.1716	0.666667	1	1
2013	1	7.71	0.6901	0.0556	0.0706	0.833333	1	1
2014	1	7.75	0.6783	0.1152	0.2153	0.833333	1	1
2015	1	7.83	0.6566	0.1053	0.0586	0.538462	1	1
2009	2	7.4	0.4413	-0.049	0.053	0.583333	1	1
2010	2	7.45	0.4066	0.0412	0.1401	0.538462	1	1
2011	2	7.53	0.3618	0.1091	0.1693	0.615385	1	1
2012	2	7.6	0.3471	0.086	-0.0164	0.615385	1	1
2013	2	7.64	0.3921	0.1395	0.0659	0.615385	1	1
2014	2	7.46	0.5598	0.0525	-0.1466	0.555556	1	1
2015	2	7.45	0.5407	0.0406	-0.0883	0.555556	1	1
2009	3	6.37	0.5438	-0.4629	-0.1799	0.625	1	1
2010	3	6.45	0.7411	-0.4416	0.5277	0.625	1	1
2011	3	6.84	0.2984	-0.1716	-0.0441	0.625	1	1
2012	3	6.83	0.832	-0.1966	-0.0032	0.625	1	1
2013	3	6.96	0.7923	-0.1289	0.2509	0.777778	1	1
2014	3	6.98	0.7135	-0.0787	0.4787	0.777778	1	1
2015	3	7.01	0.6697	0.0075	0.0604	0.777778	1	1
2009	4	7.89	0.2155	0.1703	0.0214	0.777778	1	1
2010	4	7.79	0.2527	0.1811	0.0921	0.777778	1	1
2011	4	7.86	0.2236	0.1017	0.1916	0.777778	1	1
2012	4	7.92	0.2158	0.1301	-0.0033	0.8	1	1
2013	4	7.92	0.5032	0.1304	-0.0348	0.8	1	1
2014	4	7.97	0.5439	0.1254	-0.0804	0.8	1	1
2015	4	8.01	0.534	0.1124	0.0654	0.8	1	1
2009	5	8.14	0.3478	0.0314	0.4105	0.857143	1	1
2010	5	8.16	0.4225	0.0271	0.1474	0.857143	1	1
2011	5	8.21	0.4398	0.0579	0.1558	0.625	1	1
2012	5	8.37	0.4455	0.036	0.0815	0.625	1	1
2013	5	8.45	0.5151	0.0276	0.1691	0.625	1	1
2014	5	8.47	0.5695	0.0181	0.1	0.625	1	1
2015	5	8.54	0.6142	0.0247	-0.0704	0.625	1	1
2009	6	7.87	0.486	0.1833	0.2888	0.625	1	1
2010	6	7.89	0.4878	0.1752	0.2268	0.714286	1	1
2011	6	7.96	0.4998	0.1944	0.1307	0.714286	1	1
2012	6	8.03	0.7197	0.1341	-0.0582	0.714286	1	1
2013	6	8.08	0.7278	0.098	0.0515	0.714286	1	1
2014	6	8.12	0.6853	0.0723	-0.1083	0.714286	1	1
2015	6	8.09	0.7178	0.0638	0.0851	0.714286	1	1
2009	7	5.51	9.6133	-0.8899	0.7346	0.7	1	1
2010	7	7	0.6815	0.0201	1.9662	0.7	1	1
2011	7	7.16	0.5632	0.0102	1.0664	0.714286	1	1

2012	7	7.34	0.445	0.1312	0.21	0.416667	1	1
2013	7	7.36	0.6727	0.1088	0.34	0.666667	1	1
2014	7	7.39	0.7664	0.0864	0.0636	0.666667	1	1
2015	7	7.48	0.7517	0.0645	0.1165	0.666667	1	1
2009	8	6.91	0.3566	0.2259	0.1114	0.833333	1	1
2010	8	6.88	0.3403	0.2195	0.0145	0.538462	1	1
2011	8	7	0.3292	0.2193	0.1589	0.583333	1	1
2012	8	7.03	0.343	0.2588	0.3015	0.583333	1	1
2013	8	7.06	0.5029	0.2362	-0.1921	0.538462	1	1
2014	8	7.1	0.5323	0.1487	0.0381	0.615385	1	1
2015	8	7.21	0.4148	0.1292	0.438	0.615385	1	1
2009	9	7.65	0.5741	0.2211	0.3203	0.555556	1	1
2010	9	7.78	0.6668	0.2088	0.2109	0.555556	1	1
