EFFECT OF EARNINGS QUALITY PROPERTIES ON SHARE PRICE OF LISTED MANUFACTURING FIRMS IN NIGERIA

BY

Mahmoud IBRAHIM
PhD/ADMIN/15920/2010-11

BEING A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY (PhD) IN ACCOUNTING AND FINANCE

DEPARTMENT OF ACCOUNTING, FACULTY OF ADMINISTRATION, AHMADU BELLO UNIVERSITY, ZARIA

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DECLARATION

I declare that the work in this thesis entitled "Effect of Earnings Quality Properties on Share Price of Listed Manufacturing Firms in Nigeria" has been carried out by me in the Department of Accounting. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this thesis was previously presented for another degree or diploma at this or any other Institution.

Name of Student **Signature** **Date**

CERTIFICATION

This thesis entitled "Effect of Earnings Quality Properties on Share Price of Listed Manufacturing Firms in Nigeria" by Mahmoud IBRAHIM (PhD/ADMIN/15920/2010-11) meets the regulations governing the award of the degree of Doctor of Philosophy in Accounting and Finance of the Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

…… ……..…….
Dr. A. B. Dogarawa Date
Chairman, Supervisory Committee

…… ……..
Dr. A. Bello Date
Member, Supervisory Committee

…… ……..
Professor B. T. Koki Date
Member, Supervisory Committee

…… ……
Dr. A. B. Dogarawa Date
Head of Department

..... ……
Professor K. Bala Date
Dean, School of Postgraduate Studies

DEDICATION

This work is dedicated to the entire members of my family: the one I belong to; and the one that belongs to me, and to those who are concerned about earnings quality particularly among Nigerian manufacturing firms.

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ABSTRACT

Earnings quality has emerged as an issue of interest to analyst, investors, managers and other market participants in view of the fact that it is one of the most striking and challenging issues in studies related to Accounting and finance. While managers are much concerned about meeting analyst forecast by maintaining sustainable growth of the companies as means to protect themselves analysts are interested on how best to measure the quality of earnings. This in order to maximise the portfolio of investors who now more than ever increasingly demand for information about quality of earnings and its association with share price and returns. This study investigated the effect of earnings quality properties on share price of listed manufacturing firms in Nigeria. The population of the study comprised all the 37 quoted manufacturing firms on the Nigeria Stock Exchange as at 31st December 2013 on which filters were employed to arrive at an adjusted population of 20 firms. The entire firms within the adjusted population were studied based on census approach. Panel data were extracted from the annual financial statements of the firms for the period 2009 – 2013 to examine the effect of earnings quality properties represented by accruals quality, income smoothing, earnings variability, timeliness of earnings and earnings conservativism on share price of the firms. The result of the robust Ordinary Least Square (OLS) revealed that of the five earnings quality attributes used in the study, accruals quality and timeliness of earnings have significant inverse relationship with share price, while earnings variability has significant positive relationship with share price. The study further revealed that income smoothing and earnings conservativism have negative but insignificant association with share price of listed manufacturing

firms in Nigeria. Based on the result, the study recommended among others that the Security and Exchange Commission (SEC) should continually subject the earnings of manufacturing sector to quality tests to insulate the investing public from possible rip off. Also, management of manufacturing firms should avoid undue earnings management practice by limiting their choice of accounting treatment alternatives to the provision of IFRS in order to improve financial information quality that will reduce information asymmetry and consequently lead to share price improvement. Furthermore, the Board of Directors of manufacturing firms should increase their monitoring capacity towards discretionary earnings management activities by increasing the number of experts in accounting and finance on the Board to at least three in order to improve earnings quality. The study contributed to both theory and practice by testing the applicability of the Modigliani and Miller's theory of stock valuation using Nigerian data and validated the theory with respect to earnings quality. In addition to contribution to the literature on the nature and extent of relationship between earnings quality and share price, the study also provided market participants with guidance on factors to look out for when evaluating firms' financial reports.

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CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Earnings are one of the important summaries of characteristics of accounting information. It is considered as the most significant accounting item prepared and presented in financial reports. It also serves as a key factor in determining a firm's dividend policy, a guideline for investment and decision making, a core measure of a firm's performance, an effective criterion in the share pricing, and eventually an instrument utilized to make predictions. This explains the reason why standard setters across the globe strive to develop accounting standards that improve the quality of reported earnings. Many recent changes in auditing, corporate governance, and enforcement have been found to target a similar objective.

Abundant literature suggests that shareholders use accounting earnings to among other things estimate share returns (e.g. Lev, 1989; Choi, Collins & Johnson, 1997; Kallunki and Martikainen, 1997; Beaver, 1998). This suggestion is supported by the fact that since the study of Ball and Brown (1968), a long line of research has empirically demonstrated that accounting earnings contained in financial reports are related to share returns (Kormendi & Lipe, 1987; Collins & Kothari 1989; Easton & Zmijewski, 1989; Easton & Harris, 1991; Wild, 1992; Das & Lev, 1994; Lipe, Bryant & Widener, 1998; Liu & Thomas, 2000). According to the studies, investors consider reported earnings to be a useful tool in estimating future returns and share prices, thus the need to understand the

nexus between quality of reported earnings and share prices. According to Ekoja (2004), understanding the relationship between earnings quality and share price is important to the extent that good earnings quality builds confidence in the minds of existing and potential investors as well as other stakeholders.

Teets (2002) defined earnings quality as accounting earnings that reflect information about the value of a company. It represents the degree to which reported earnings of an entity truly reflects the actual income (Penman & Zhang, 2002; Schipper & Vincent, 2003). Srinidhi *et al*. (2011) described it as the ability of current reported earnings to reflect the future cash flow and earnings. In this context earnings quality refers to how best current reported earnings can predict future performance of an entity.

Earnings quality is expressed through a number of properties also referred to as earnings quality proxies. Penman and Zhang (2002), Francis, LaFond, Olsson and Schipper (2004) and Dechow, Ge and Schrand (2010) identified up to eight properties of earnings quality that have been widely used in accounting research. The properties are further divided into accounting-based and market-based earnings properties. The accounting-based earnings properties are accruals quality, income smoothing, persistence and predictability of earnings while the market-based properties are earnings variability, value relevance, timeliness of earnings and earnings conservatism. According to Easton and Haris (1991), Schipper and Vincent (2003) and Francis (2004), of these eight variables, accruals

quality, income smoothing, earnings variability, timeliness of earnings, and earnings conservatism seemed to have dominated earnings quality studies.

Accounting-based earnings quality properties on one hand take cash or earnings (or other measures that can be derived from these, such as accruals) as the reference construct, and are estimated using accounting data. On the other hand, market-based properties take returns or prices as the reference construct and rely on both accounting data and returns data for their estimation. The differences in reference constructs are based on implicit or explicit assumptions about the intended function of earnings. Specifically, accounting-based earnings quality measures assume that the function of earnings is to allocate cash flows to reporting periods via accruals; while market-based earnings quality measures assume that the function of earnings is to reflect economic income as represented by share prices. This approach further lends credence to the ongoing debate on income measurement and accounting information disclosure.

Income measurement and disclosure have become topical issues in accounting research since the collapse of Enron in 2001 (Bello, 2005). Studies such as Pororato (2002) revealed that the collapse of Enron was due largely to detected lapses in income measurement and disclosure which have brought about a crisis of public confidence in the accounting profession. It is pertinent to note that the Generally Accepted Accounting Principles (GAAP) allow certain degrees of latitude in the choice and application of accounting policies, which guide income measurement and disclosure. The latitude in the

choice and application of accounting policies is what often lead to earnings management as companies take advantage of that latitude in accounting rules to iron-out fluctuations in profit level (Pallett, 2002).

Earnings quality and its relationship with share price has emerged as an issue of interest to analyst, investors, managers and other market participants (Lipe 1990; Chan, Jegadeesh & Lakonishok, 2006; and Cahan, Emmanuel & Sun, 2009). Managers are much concerned about meeting analyst forecast by maintaining sustainable growth of the companies as means to protect themselves (Gregory, 2014). On the other hand, analysts are interested on how best to measure the quality of earnings so as to maximize the portfolio of investors. It therefore become difficult for analyst, managers and investors in general to ignore the role of earnings quality in resources allocation.

Studies on the relationship between earnings quality attributes and share price of firms have documented mixed and inconsistent results. Different constructs and measurement of earnings quality attributes were used in studying the relationship in different countries and domains mostly without consideration for sector specifics. In addition, most studies in the area have focused just on one dimension of the attributes of earnings quality (e.g., Collins & Hribar, 2000; Barth *et al*., 2001; Dechow & Dichev, 2002; Penman & Zhang, 2002; Beneish & Vargus, 2002; Cohen, Dey & Lys, 2004; Dan, Carla & Sharon, 2009; Bill, Iftekhar & Lingxiang, 2011; Hashem & Mehdi, 2011) thereby making the studies unable to present a complete picture of the effect of earnings quality attributes on share

price. The mixed findings reported in the literature coupled with one-dimension focused of most previous studies have made the area still amenable for further research. They have also provided a motivation for using more acceptable measures of generally applicable earnings quality constructs for domains that have attracted little or no attention of previous researchers.

It is noteworthy that management practices that tend to impair the quality of earnings have been found to permeate almost all sectors. However, studies such as Deakin and Konzelmann (2004), Cohen (2004), Stolowy and Breton (2004) and Sun and Rath (2008) have shown that large scale multi-faceted earnings management is mostly associated with manufacturing companies owing to their peculiar structure (e.g. transfer of profitable or toxic assets to/from the subsidiaries, related party transactions, and so on). Accordingly, understanding the relationship between earnings quality attributes and share prices of the manufacturing sector of an economy is important to all stakeholders.

In Nigeria, the manufacturing sector is the second largest employer after government. The sector also provides a major component of the country's Gross Domestic Product (GDP). Due to the importance of manufacturing sector to the nation's economy, the federal government of Nigeria has over years put in place different policies that will enable the sector strengthens its operations and widens its scope of activities in order to improve its financial performance and maximize the wealth of its shareholders. The fact that the primary purpose of financial reporting is to provide information that is useful to

both existing and potential investors, creditors and other users in making rational decisions relating to investment, credit and others, and that shareholders are now interested in knowing the reliability and integrity of accounting information in Nigeria, it is desirable to undertake an empirical study that will examine the subject of earning quality attributes and share prices of manufacturing sector in Nigeria.

1.2 Statement of the Problem

Considerable studies have been conducted on the relationship between earnings quality properties and share price of companies particularly in developed nations and some parts of Asia with mixed results (e.g. Lev, 1989; Lipe 1990; Choi, Collins & Johnson, 1997; Kallunki & Martikainen, 1997; Beaver, 1998; Chan, Jegadeesh & Lakonishok, 2006; and Cahan, Emmanuel & Sun, 2009; Dan, Carla & Sharon, 2009; Bill, Iftekhar & Lingxiang, 2011; Hashem & Mehdi, 2011; Aref, Ardekani & Mohammad, 2012; Nuryaman, 2013; Sonia, Fayçal, Alain & Abdelwahed, 2013; Alexandra, 2015). A common phenomenon in most of these studies is that earnings quality properties were not studied in relation to their influence on share price. Considering the role of earnings quality properties in accounting information, which is meant to facilitate efficient allocation of capital in an economy, and the increasing demand by investors for information on share returns, the importance of studying the earnings quality attributes in relation to share prices cannot be overemphasized.

Though, few studies in advanced economies and a few others in developing nations such as Levitt *et al* (1998), Deakin and Konzelmann (2004), Jiang, Lee and Anandarajan (2008) have associated earnings equality with share price using either market-based attributes or accounting-based attributes of earnings quality, the approach is considered inadequate in the sense that ignoring either category of the attributes in a study on share prices would not be able to capture the real effect of the different measures of the properties. Even, more recent studies that identified both categories of earnings quality properties in their conceptualisation, such as Faris (2010), Al- Shubiri, (2010), Lee, Alan, Zabihollah and Hassan (2011), Menike and Prabath (2014), Mohammad (2014), Geetha, Ti and Swaaminathan (2015) and Taimur, Harsh and Rekha (2015) ended up testing for either accounting or market based properties of earnings quality.

In Nigeria, some studies were conducted on earnings quality. However, the Nigerian-based studies were mostly concerned with corporate governance mechanism and accounting-based attributes of earnings quality. Olayinka (2012) studied earnings management and corporate governance using income smoothing to proxy earnings management for the period 2006-2010; Fodio, Ibikunle and Oba (2013) investigated the effect of corporate governance mechanisms on reported earnings quality using accruals for the period 2007-2010; Augustine, Famous and Augustine (2014) evaluated the relationship between audit quality and cash-based earnings management; Augustine (2014) assessed the effect of audit firm size on cash-based earnings management for the period 2006–2011; Muhammed (2014) investigated the relationship between some sets of

corporate governance mechanisms and unethical accounting practice of 25 listed manufacturing firms in Nigeria based on income smoothing; and Omoye and Eriki, (2014) classified Nigerian quoted companies into high and low earnings management levels and used the classification to investigate the effect of corporate governance mechanisms on earnings management levels of 130 firms from 2005 to 2010 using discretionary accruals.

Another set of Nigerian-based studies relate one or two accounting properties of earnings quality with firm characteristics. Shehu (2014) used discretionary accruals to investigate the nexus between firm attributes and earnings quality for the period 2007-2011. Similar to Shehu's study is Ajide and Aderemi (2014) who looked at the effect of earnings management on dividend policy of listed non-financial institutions in Nigeria for the year 2012 using discretionary accruals to represent earnings management. In addition, Uwalomwa, Uwuigbe and Ranti (2015) assessed the effects of firms' characteristics on earnings management of listed companies in Nigeria for the period 2006-2010 using discretionary accruals as proxy of earning management. Earlier studies in this direction include Bello (2005), Onu (2007) and Hassan (2012).

Other studies used perception-based approach to study earnings quality practice in Nigeria. Akenbor and Ibanichuka (2012) investigated creative accounting practices in the Nigerian banking industry based on responses from 25 managers and 25 accountants. Osazevbaru (2012) assessed creative accounting and firm's value of firms in Nigeria

based on survey approach. In addition, Beshiru and Prince (2014) sought the opinion of experienced staff of commercial banks regarding creative accounting practices in Nigerian commercial banks. The respondents consisted of 42 managers and 42 accountants drawn from some Lagos branches of 21 deposit money banks. These studies are characterized by two weaknesses. One, they focused on income smoothing and accruals as measures of creative accounting. Two, they relied on opinions of experts who may or may not be investors and are generally known to be partakers in the practice itself. It is clear therefore that studying earnings quality based on survey approach is grossly inadequate.

In addition, some studies took a different but wrong dimension to study earnings quality. Muhammad and Tijjani (2013) for instance assessed the relationship between share prices and firm earning per share (EPS) in Nigeria from 2005 to 2009. The weakness of the research lies in the selection of independent and dependent variables because since EPS is known to be one of the measures of share price, using it as an outcome variable clearly points to a serious technical error. Another study that suffered a similar technical error is Oliver and Caroline (2014) who worked on the relationship between earnings per share and market price of ordinary shares in the Nigeria brewery industry from 2000 to 2013.

Overall, of all the available Nigerian-based studies on quality of earnings, only Agnes, Chenga, Joseph and Ling (2012) and Adaramola (2014) related earnings quality with share price. The study of Chenga, Joseph and Ling investigated the association between

earnings quality and price synchronicity. However, the study used only income smoothing as proxy of earnings quality. Adaramola (2014) examined the value relevance of accounting information in the Nigerian stock market from 1991 to 2010. The study was also restricted to accruals quality as a measure of quality of earnings.

This means that while empirical studies on earnings quality using Nigerian data exist, none of the studies combine both accounting-based and market-based attributes of earnings quality despite the influence of each of them on firms' accounting information. In addition, none of the studies except Agnes, Chenga, Joseph and Ling (2012) and Adaramola (2014) focus on earnings quality in relation to share price despite its importance to shareholders and investors. Thus, gaps in the literature exist in term of both depth of variables coverage and in some cases methodology of analysis in Nigeria. In view of the fact that today, earnings quality is regarded as one of the most striking and challenging issues in studies related to Accounting and finance, there is a need to conduct a study that will extend its scope to both accounting and market attributes of earnings quality. Furthermore, the peculiar and sensitive nature of manufacturing industry as well as the reforms it has continued to undergo in Nigeria underscore the need for special attention. So far, the sector has attracted little or no research effort with respect to earnings quality. This study therefore represents an attempt to fill these gaps that have been identified.

1.3 Research Questions

In line with the identified gaps, the major question that this study sets to answer is whether earnings quality properties affect the share price of listed manufacturing firms in Nigeria. The specific questions raised to guide the study are:

i. To what extent does accrual quality affect share price of listed manufacturing firms in Nigeria?
ii. What is the effect of income smoothing on share price of listed manufacturing firms in Nigeria?
iii. How does earnings variability affect share price of listed manufacturing firms in Nigeria?
iv. To what extent does timeliness of earnings affect share price of listed manufacturing firms in Nigeria?
v. What is the effect of earnings conservativism on share price of listed manufacturing firms in Nigeria?

1.4 Objectives of the Study

The overall objective of this study is to examine the effect of earnings quality properties on share price of listed manufacturing firms in Nigeria. The specific objectives are to:

i. examine the effect of accrual quality on share price of listed manufacturing firms in Nigeria
ii. determine the effect of income smoothing on share price of listed manufacturing firms in Nigeria

iii. assess the effect of earnings variability on share price of listed manufacturing firms in Nigeria

iv. evaluate the effect of timeliness of earnings on share price of listed manufacturing firms in Nigeria

v. assess the effect of earnings conservatism on share price of listed manufacturing firms in Nigeria

1.5 Research Hypotheses

In line with the objectives of the study, the following hypotheses are formulated:

$H0_1$ Accrual quality has no significant effect on share price of listed manufacturing firms in Nigeria.

$H0_2$ Income smoothing has no significant effect on share price of listed manufacturing firms in Nigeria.

$H0_3$ Earnings variability has no significant effect on share price of listed manufacturing firms in Nigeria.

$H0_4$ Timeliness of earnings has no significant effect on share price of listed manufacturing firms in Nigeria.

$H0_5$ Earnings conservatism has no significant effect on share price of listed manufacturing firms in Nigeria.

1.6 Scope of the study

The study examines the association between earnings quality properties and share prices. It dwells on listed manufacturing firms in Nigeria and covers a period of five years (2009-2013). Share price is the dependent variable of the study while accruals quality, income smoothing, earnings variability, timeliness of earnings, and earnings conservatism are the independent variables of the study. The choice of variables is in line with Easton and Haris (1991), Schipper and Vincent (2003) and Francis (2004) who posited that of all the accounting-based and market-based properties of earnings quality, these five seem to have dominated the literature in view of the fact that their measurements are generally accepted and applicable to all economies.

The study focuses on manufacturing sector as its domain in view of its strategic importance to the Nigerian economy and the ever increasing demand for information on share returns by investors and shareholders. The period of the study is considered adequate because it affords an analysis of the association between the independent variables and dependent variable over a period that coincides with the industrial reforms introduced in the country and the 2009 share prices fluctuations in the capital marked that eroded the performance of many firms in the country.

1.7 Significance of the Study

This study is of immense benefit to managers, regulators, researchers, market participants, shareholders, investors and accounting and auditing professionals. The study

will serve as an indispensable planning tool for managers by assisting them to use the power of earnings in the public interest. It will also enable investors and potential investors to identify the earnings quality properties that best help in earnings predictions and also assist in monitoring their wealth for optimal resource allocation. Furthermore, investors and shareholders of Nigerian manufacturing firms stand to benefit tremendously from the outcome of this research with information on how quality of earnings affect their share prices for decision making.