2011	9	7.89	0.7078	0.2122	0.1842	0.555556	1	1
2012	9	7.95	0.6987	0.2376	0.1914	0.625	1	1
2013	9	8.03	0.6088	0.2057	0.1403	0.625	1	1
2014	9	8.03	0.6366	0.2096	0.077	0.625	1	1
2015	9	8.08	0.58	0.1991	0.0554	0.625	1	1
2009	10	8.03	0.645	0.2609	0.1289	0.777778	1	1
2010	10	8.06	0.6452	0.2652	0.1319	0.777778	1	1
2011	10	8.37	0.5226	0.1614	0.1356	0.777778	1	1
2012	10	8.4	0.5612	0.15	0.1971	0.777778	1	1
2013	10	8.4	0.6068	0.1704	0.0631	0.777778	1	1
2014	10	8.54	0.5549	0.1218	-0.0083	0.777778	1	1
2015	10	8.55	0.5539	0.1068	0.1034	0.8	1	1
2009	11	6.44	0.1277	0.0856	0.5513	0.8	1	1
2010	11	6.41	0.154	0.0581	0.1977	0.8	1	1
2011	11	6.62	0.1909	0.1102	0.1202	0.857143	1	1
2012	11	6.53	0.2052	0.0015	0.1071	0.857143	1	1
2013	11	6.56	0.2311	0.0621	-0.0768	0.857143	1	1
2014	11	6.51	0.2078	0.0715	-0.0265	0.625	1	1
2015	11	6.52	0.2173	0.0475	-0.1323	0.625	1	1
2009	12	7.74	0.3919	0.0971	0.2279	0.625	1	1
2010	12	7.77	0.4195	0.0947	-0.2261	0.625	1	1
2011	12	7.84	0.3632	0.0827	0.0512	0.625	1	1
2012	12	7.81	0.3782	0.0394	0.0953	0.625	1	1
2013	12	7.86	0.3371	0.0736	-0.0112	0.714286	1	1
2014	12	7.85	0.345	0.0716	0.0219	0.714286	1	1
2015	12	7.83	0.3742	0.0678	0.003	0.714286	1	1
2009	13	7.55	0.9908	0.1555	0.2809	0.714286	1	1
2010	13	7.62	1	0.066	0.1012	0.714286	1	1
2011	13	7.94	0.5396	0.0075	-0.0195	0.714286	1	1
2012	13	7.89	0.5687	-0.0292	-0.1148	0.7	1	1
2013	13	7.82	0.4554	-0.1027	-0.4894	0.7	1	1
2014	13	7.74	0.4807	-0.1146	0.3774	0.7	1	1
2015	13	7.69	0.4666	-0.2569	0.1638	0.7	1	1

2009	14	7.37	0.4213	0.1729	0.19	0.7	1	1
2010	14	7.41	0.4527	0.1612	0.0523	0.7	1	1
2011	14	7.51	0.4423	0.171	0.1692	0.545455	1	1
2012	14	7.56	0.5279	0.1534	0.015	0.75	1	1
2013	14	7.64	0.5308	0.1099	0.0802	0.75	1	1
2014	14	7.66	0.5429	0.0527	-0.0708	0.75	1	1
2015	14	7.7	0.5455	0.0238	0.0622	0.75	1	1
2009	15	4.85	0.9483	-1.3868	0	0.75	1	1
2010	15	4.84	0.916	-1.273	0	0.777778	1	1
2011	15	4.84	0.8985	-0.6124	0	0.777778	1	1
2012	15	4.95	0.7112	-0.2295	0	0.636364	1	1
2013	15	4.94	0.7185	0.1367	0	0.727273	1	1
2014	15	4.97	0.695	-0.9326	0	0.727273	1	1
2015	15	4.84	0.916	-0.0384	0	0.666667	1	1
2009	16	6.44	0.7325	0.0274	0.1951	0.833333	1	1
2010	16	6.41	0.782	0.0308	0.0969	0.538462	1	1
2011	16	6.46	0.8089	0.1073	-0.0083	0.583333	1	1
2012	16	6.42	0.8889	-0.2287	-0.4155	0.583333	1	1
2013	16	6.43	0.8722	-0.0611	-0.6241	0.538462	1	1
2014	16	6.4	0.92	-0.2292	-0.9651	0.615385	1	1
2015	16	6.39	0.9517	-0.3133	-1.273	0.833333	1	1