The findings of this study is also expected to have particular positive implications for regulators responsible for ensuring high earnings quality such as Financial Reporting Council of Nigeria (FRCN), Securities and Exchange Commission (SEC) and Corporate Affairs Commission (CAC). In addition, the constructs and measures of earnings quality used in the study will provide a guide to market participants on analysis of quality of earnings. The control variables used in the study will also help to know the factors to be considered in decision making regarding earnings quality.

The study contributes to the literature in a number of ways. First, the not only operationalizes different aspects of earnings quality as specified in the conceptual framework of the FASB, it also tests whether the earnings quality constructs reflect the decision usefulness of earning information in predicting share price behaviour in Nigeria. This study contributes to the literature by extending and updating the earnings quality constructs, which consider the primary determinants of earnings quality as specified in

the FASB's conceptual framework. Second, the study explores the relative importance of one dimension of earnings quality over the other (relevance versus reliability) in making earnings information useful for decision making. The relative importance of each dimension of earnings quality is important to policy-makers and corporate managers because they can use this knowledge in evaluating and/or selecting accounting alternatives. Third, the study contributes to the debate on 'the relevance of value-relevance literature' by showing whether value relevance studies can be treated as a basis for earnings quality assessments.

Finally, the outcome of this study will contribute to the existing body of knowledge. This is because though a considerable number of studies exists on earnings quality properties and share prices of firms around the globe, there is dearth of evidence using data from Nigeria. This study will therefore serves as a reference material for researchers who have interest in this area and provides a frontier for future research endeavours.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter places the study in the context of prior research. It conceptualizes and carries out review of relevant literature on earnings quality properties and share prices. It critiques both theoretical and empirical literatures concerning all the variables of the study and discusses the economic theory that underpins the study.

2.2 The Concept of Earnings Quality

Earnings quality refers to the ability of the current earnings to forecast future earnings (Penman & Zhang, 2007). Earnings are of good quality if no earnings reversals are forecasted. With valuation in mind, the investors are interested in future earnings, that is, they buy future earnings using the current ones. Further, earnings are said to be of poor quality if the current reported earnings are not good indicators of future ones. Schipper and Vincent (2003) described earnings quality as the extent to which reported earnings truly represent Hicksian income, including the change in net economic assets other than transactions with owners. Hicksian income is the maximum that could be spent while leaving real wealth intact.

Dechow and Schrand (2004) provided two definitions that tend to be similar. Firstly, a high-quality earnings number is one that accurately reflects the company's current

operating performance, is a good indicator of future operating performance, and is a useful summary measure for assessing firm value. Secondly, earnings quality refers to a situation when the earnings number accurately annuitizes the intrinsic value of the firm. These definitions by Dechow and Schrand indicate the absence of impairment of earnings figure. Dechow, Ge and Schrand, (2009) considered quality of earnings to be the extent to which net reported income on the income statement do not differs from true earnings. In view of the definitions stated above, quality of earnings could be seen in two ways; firstly, reported earnings would be of quality if it reflects the underlying economic performance of a firm in that particular period. Secondly, earnings quality portrays how well accounting earnings convey information about the share prices responses. From the foregoing, earnings quality refers to the one that is free from accruals that is not driven by accounting fundamentals or innate factors (discretionary accruals), but are sustainable and are not being impair in order to artificially reduce the variability in earnings.

Francis, LaFond, Olsson and Schipper (2005) posited that earnings quality is a multi-dimentional concept. The choice of an earnings quality measure will depend on the research and the availability of data and estimation model. Some researches call for a measure of earnings quality that is linked to investors' perceptions of earnings. For example, studies that examine the value relevance of earnings presumes earnings are useful to a particular class of market participants (namely investors) whose aggregate judgments and decisions are summarized by share prices and returns. They argue that other studies focus on direct measures of earnings quality constructed using accounting

data alone (i.e., without reference to share prices or returns). Yet another dimension that is important for some researches is the distinction between total, innate and discretionary earnings quality.

One of the factors that affect the quality of earnings is earnings management. Amat (1996) described earnings management as a process whereby accountants use their knowledge of accounting rules to manipulate the figures or numbers reported in the accounts of a business. Kirschenheiter and Melumad (2002) viewed earnings management as some misdeeds, misdemeanors or other transgression that alter earnings to be reported. DeAngelo and Skinner (1994) on their part considered earnings management as the manipulation of some accounting principles by managers to conceal poor performance or postpone a portion of usually good current earnings to future years. It occurs when management uses its judgment in financial reporting and in structuring transaction to alter financial reports either to mislead some stake holders about the underlying economic performance of the company or to influence contractual outcomes that depends on reported accounting numbers (Hearly & Wahlen, 1999). Naser (1993) defines it as the transformation of financial accounting figures from what they actually are, to what preparers' desire by taking advantage of the existing rules and/or ignoring some or all of them. Levit (1998) encapsulated it as a grey area where accounting is being perverted, where managers are cutting corners and where reported earnings reflects the wishes or desires of management rather than underlying financial performance of a firm.

The above definitions contain a number of issues. First, management uses judgment in selecting accounting methods for reporting the same economic transactions. All choices in accounting methods (for example depreciation methods, inventory valuation, on or off-balance, among others) affect the financial reporting of the firm. Second, the objective of earnings management is to mislead stakeholders. In order to mislead stakeholders through the use of accounting standards there is a condition that has to be met. In a perfect market, information is interpreted correctly and circulates very fast, so earnings management will not affect participants since the market will see through this. Conversely when the market is not as efficient (developing economies such as Nigeria and other African countries) as originally believed, participants might ignore the way accounting numbers are calculated and use these numbers in their decision making (Stolowy & Breton, 2004). So, when this condition of market inefficiency (or information asymmetry) is met, it is possible that stakeholders can be misled by management of a firm through the use of earnings management tactics. Another issue portrayed by the definitions is the decision usefulness of financial statement which is being defeated by the acts of management, as the financial information may no longer be relevant and reliable for various purposes such as valuation among others. Earnings management literature reflects two competing perspectives; opportunistic behavior and signaling mechanism (Sun & Rath, 2008).

The motivation for earnings management or manipulative accounting is to maintain a stable income stream than one which varies considerably from year to year. Consistent

with Watts and Zimmerman (1978) and Holthausen and Leftwich (1983), Bello (2005) identified three categories of motivations for earnings management: contracting, asset pricing, and influencing external parties. According to the classification, the first motive of earnings management is to influence one or more of the firm's contractual arrangements. Such contractual arrangements include executive compensation agreements and debt covenants, the primary function of which is to alleviate agency costs by better aligning the incentives of the parties. However, depending on the structure of these contracts, accounting income may be smoothened or managed in order to increase compensation or to avoid covenant violation. Secondly, earnings management results from attempts to influence asset prices. The primary focus in this category is to overcome problems that arise when markets do not perfectly aggregate individually held information (for example because of trading restrictions resulting from insider trading laws, or risk aversion). In this regard, self-serving managers who believe that higher earnings will result in higher share prices contributing to their compensation or reputation may employ earnings management (Levitt, 1998). The third motive of earnings management is to influence external parties other than actual and potential owners of the firm such as tax authorities, suppliers, competitors, and labour unions. Managers seem to believe that by influencing the information content of the accounting numbers, they will succeed in influencing the decisions of these third parties.

Clearly, the combine effect of these motives has been responsible for the fall of many businesses. Firms' failure for some time now has been caused by one or more of these

motives. The fall was brought about largely by the joint effects of conflicts of interest between senior managers and lack of oversight by the board and advisers (Deakin & Konzelmann, 2004); significant and deliberate overstatement of financial statements over a period of time (Onu, 2007); and outright cooking of books (Onu, 2007; Jiang, Lee, & Anandarajan, 2008). In addition to the big disappointment the failure often brings to firms with respect to their size and the level of respect and integrity with which they used to be viewed, such failure use to have perverse effect on the level of investor confidence (Deakin & Konzelmann, 2004; Cohen, 2004). It also raised concerns over the effectiveness of earnings management mechanisms put in place by the owners of the affected firms and corporate accountability which create crises of trust and confidence in the financial performance of corporate organisations.

Stakeholders in many organizations are now scrutinizing the ethics or otherwise behind management's actions pertaining to earnings management to avert negative consequences. They even cast doubt as to the quality and dependability of the profit figures reported by management in view of the potential of earnings management to cause failure. In Nigeria, the traits of earnings management are manifesting particularly within the banking and manufacturing industries due largely to stiff competition. The firms have severally been accused of spurring their accounting numbers ostensibly to join and sustain the so-called 'billion' Naira profit-mark status (Bello, 2005). Public have been accusing them of managing their income to increase their profitability and share price in the stock market; also managing income to conceal or reduce their losses in order

to retain investors' confidence. The possibility of selecting an accounting procedure provides an opportunity for the manager to decide on the time of recognition and on estimating the earnings and expenses. Thus managers are motivated to implement a non-conservative accounting procedure to stabilize their company's income growth. This is evidenced by the case of Cadbury in the manufacturing sector among others in Nigeria.

2.3 Properties of Earnings Quality

The literature has documented a number of earnings quality properties. The properties are broadly classified into accounting and market based. Brief discussion on each of the properties is given below:

2.3.1 Accounting-Based Properties of Earnings Quality

The literature has identified accruals, earnings persistence, income smoothing, and earnings predictability as the accounting-based properties of earnings quality. These properties use cash or earnings (or other measures that can be derived from these, such as accruals) as the reference construct, and are estimated using accounting data. According to Francis, LaFond, Olsson and Schipper (2005), earnings which map more closely into cash flows are more desirable. Earlier, Richardson, Sloan, Soliman and Tuna (2004) argued that earnings' cash component provides both relevant and reliable information, and thus linked earnings quality to cash components of earnings in terms of persistence. Barragato and Markelevich (2003) also argued that an earnings stream that is predictor of future operating cash flows is generally considered to be of high quality. The difference

between cash from operating and recorded earnings generated by business indicates accrual quality (Richardson et al. 2001, Desai et al. 2006). The larger the value obtained from each method implies poor earnings quality and small value obtained from each method indicates high quality earnings.

The use of accruals as a proxy for earnings quality has become commonplace in the extant accounting literature. Various measures of accruals have been utilized and the measures themselves refined and ostensibly improved over time. Francis *et al*. (2005) provided convincing empirical evidence suggesting that investors price the accrual quality. They noted that the debt and equity markets impound information regarding the quality of earnings that is represented by accruals. They found that firms with low accruals quality have significantly larger earnings-price ratios than other firms in the same industry. In addition, they investigated the effect of accruals quality on CAPM betas and discover that higher betas are associated with lower accrual quality indicating that decreased accruals quality increases systematic risk. They also examined debt ratings and similarly find accruals quality is negatively associated with the cost of debt. These findings demonstrate that investors extract fundamental valuation information from firm level accruals.

Other studies corroborate these findings, suggesting that investors utilize information concerning the quality of earnings during price formation. For example, Balsam *et al*. (2002) analyzed share returns over a short window following the release of quarterly

financial statements by companies for which there is ex post evidence of earnings management. Firms are identified as engaging in earnings management utilizing two criteria: (1) firms that have just met or beaten earnings expectations, and (2) firms that have a discretionary accrual component that is at least one percent of total assets. They reported a negative association between unexpected discretionary accruals and cumulative abnormal returns over a 17-day window following the release of the form 10-Q. This finding suggests that accrual related data sway investors' assessments of information contained in prior earnings releases. Similarly, Baber *et al*. (2006) examined the influence of the voluntary disclosure of balance sheet and cash flow information on price reactions to earnings announcements. The authors provide evidence that investors discount earnings when contemporaneous supplemental disclosures contain information suggesting earnings have been managed via discretionary accruals. These findings indicate investors impound available information representative of the quality of earnings into security prices in a relatively timely manner.

DeFond and Park (2001) also provided evidence suggesting market participants adjust, at least in part, for earnings quality at the time earnings are announced. They reported that firms announcing positive earnings surprises have lower earnings response coefficients when income-increasing accruals exaggerate the magnitude of the earnings surprises. If, as these studies imply, investors are adjusting for the earnings quality information communicated by accruals, then investors may have already adjusted prices to reflect the quality of earnings prior to the low earnings quality signal communicated by restatement

announcements. Therefore, the additional evidence about the insufficiency of earnings quality conveyed by restatement announcements of firms with low-quality earnings will not be as significant for subsequent price formation. This logic leads to the supposition that share prices of firms with low earnings quality react less significantly to restatement announcements than those with high earnings quality.

Evidence is mixed as to the extent to which earnings quality is used by investors and analysts to extract value relevance information. Some research provides evidence that market participants consider larger accruals or book-tax differences to be indicative of poor earnings quality resulting in a contemporaneous reduction in share prices (Balsam *et al*., 2002; Francis *et al*., 2005; Hanlon, 2005; Baber *et al*., 2006). Other studies indicated that market participants overprice the discretionary component of income thus temporarily over-inflating share prices (Sloan 1996; Subramanyam, 1996; Bradshaw *et al*., 2001; Xie, 2001). Widely publicized accounting scandals, however, coupled with new regulatory requirements, have resulted in an increased focus on earnings quality issues. Consistent with a heightened emphasis on earnings quality, recent research indicates investors and analysts have become more cognizant of potential earnings management techniques and the subsequent implications for future earnings (Balsam *et al*., 2002; Francis *et al*., 2005; Hanlon, 2005; Baber *et al*., 2006). These findings imply market participants may be capable of identifying the earnings quality signals communicated in accrual and tax accounts, which may impact the market reaction to restatement announcements.

Earnings that reflect a steady growth trend are seen desirable (Wild, Subramanyam & Halsey, 2004). Thus, in financial statements analysis, non-persistent, unusual, non-operating or non-recurring items reported on the income statement require more attention than others in terms of quality of earnings as these items have negative effect on the sustainability of earnings. The term "persistence" is widely used interchangeably with sustainable earnings in the literature. Penman and Zhang (2002) indicated that reported earnings before extraordinary items that are readily identified on the income statements, is of good quality if it is a good indicator of future earnings. Thus, high quality of earnings is sustainable earnings as often referred in financial analysis. Dechow, Richardson and Sloan (2008) argued that quality of earnings depends on the proportion of earnings derived from recurring sources. Richardson, Sloan, Soliman and Tuna (2005) defined persistence as the degree to which earnings performance persists into the next periods implying that managers have not use their discretion in the reporting processes.

Lev (2003) asserted that the type of company's product, the degree of competition, capital intensity and firm size all affect the persistence of company's earnings. Sloan (1996) indicated that earnings performance attributable to the accrual components of earnings exhibits lower persistence than earnings performance attributable to the cash flow components of earnings. Similarly, Dechow and Dichev (2002) found a positive relation between accrual quality and earnings persistence. Overall therefore, persistence of earnings plays an important role in company valuation. Since the investors rely on

earnings numbers more than other measures, "price-to-earnings ratio" is agreed to be a fundamental multiple in company valuation. Persistent earnings series, on the other hand, produce healthier price-to-earnings ratios (return/earnings) for valuation purposes (Penman & Zhang, 2002).

Lipe (1990) defined predictability as "the ability of past earnings to predict future earnings". According to Christian (2004), any alteration to earnings stream makes prediction of future earnings challenging due to weakness in the quality of earnings. Schipper and Vincent (2003) considered "predictive ability as an input to the entire financial reporting package, including earnings components and other disaggregation's of the summary earnings number, for improving users' ability to forecast items of interest." From FASB's point of view, quality of earnings is considered to be the usefulness in forecasting earnings for future periods in both effective and efficient manner (SFAS No. 132, par. 26, FASB, 1998). In line with this, Chan, Chan, Jegadeesh and Lakonishok (2004) defined earnings quality in terms of its ability to enable prediction. They argue that as there may be temporary deviations of share prices away from their correct values, the measures of earnings quality should consider predictive power for future share price movements. Similarly, Cornel and Landsman (2003) considered earnings to be of good quality if it is "a measure for analyzing the relationships between past performance and the value of future growth options" in terms of predictability.

Carnes, Johns, Biggart and Barker (2003) defined quality of earnings in terms of smoothing as smoother earnings stream lowers the expected costs of dealing with shareholders and strengthen the relationship between accounting earnings and market returns. However, one needs to be cautious when using smoothness as a measure of earnings quality. As Ayres (1994) stated, income smoothing refers to an attempt to report a steady stream of earnings and growth in earnings. Levitt (1998) ascertained the reason of smoothing with investors preference of smoothly increasing earnings, arguing that, since the absence of persistency and unpredictable earnings can be seen of low quality earnings, providing persistence and predictability may become a major motivation of managers for using earnings management techniques such as income smoothing.

Some authors directed their studies towards the information content of earnings since the information conveyed by earnings number should be assessed in terms of how it is calculated. It is well known that earnings number may express different figures under different accounting rules. Different accounting rules are not only the issue of international differences. Even in the same country there are different accounting practices by nature of the regulators (for example sector regulators, tax authorities and so on). McNichols (2002) assumed earnings are of high quality if they accurately represent the economic implications of underlying transactions and events. Ball and Shivakumar (2005) discussed the usefulness of financial statements and emphasize on financial reporting quality. Epps and Oh (1997) examined the investors' perceived quality (relates to the informativeness of earnings) of US GAAP and foreign GAAP earnings as their

rules produce different earnings numbers. Schipper and Vincent (2003) discussed earning quality from decision usefulness (consistent with FASB' framework) point of view and conclude that earnings are of high quality if they represent Hicksian income, which represents the change in total wealth faithfully.

2.3.2 Market-based Properties of Earnings Quality

The literature documents earnings variability, value relevance, timeliness of earnings and earnings conservatism as the market-based properties of earnings quality. Taking a market-based approach, Bauwman (2009) defined conservatism as the differential ability of accounting earnings to reflect economic losses (measured as negative share returns) versus economic gains (measured as positive share returns). Following Basu (1997), Ball measured conservatism as the ratio of the slope coefficients on negative returns to the slope coefficients on positive returns in a reverse regression of earnings on returns. Accounting earnings are deemed value relevant due to the association between share returns and accounting earnings (e.g. Kormendi & Lipe, 1987; Easton & Harris, 1991). The association is based on shareholders' reaction to accounting earnings, which is dependent on shareholders' perception of earnings usefulness and reliability. Empirical results show earnings to be modestly informative in explaining movements in share prices (Lev, 1989; Ryan & Zarowin, 1993; Collins, 1994; Ramakrishnan & Thomas, 1998).

Earnings Management may arise from information asymmetry problem and agency conflicts that occur when equity ownership is separated from the day-to-day operation of the corporation and when managers have a comparative information advantage over shareholders (Sun & Rath, 2008). On one hand, these market imperfections create an environment for managers to engage in accounting discretion to promote their self-interest at the expense of shareholders. On the other hand, they also create an opportunity for mangers to use accounting discretion to communicate their companies' performance related information in an appropriate manner to investors (Trueman & Titman, 1988; Dye, 1988). The perspective of opportunistic behaviour takes the view that managers use information asymmetry between outsiders and insiders to maximize their utility in dealing with compensation contracts, debt contracts and regulations. Investors are thereby misled by the unreliable information reported.

Earnings management can be used as proxies for earnings quality in the returns-earnings model. In particular, the model's focus is on measuring the improvement in the overall explanatory power of earnings by introducing earnings management, as well as examining the connections among earnings management, and the value-relevance of earnings. Accounting earnings are deemed value relevant due to the association between share returns and accounting earnings (Kormendi & Lipe, 1987; Easton & Harris, 1991). The association is based on shareholders' reaction to accounting earnings, which is dependent on shareholders' perception of earnings usefulness and reliability. Empirical results show earnings to be modestly informative in explaining movements in share

prices (Lev, 1989; Ryan & Zarowin, 1993; Collins *et al*., 1994; Ramakrishnan & Thomas, 1998).

A valuable explanation of the weak returns-earnings association is that accounting earnings lack information relating to future earnings and cash flows (Lev, 1989; Easton *et al*., 1989; Kallunki & Martikainen, 1997). The incidence of earnings manipulations by managers prevents accounting earnings from being a reliable measure of future earnings and cash flows (Lev, 1989; Wang, 1994; Ali & Hwang, 1995). The less reliable are accounting earnings, the less informative they are in relation to future earnings and cash flows (Cheng *et al*, 2007). If reliable earnings are useful to shareholders, then reliable earnings are more value relevant than less reliable earnings. Thus, indicators of earnings quality (i.e. earnings management) should be value relevant due to their usefulness to shareholders. It follows that the information content of accounting earnings is reduced by indicators of less reliable earnings, such as managed earnings (Wang *et al*., 1994; Ali & Hwang, 1995; Cheng *et al*., 2007). The link between the information content of accounting earnings is based on the view that earnings quality influences shareholders' perception earnings reliability through its influence over management's activities and opportunistic behaviour.

2.4 The Concept of Share Price

Share price is the cost of purchasing a security on an exchange. It is affected by a number of things including volatility in the market, current economic conditions, and popularity

of the company. According to Ronen and Yaari (2008), the invention of double entry book keeping in the 14th century led to company's valuation which is based upon ratios such as price per unit of earnings (from income statement), price per unit of net worth (from balance sheet) and price per unit of cash flow (cash flow statement). The next advance was to price individual price shares rather than the whole company. A price per dividend was the next advancement. Analysts find it appropriate to use discounted cash flow that is based on time value of money to estimate the intrinsic value of share rather than price per dividend of share prices.

Allen, Larson and Sloan (2010) argued that share price is not merely a reflection of accounting fundamentals but the combination of appropriate discount rate and the pattern of cash flow, make the stock market to decide the price (random walk theory). Subbramanyam and Wild (1996), assert that higher share price may signal that the company has a good product and induce consumers to adopt its product to start a positive feedback. They conclude that a higher share price can also make the term equity related transactions more favorable. For example it can increase the proceeds received from the equity offerings or increase executives personal wealth.

Ejuvbekpokpo and Edesiri (2014) posited that share prices serve as the basis for the assessment of whether a firm is breaking even or not. According to Geetha, Ti and Swaaminathan (2015) stock market is an imperative part of the economy of a country. Its importance can be seen from both the industry's and investor's point of view. These

prices are relevant metrics of returns to stakeholders, and therefore the value attached to them matters so much to both existing and prospective investors in the capital market (Ejuvbekpokpo & Edesiri, 2014). Generally, share price in an efficient market provides investors with a good measure of any firm's performance and its value (Olawale & Olaniyi, 2015).

A number of theoretical studies have attempted to explain the main determinants of share price movement in a stock market. Different factors have been identified many of which have been tested empirically. Uwalomwa, Olowe and Agu, (2012) examined the determinants of share prices in the Nigerian stock exchange market using 30 listed firms drawn based on judgmental sampling technique for the period 2006-2010. The result of the OLS regression revealed that positive significant relationship exist between firms' financial performance represented by leverage and earnings per share, and the market value of share prices of the sampled listed firms. Ejuvbekpokpo and Edesiri (2014) found that EPS, book value per share and dividend cover are the main factors that determine share price movement. The findings were corroborated by the study of Menike and Prabath (2014) for 100 companies listed in the Colombo Stock Exchange (CSE) from 2008 to 2012. The study found that dividend per share, earnings per share and book value per share of share price are significant determinants of share price movement.

Geetha, Ti and Swaaminathan (2015) argued that even though many factors influence a company's share price, variables such as earnings per share, firm s book value, price

earnings ratio have a substantial affirmative connotation with firm's market price. They tested the assertion empirically and found that EPS, book value, P/E ratio and dividend yield have outstanding contributions in explaining share price movement. Taimur, Harsh and Rekha (2015) studied the main determinants affecting share prices in the Bahrain financial market. They posited that the financial crisis 2007 global financial crisis caused unprecedented upheavals in the global stock markets and has shaken investor's confidence due to the turbulent fluctuations and volatilities in share prices. The study analyzed a panel data set of 41 companies listed in the Bahrain stock exchange for the period 2006-2010. Using GLS method, they tested the effect of eight firm specific variables namely return on equity, book value per share, earnings per share, dividend per share, dividend yield, price earnings, debt to assets and controlled by firm size. The results indicated that return on equity, book value per share, dividend per share, dividend yield, price earnings, and firm size are significant determinants of share prices in the Bahrain market.

A part from firm specific variables, a number of macroeconomic variables are also said to have influence on share price movement. For example, Faris (2010) found for a study of 14 commercial banks listed on Amman Stock Exchange for the period 2005 -2008 that gross domestic product, inflation and interest rates play significant role in share price movement. Some studies that include Larry, Yang and Paul (2004) and Lee, Alan, Zabihollah and Hassan (2011) considered the effect of announcement relating to merger or takeover, distress or boost on share prices. They assessed stock market response to

management earnings forecasts. Both studies documented evidence showing that share price movement is affected by announcement in the market.

2.5 Review of Empirical Studies on Earnings Quality and Share Price

A number of studies on the association between share prices and earnings quality properties have been carried out over the last few decades as a result of wide corporate scandals involving a number of corporations in both developed and developing economies. The studies have produced divergent opinions and mixed findings on the impact of earnings quality on share price. The studies that are considered relevant to this research are reviewed under the following headings:

2.5.1 Accruals Quality and Share prices

Teoh, Welch and Wong (1998) examined earnings management and the underperformance of seasoned equity offerings and whether unusually aggressive management of earnings leads investors to be overly optimistic about the issuer's prospects. That is, investors may misinterpret high earnings reported at the time of the offering, and consequently overvalue the new issues. The study obtained data from AMEX in conjunction with CRSP data file from 1976 to 1989 and a final sample of 1,649 firms from different industry. The study documented that discretionary current accruals grow before the offering, peak in the offering year, and decline thereafter. The accruals pattern causes net income to grow before, peak in the period, and decline after the offering year, despite low pre-issue and improved post-issue cash flow from

operations. The post-issue net income decline is especially pronounced for issuers that aggressively manage discretionary current accruals before the issue and document also a negative relation between pre-issue discretionary current accruals and post-issue earnings and share returns. The findings provided evidence of post-issue return differences in cross-section is consistent with an earnings management scenario.

Rangan (1998) confirmed this finding using quarterly accruals. Among the four accrual measures, discretionary (i.e. managed) current accruals were shown to predict subsequent poor share price performance. Roosenboom, Goot, Van-der and Mertens (2003) studied the pattern of discretionary accruals over time. They took a sample of 64 Dutch initial public offerings (IPO) companies on the Euronext Amsterdam from 1984 to 1994. The findings revealed that managers manage earnings of a company in the year of initial public offering. In terms of long term share price performance of the initial public offering, the study documented a negative relationship between the size of the discretionary accruals and the IPO in the first year the company went public. Ducharme, Malatesta and Sefcik (2004) examined the relations among earnings management, share offerings, abnormal accruals, post offer, and shareholders lawsuits. Their sample consists of firms that made public offering from 1988 to 1997. They found that firms in the period around share offer report abnormal accrual components in their earnings. However, in the period after the share offerings, the abnormal accruals are negatively related to the returns or even they tend to reverse in the post offer period. The research also revealed that the share returns are much lower and the reversal are more pronounced in the post share offer

period if the firms are sued in connection with their share offer than those who are not sued. The findings may be different if other ways in which shares are issued were considered.

Marquardt and Wieldman (2004) investigated how earnings are managed through specific accruals, According to them, earlier research has shown that firms manage earnings upward prior to initial offerings and seasoned equity offerings in order to increase the market price of the share. The benefits of earnings management are high because the proceeds of an equity offering are based on the share price at one point in time. In order for the firms to have a maximum price impact, they predicted that firms issuing equity will prefer to manage earnings recurring rather than nonrecurring income statement items. They collected their sample from the Thomas Securities Equity Database in between 1995-1999, and a final sample of 1,765 equity offerings. They found that the unexpected accruals are significantly more positively than for the non-offering firms. Neill, Pourciau and Schaefer (1995) examined if the choices of specific accounting methods are related to the proceedings of initial public offerings using 505 initial public offerings from 1975 through 1984. The study concluded that there is a positive association between liberal accounting methods and going public. It is important to note that the study was carried out in countries where the capital markets are efficient in their strong form. The finding may not therefore be applicable to capital markets that are not efficient such as that of Nigeria.

Lee, Li and Yue (2006) examined a popular belief that managers of high valuation companies have a stronger incentive to manipulate future earnings than low valuation companies. Using US data from 1988 to 2004 with a sample of 74,051 firm-year observations, they found the belief to be only half true. The study concluded that a positive relationship between valuation and future discretionary accruals only exists for companies receiving limited attention. Zaluki (2008) investigated the operating performance and the existence of earnings management for a sample of 254 Malaysian IPO companies over the period 1990-2000. Using accrual-based measure of operating performance, the study found strong evidence of declining performance in the IPO year and up to three years following IPOs relative to the pre-IPO period. The finding is consistent with the results of prior studies documenting the long run underperformance of IPO companies. The results also confirmed that the decline in post-IPO operating performance is due to the existence of earnings manipulation by the IPO manager at the time of going public. However, the study was unable to match the companies using all the three measures.

Ekoja (2004) presented a cross sectional analysis of discretionary accruals in detecting earnings management by 20 quoted banks in Nigeria for the year 2003. He employed a regression analysis following Jeter and Shivakumar (1999)'s cash flow model. The study found that the total accruals are not from a normal distribution and the F test of the regression showed that there is evidence that earnings management exist in the banks on a cross sectional basis. The result may however, be different if it is a time series analysis.

Dye (1988) suggested external demand to increase share prices and internal demand to attain optimal contracting among reasons for firms to engage in earnings management. The study showed that as long as accounting data are used in compensation contracts, incentives exist for managers to manage accounting data through the use of discretionary accruals.

Jones (1991) investigated whether firms that would benefit from import relief attempt to decrease earnings through earnings management during import relief investigation by US International Trade Commission (ITC). The sample consists of 23 firms in the five industries available in the *Compustat* from 1980-1985. The study relaxed the assumption of non-discretionary accruals not changing across periods by considering the effects of changes in a company's economic circumstances such as changes in revenues and changes in property plant and equipment/ in the model. The finding, which is consistent with the earnings management hypothesis, showed that managers make use of income decreasing accruals during import relief investigation. The study also documented that discretionary accruals are more income decreasing during the year ITC completed its investigation than would otherwise be expected. The main problem with the Jones (1991) model is the inclusion of "change in revenue" variable to estimation of non-discretionary accruals. In case of revenue manipulation, the model will be inappropriate because the non-discretionary accruals are estimated from manipulated data.

In addition, to avoid the shortcomings of Jones (1991), Dechow, Sloan and Sweeney (1995) suggested a new model, often referred as the Modified Jones Model, which uses only cash sales instead of total revenue in the calculation of the change in revenue variable. The argued that the modified Jones Model is the most helpful model to detect earnings management, but Bernard and Skinner (1996) argued that discretionary accruals estimated using Jones and Modified Jones Models reflect measurement error due in part to the systematic misclassification of non-discretionary accruals as discretionary accruals. Guay, Kothari and Watts (1996) assessed the effectiveness of alternative discretionary accrual models of Healy (1985), DeAngelo (1986), Jones (1991) and Jones as modified in Dechow, Sloan and Sweeney (1995); and the industry model proposed by Dechow and Sloan (1991). The sample of the study consists of 31,372 firm-year observation for 1992-1993. The study showed that the Healy and De Angelo models are not effective in isolating discretionary accruals that are consistent with opportunistic firm performance or noise.

Perry and Williams (1994) considered managers' accounting choices in the year preceding the public announcement of management's intention to initiate a management buyout and find, in contrast to DeAngelo (1986), evidence that management manipulates discretionary accruals to understate earnings, presumably in the hope of reducing the share price. The authors conclude that the difference in results between the earlier DeAngelo study and theirs is caused by differences in sample composition. Neither study examines whether the earnings management resulted in a lower price paid in the

management buyout. Nor did either study consider the conflicting incentive of managers to increase earnings in order to impress lenders and increase the amount of debt that could be obtained for these often highly levered transactions. Finally, neither paper considers the implications if the buyout is related to the financial situation that led to the earnings manipulations.

Erickson and Wang (1999) analyzed firms using share as a mode of payment in acquisitions. They hypothesize that such bidders will manage earnings upwards via discretionary accruals in an attempt to increase the share price and thereby decrease the number of shares that must be issued to complete the deal. They find evidence consistent with their expectations: bidders relying on share as consideration manage earnings upward as measured with abnormal accruals whereas bidders in non-share deals do not. However, their results are unconvincing because the research design does not allow one to test whether the earnings management was successful. Erickson and Wang also use fairness opinions as a rationale for the earnings management but the range of what constitutes a 'fair' price in a fairness opinion overwhelms any documented association between share price and earnings. That is, investment banks provide a range of 'fair' prices that can be plus or minus 25–50% around the midpoint of the range. The size of the range would encompass any variation in price that could be otherwise ascribed to earnings management. Like Perry and Williams (1994) and many studies on the economic consequences of accounting choice, they identify a situation in which they

believe earnings management is plausible for the opportunistic manager. However, they do not explore alternative plausible explanations.

DeFond and Park (1997) presented evidence that when current earnings are poor and expected future earnings are good, managers, motivated by concerns over job security, borrow earnings from the future for use in the current period (and vice versa).The managers accomplish this income smoothing using discretionary accruals. The authors note that their results are dependent on the accuracy of their estimates of both expected earnings and discretionary accruals and those they may also be due to sample selection bias. Beaver and Engel (1996), who find that capital markets are able to decompose the allowance for loan losses (in the banking industry) into a nondiscretionary portion (which is negatively priced) and a discretionary component (which is positively priced).They interpret their results as providing evidence of the capital market effects of managers' discretionary reporting behavior. In this instance, the discretionary behavior relates to an estimation or judgment of the amount of loan losses that are reported in a given period. The authors estimate the nondiscretionary component of the loan loss allowance account and then test for and find that the two components of the allowance for loan losses are priced differently. They acknowledge that their results do not contribute to an understanding of the numerous potential incentives for such behavior and also that their results are contingent on the appropriate decomposition of the allowance for loan losses as well as specification of the valuation model.

Subramanyam and Wild (1996) concluded that, on average, the market values discretionary accruals because managerial discretion improves the association of earnings with economic value by either smoothing income to reflect its persistence and improve its predictability, or by communicating private information. However, he notes that he cannot dismiss either measurement error in the estimation of discretionary accruals or mispricing by an inefficient market as alternative explanations. Bowman and Navissi (2003) examined the association between abnormal returns and earnings management in the context of price control regulations to test the construct validity of the earnings management model. Abnormal returns are used as a market-based measure, and discretionary accruals are employed to measure earnings management. Their results support the hypotheses that (1) price control regulations affect firms' security prices negatively, (2) firms make income-decreasing discretionary accruals to increase the likelihood of price increase approval, and (3) firms that are affected most negatively by the regulations manage earnings more aggressively. They conclude that their model is capable of predicting opportunistic discretionary accruals.

Aref, Ardekani and Mohammad (2012) examined the relationship between earnings management and performance of acquiring firms in Malaysia during the period 2004-2010. The study measured earnings management using discretionary accruals derived from modified Jones model and firm's performance estimated by monthly Cumulative Abnormal Return (CAR). The results indicated that share acquirer firms unlike cash acquirers manipulated their earnings preceding acquisition announcement date. Fodio,

Ibikunle and Oba (2013) investigated the effect of corporate governance mechanisms on reported earnings quality of listed Insurance companies in Nigeria for the period 2007-2010 based on modified Jones' (1991) model. The multiple regression revealed board size, board independence and audit committee size have significant negative effect on earnings management while audit committee independence and independent external audit have positive relationship with discretionary accruals.

Furthermore, Shehu, (2014) assessed whether firm attributes affect earnings quality of listed oil and gas companies in Nigeria for the period of 2007-2011 based on modified Jones model by Dechow *et al* (1995). The study found that leverage, liquidity and firm growth have significant positive effect on earnings quality while firm size, institutional ownership and profitability have significant but negative influence on earnings quality of listed oil and gas companies in Nigeria. Uwalomwa, Uwuigbe and Ranti (2015) assessed the effect of firm characteristics on earnings management of listed companies in Nigeria. Using a sample of 20 listed firms, the study employed pooled ordinary least square regression and found that while firm size and firms' corporate strategy have a significant positive impact on earnings management represented 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.

2.5.2 Income Smoothing and Share prices

Income smoothing, which Arthur Levitt labeled ‘‘cookie jar’’ accounting in his 1998 speech, is not a new issue. Gordon (1964) predicted that as long as managers have discretion over accounting choices, they smooth reported income and the rate of growth in income. His prediction was tested in several studies. By the late 1970s, evidence for income smoothing was plentiful (Beidleman, 1973; Ronen & Sadan, 1981). Graham (2005) reported an overwhelming 96.9% of the survey respondents indicate that they prefer a smooth earnings path. Some researches has enriched our understanding of managers' use of their reporting discretion, categorizing it as either (1) garbling or (2) efficient communication of private information. Managers may smooth reported income to meet the bonus target (Healy, 1985) or to protect their job (Fudenberg & Tirole, 1995; Arya, Clover & Sunder, 2002). Income smoothing is an attempt on the part of the firm's management to manage variations in earnings to the extent allowed under sound accounting and management principles (Beidleman, 1973). Following Myers and Skinner (2002) and Leuz, Nanda and Wysocki (2003), income smoothing is mostly measured by later researchers using residuals of the cross-sectional version of the Jones model, modified by Kothari and Watts (2005). This measure assumes that there is an underlying pre-managed income series and that managers use discretionary accruals to make the reported series smooth.

Booth, Kallunki and Martinkainen (1996) indicated that firms that do not smooth income have higher abnormal return from earnings surprise than firms that smooth income.

Dechow, Ge and Schrand (2009) argued that, while the concepts statements do not state that smoothness is a desirable property of earnings or an objective of the accruals process, SFAC No. 1 does recognize that accrual earnings help mitigate problems associated with a mismatch of cash receipts and payments when reporting accounting information for finite periods, and it concludes that accrual earnings will provide a better indication of an enterprise's present and continuing ability to generate favorable cash flows than information limited to the financial effects of cash receipts and payments." Hence, predictability is the objective, not smoothness, but the concepts statement suggests that the earnings process is smoother than the cash collection/payment process (Dechow, Ge & Schrand, 2009).

Michelson, Jordan-Wagneran and Watton (2000) conducted a study on the relationship between income smoothing and return of companies by considering a sample of 358 companies during the years 1980-1991. They concluded that "smoother" companies report more abnormal return mean in comparison to "non-smoother" ones. Norani (2002) studied the effect of income smoothing on the return of the companies listed on the Tehran Share Exchange. Using data for 100 companies during the years 1991 to 2000. The study found that income smoothing had no significant effect on the return of the selected companies, though the companies had income smoothing. He also posited that the kind of industry and the size of the company can play no role in acquiring abnormal return. Bao and Bao (2004) did a study in which they investigated the effect of income smoothing and earnings quality on the evaluation of the performance of 12,651

companies from 1992 to 2000. The study could not find significant difference between earnings per share and share price among smoother and non-smoother companies. However, a high relationship was noted between earnings per share and share price in companies having a high earnings quality in comparison to those having low earnings quality. In addition, the study found a low relationship between earnings per share and share price in the smoother companies having high quality in comparison to the non-smoother ones that have high earnings quality. Smoothness that improves predictability of fundamental earnings is of higher quality, all things being equal in an equity valuation context.

It should be noted that the term "smooth" comes with baggage. Earnings that are smooth relative to uninformative cash flow variation are more decision useful under the assumption that the firm's fundamental earnings process is smoother than the cash receipt and payment process. But smoothed earnings or "artificial" smoothness in which the reported earnings have less volatility than the fundamental earnings process, represent distortions. Theories suggest that firms have incentives to make accounting choices that create smooth earnings including choices of real activities (Lambert, 1984) or accruals (Kirschenheiter & Melumad, 2002) among others.

Chaney and Lewis (1995) developed a model that shows companies smooth income in order to signal firm value to investors. This concept of signaling was also discussed by Dye in the development of his earnings management model. Dye (1988) stated that the

demand for earnings management derives from current shareholders' desire to influence prospective investors' perceptions of the firm's value. Badrinath, Gay and Kale (1989) argued that institutional investors normally avoid companies that experience large variations in earnings or firms that are perceived as risky. Therefore, intuitional investors tend to prefer companies with smoother earnings streams.

In Iran, Haghighat and Raigan (2009) showed that the Iranian investors prefer smoothed income and on this regard, managers smooth incomes either for purpose of garbling of information and either benefits or in order to transforming and reporting the insider information about future earnings. For many years, studies of income smoothing and earnings management have suggested that one of its purposes is to increase the level of market return. Bricker, Previts, Robinson and Young (1995) presented evidence that analyst's associate earnings quality "with the capability of a company's managers to manage earnings so as to avoid negative earnings surprise".

Hashem and Mehdi, (2011) evaluated the relationship between corporate debt financing and earnings quality of 81 firms listed in Tehran Stock Exchange (TSE) during the years 2005-200. The study found that debt has significant influence on earnings quality. Agnes, Chenga, Joseph and Ling (2012) investigated the association between earnings quality and price synchronicity. Price synchronicity captures the extent to which a firm's returns are explained by market and industry returns, implying that low price synchronicity could be a result of less industry-wide information impounded into prices.

The finding showed that price synchronicity increases with earnings quality for firms with high analyst coverage, consistent with higher earnings quality leads to more industry-wide information. For firms with no or low analyst coverage, the study found that price synchronicity decreases with earnings quality, consistent with higher earnings quality leads to more firm-specific information.

Akenbor and Ibanichuka (2012) carried out an empirical investigation of creative accounting practices in the Nigerian banking industry. They administered questionnaire to 25 managers and 25 accountants drawn from branches of different deposit money banks in Abuja. The findings revealed that the major reason for creative accounting practices in Nigerian banks was to boost the market value of shares; and users of accounting information are adversely affected by the practice of creative accounting. Sonia, Fayçal, Alain and Abdelwahed (2013) studied earnings management and share return in Tunisian stock market. The study revealed that earnings management significantly affects quality of earnings. Muhammad and Tijjani (2013) assessed the relationship between share prices and firm earning per share (EPS) from 2005 to 2009. A simple linear regression model was employed on a panel of 140 observations. The finding showed that there was an insignificant relationship between share prices and firm EPS in Nigeria.

Nuryaman, (2013) examined the relationship of earnings management on firm share returns of 149 companies listed on Indonesia Stock Exchange in 2010. The findings

showed that earnings management has negative effect on share returns. Augustine, Famous and Augustine (2014) evaluated the impact of audit quality on cash-based earnings management of companies in Nigeria. Using an archival data that comprised 342 observations, the result showed that audit quality has significant negative relationship with cash-based earnings management. Also, Omoye, and Eriki, (2014) examined the effect of corporate governance mechanism on earnings management of 130 listed companies in Nigeria over the period 2005-2010. The study revealed that companies in Nigeria prefer to use high earnings management practices. The study also showed that board independence has significant positive influence on the probability of companies that adopt high earnings management.

In addition, Muhammed (2014) investigated the relationship between some sets of corporate governance mechanisms and unethical accounting practice of 25 listed manufacturing firms in Nigeria. The study found that board composition, institutional shareholding, managerial shareholding and audit committee significant negative relationship with earnings quality. Augustine (2014) examined the effect of audit quality on market value per share (MPS) of companies in Nigeria. Panel data were extracted from the annual reports of 57 companies quoted on the Nigerian Stock Exchange (NSE) from 2006 to 2011. Audit quality was estimated using audit firm size, audit fees, Auditor tenure and audit client importance. The results of the multiple regression showed that audit quality has significant influence on the MPS of quoted companies in Nigeria.

Adaramola, (2014) examined the value relevance of accounting information in the Nigerian stock market. The study used secondary data extracted from the annual accounts of 57 firms from 1991 to 2010. The Generalized Least Squared (GLS) regression method was employed and the result showed a significant relationship between accounting information and share prices of companies in Nigeria. Ajide, Folorunsho and Aderemi (2014) examined the effect of earnings management on dividend policy in Nigeria for the period 2012. The findings showed that earnings management has negative relationship with dividend policy of a firm and it is not significant in the determination of dividend payout of every firm. Alexandra (2015) investigated the level of income smoothing and its impact on the informativeness of earnings in United Kingdom, France and the Netherlands. The results showed that companies in United Kingdom show less smooth earnings compared to companies in France and the Netherlands.

2.5.3 Earnings Variability and Share prices

Insiders can conceal changes in their firm's economic performance using both real operating decisions and financial reporting choices. Insiders can also use their accounting discretion to conceal economic shocks to the firm's operating cash flow. For example, they may accelerate the reporting of future revenues or delay the reporting of current costs to hide poor current performance. In either case, accounting accruals buffer cash flow shocks and result in a negative correlation between changes in accruals and operating cash flows. Focusing on the variability of earnings based on the idea that

managers tend to smooth income or earnings because they believe that investors prefer smoothly increased income.

Earnings smoothness or its inverse, variability, is a firm-specific time-series construct. For many years, studies of income smoothing and earnings management have suggested that one of its reasons is to increase the level of market return. For instance, Hepworth (1953) stated that the owners will feel more confident toward a company that reports stable earnings. Gordon (1964) posited that management might smoothing (within the accounting rules) reported income, for shareholder satisfaction increase with the rate of growth and stability of its income. Early discussions and analyses of smoothing include Beidleman (1973) and Ronen and Sadan (1981). Ronen and Yauri (2008) reported that most of the rationales offered for income smoothing focus on management's desire to enhance the value of the firm's share. Erickson and Wang (1999) found evidence consistent with income-increasing earnings management by acquiring companies in share-for-share mergers between 1985 and 1990. Easterwood (1998) found evidence that takeover targets - primarily targets of hostile takeovers - use discretionary accruals to inflate earnings (compared with the discretionary accruals by non-target companies) during the quarters immediately preceding and following a takeover attempt. Moses (1987) stated that the argument for smoothing implies a direct cause-and-effect relationship between earnings fluctuations and market risk.

Michelson, Wagner and Wootton (2000) used risk-adjusted returns to test whether the share prices response to accounting performance measure is related to the variability of companies' reported earnings. The results indicate that companies that report smoothed income have significantly higher cumulative average abnormal returns than firms that do not. Also, they found that when size is considered, market returns are stronger for small companies than for large companies and there is a significant relationship between the types of industry and income smoothing. Singer (2007) showed that earnings management is negatively associated with long-run share returns. Consistent with Singer (2007), Aflatooni and Nikbakht (2009) tested whether the stock market response to accounting performance measure is related to the smoothness and management of companies' reported income. They used data for the period 2001–2006 to estimate regression on each of the 81 industry-year cross-sections. The results show that the income smoother firms have compounded abnormal returns (ACOR) that is lower on average by 8% of stock market value to the rest of the sample. They concluded that there is a significant negative relationship between long-run returns and abnormal returns and income smoothing behavior.

Following Collins, Kothari, Shanken, and Sloan (1994), Tucker and Zarowin (2006) examined whether informational risk associated with accounting earnings impact equity market. They collected their sample from 34 different countries around the world between 1985 and 1998 and a final sample of 58,653 firm-year observations. The study finds that smoothness improves earnings informativeness. The analysis splits firms into a

high smoothing group, defined as firms that have a stronger negative correlation between discretionary accruals and unmanaged earnings (total earnings – discretionary accruals), and a low smoothing group. Their measure of earnings informativeness is the extent to which changes in current share returns are reflected in future earnings. They concluded that the net smoothing effect of accrual accounting, which they predict would lead to greater informativeness if accruals smooth noise but to reduced informativeness if managers artificially smooth earnings relative to the fundamental process.

Biurrun (2010) examined whether cross-country differences in the institutional and regulatory framework can explain differences in the earnings management behavior of banks across borders. The study uses a sample of 21,895 banks from 47 countries over the period 1990 to 2006 and shows that only regulatory restrictiveness is significantly related to income smoothing in the separate and joint regressions. However, corroborating the univariate results, the relation is positive not negative. While this is contrary to the hypotheses, it is in line with Biurrun and Rudolf (2010), who find that investors do not regard this particular form of bank earnings management as detrimental. As a potential reason they mention that corporate hedging activities, which by themselves are regarded as beneficial, may also contribute to the reduction of fluctuations in the income stream. Banks with a smooth income stream could therefore be perceived as less risky, regardless of how the smooth income stream is achieved.

The positive association found by the above study between institutional measure and income smoothing also corroborates the results of Tucker and Zarowin (2006) and Sankar and Subramanyam (2001), who found that under certain circumstances income smoothing may increase and not decrease earnings informativeness. In this case, regulatory bodies would attempt to promote and not deter banks from smoothing their income stream, explaining the positive association. In all four regressions, the association between financial structure and income smoothing is positive, while the relation between financial development and income smoothing is negative. However, the result may not be generalized as the study did not address the issue of foreign banks, originating from a country with a more favorable institutional framework, whether they can import the earnings management reducing effect of their home country regulations to their host country.

Bushman and Williams (2011) showed that smoothed earnings are less effective in facilitating the ability of outside investors and regulators to monitor and discipline bank risk-taking and hence less informative. Bouwman (2009) examined the effect of managerial optimism on earnings smoothing listed U.S. firms that have appeared on a Forbes 500 list at least four times between 1984 and 1994 and the data set is complemented with *Compustat*, CRSP and institutional Brokers' Estimate System (IBES) data. The study arrives at a final sample that contains 210 firms and 374 CEOs. They proposed two hypothesis; first, optimistic managers smooth earnings more on average than rational managers do. Second, optimistic managers are less likely than rational

managers to report earnings that fall short of analysts' forecasts by much or exceed them by a substantial amount, and are more likely than rational managers to show small (negative or positive) earnings surprises. These hypotheses are tested using existing optimism measures and supporting evidence is found for both predictions. The data is analyzed with the use of univariate and multivariate regression. This finding is consistent with the premise of the underlying theoretical motivation that optimists report higher earnings than rational managers in bad times, which then compels them to report lower earnings in good times. A number of studies have examined the effect of income smoothing on cost of equity, earnings informativeness, liquidity, and bond rating (Hunt, Moyer & Shevlin, 2000; Francis, LaFond, Olsson & Schipper, 2005; Graham, Harvey & Rajgopal, 2005; Li & Richie, 2009).

Francis *et al.* (2004) examined the effect of income smoothing on the cost of equity. They find that income smoothing has a negative effect on the cost of equity, although the effect is weaker than for other properties of earnings, such as accrual quality. Taken collectively, these studies support the notion that income smoothing represents an efficient vehicle for managers to reveal private information. Using survey data, Li *et al.* (2009) found that the overwhelming majority of managers prefer a smooth earnings growth rate. Based upon the literature, companies with smoothed earnings are more attractive to investors than companies with widely fluctuation earnings.

2.5.4 Earnings Conservatism and Share price

Conservatism has traditionally been a fundamental characteristic of financial reporting (Sterling, 1967). Empirical evidence shows a linkage between accounting conservatism and financial reporting quality. Young (2005) found that accounting earnings becomes more useful for reducing distortion in incentive contracts when measured conservatively than when measured aggressively. He concluded that accounting conservatism enhances the incentive value of accounting signals with respects the cost of agency. Given that conservatism increases firm value by reducing agency and litigations costs, it is commonly considered as an indicator of earnings quality or a desirable property of accounting earnings (Watts, 2002; Garcia, Beatriz & Penalva, 2009). Therefore, in order to reduce managers' opportunistic behavior, owners require timely recognition of losses than for earnings.

Qintao and Xiaho (2006) showed that when firm can control the quality of financial information through non contractible action, an accounting policy that aggregates raw information in a biased fashion can increase the quality of financial reporting. The study takes into consideration the endogenous nature of the information generation process. That is, accounting system that functions as a classification system in the presence of uncertainty serves not only as an aggregation scheme ex post but also incites firms to improve the information quality ex ante. This result only holds if the objectives of standard setting include other consideration such as enhancing corporate control or facilitating litigation. However their study relies on the assumption that the average

preference of investors can be captured by the behaviour of representative investor and also they do not study the general setting where different types of investors intend different uses of the same information.

Sanjay (2010) carried out the empirical examination of the positive accounting theory as opined by Watts and Zimmerman, (1986). They empirically test the framework for the agency cost related to debt contracts as a specific setting that isolates the demand for accounting conservatism in financial reporting. It was concluded that a contract with a conservative bias is considered more effective. In other words, agency costs associated with debt contracts results in higher demand for conservative information. That is, accounting conservatism is a desirable qualitative characteristic of financial reporting because it is a cost effective mechanism. Their result holds after controlling for other incentives for conservative reporting.

There exists empirical evidence on the relationship between board characteristics and accounting conservatism. Nor, Kamran and Xu (2011) using a 826 firm-year observation comprising large listed firms in Malaysia reported that board size, audit quality and management ownership results in lower level of conservatism. Contrary to their findings, Wuchun, Chiawen and Taychang (2007) carried out his study on Taiwan listed firms, he found that inside ownership and CEO duality increases the level of conservatism in sample firms. In a cross sectional study, Joo (2009) reported more conservative firms operate with less inside ownership and small board size. On the contrary, Garcia, Beatriz

and Fernando (2007) investigated whether firms with sound corporate governance shows higher degree of conservatism than weak firms. They control for the endogenous nature of corporate governance and the fact that governance and conservatism may be simultaneously determined using a composite measure that incorporates the level of antitakeover protection and the level of CEO involvement and internal governance. Using a large sample of U.S firms during the period, they found that firms with stronger corporate governance provisions in place are more conservative. Their result is similar even after isolating the event that resulted in exogenous shock to corporate governance and the passage of the Sarbanes Oxley Act of 2002. They also observed causality from strong governance structures to conservatism and not vice versa. That is, strong corporate governance employs conservatism as a tool to fulfill its monitoring role. Their study is limited by the aggregation of governance structures across firms.

Garcia *et al*. (2007) investigated this relationship in the Spanish context by utilising 69 non-financial Spanish firms from 1997 to 2002. They use a more extensive measure of corporate governance by aggregating the index incorporating the following board characteristics which are directors' denominations, board size, proportion of non-executive directors, independent directors, number of board meetings, CEO/Chairman duality, the existence of audit committee and the existence of a nomination/remuneration committee. They provide evidence which shows that firms with strong boards use conservative accounting numbers as a governance tool even in an institutional setting

with low litigation risk. Similar to their U.S study, their research is limited by the aggregation of governance structures across firms.

Donglin and Song (2009) investigated the determinants of accounting conservatism using accrual based measure and data from 2001 to 2006 in china. They found that a higher degree of leverage, low level of control of ultimate shareholders, and low level of management ownership lead to conservative reporting. They provide evidence in support of their argument that management incentives to comply with standards significantly influence the level of conservative accounting reporting. The findings provided reveal that board independence does not have any significant effect on conservative accounting. However, their study failed to solve endogeneity problem which is always a concern in corporate governance and often ignored in accounting conservatism research.

There are two views expressed by competing theories. While agency theory posits that CEO and the chairman roles be separated since the board responsibilities includes monitoring the management and the CEO, the stewardship theory views it otherwise. It argues that the CEO acting as the chairman improves performance as there is no information breakdown between the CEO and the board. Dechow (1995), Klein (2002) cited in Rahimah (2011) found that joint leadership structure weakened firms governance, as it lead to earnings manipulation and higher fees. The study of Ahmed and Duellman (2007) found no significant relationship between CEO/Chairmanship separation and accounting conservatism. Also, Rahimah (2011) studied the same relationship in the

Malaysian context. The study utilized panel data on Malaysian data over seven years from 2001 to 2007, the result shows no evidence that CEO duality is associated with conservatism. In contrast to this, Wuchun *et al*. (2007) found that firms with CEO acting as the chairman have a greater demand for accounting conservatism to make up for the weakness in sound corporate governance.

Arguments in relation to large or small size of the board exist. In favour of small board size is that directors rarely criticize the policies of top managers and that this problem tend to increase with the number of directors (Sanda, Mikail & Garba, 2004). In favour of larger boards is that they may be more constructive as they have more external linkage and the ability to extract critical resources such as funding and expertise, which leads to higher performance (Pfeffer, 1987 cited in Joo, 2009; Pearce & Zahra, 1992). Joo (2009) on his part found that board size is negatively associated with accounting conservatism while the study of Rahimah (2011) showed that board size is positively associated with conservative accounting. However in a study by Nor, Kamran and Xu (2011), evidence was provided that board size is not related to accounting conservatism in Malaysia.

The composition of the board can be used as a tool for monitoring and alleviating the opportunistic behaviour of managers. In other words, boards that are mostly constituted of inside directors may lead to transfer of wealth to themselves instead of stakeholders. In a US study, Ahmed and Duellman (2007) found that high proportions of independent directors were associated with high level of accounting conservatism. Also, they found

that boards dominated by management is not effective to reduce agency conflict and thus does not employ more conservatism. Garcia *et al.* (2007), using aggregate index as a proxy for strong boards, found a positive relationship between outside directors and accounting conservatism. They reported that strong boards of directors incorporate bad news significantly faster into earnings than weak boards. That is, accounting conservatism is utilized by independent directors to assist them in monitoring management.

Evidence on the use of insider shareholding in solving agency problem is mixed. Douglin and Song (2009) argued that management may manipulate earnings by choosing a reporting method that will maximize their own interest. This will lead to less conservative reporting, especially when the level of management ownership is higher and compensation is more closely related to performance. Their argument is supported with the outcome of their findings which shows a significant negative relationship between managerial ownership and accounting conservatism. On the contrary, Joo (2009) supported the view that management owning shares in the firm may reduce the agency conflict, thereby aligning their interest with that of the shareholders. Using a sample of 716 Malaysian firms, he found that insider shareholding reduces the level of accounting conservatism in firms. Their result was contrary from their expectation that managerial ownership will improve reliability of financial reporting. Rahimah (2011) obtained similar result which show inside ownership is negatively related to accounting conservatism.

In line with Garcia, Beatriz and Fernando (2005), corporate governance mechanisms results better monitoring of managers and produces more timely accounting information, accelerates the recognition of bad news into earnings in relation to good news (conditional accounting conservatism) thereby providing board of directors with early warning signals to investigate the reasons for the bad news, and reduces the likelihood of incurring litigation costs. There exists empirical evidence on the relationship between board characteristics and accounting conservatism. Beeks, Pope and Young (2004) investigated the link between board composition, earnings timeliness and earnings conservatism (conditional accounting conservatism). They examined the influence of non-executive directors on earning timeliness and conservatism in reported accounting numbers. The study adopted the Basu (1997) asymmetric timeliness in measuring the level of conservatism in sample firms. Using a sample of listed non-financial firms in the UK from 1993 to 1995, the results showed that the proportion of non-executive directors on the board is positively related to conservatism in firms. The study incorporate into their model, the existence of block holders, and the result still provides evidence in support of their expectation which shows outside directors incorporating bad news into earnings than good news.

Extending the study of Beeks, Pope and Young (2004), Ahmed and Duellman (2007) investigated this relationship using a sample of 306 U.S firms from 1999 through 2001. They argued that the result might not hold because the US GAAP is more conservative

compared to what is obtainable in the UK. Given that firms reduce agency problems in different ways, the study control for industry, firm size, leverage, growth opportunities, institutional ownership, inside director ownership, strength of shareholder rights and unobservable firm characteristics that are stable over time. The result provided evidence consistent with the findings of Beeks Pope and Young (2004) which shows that independent boards recognize bad news in a timelier manner than good news. It was concluded that accounting conservatism assists directors in reducing the agency costs of firms.

2.5.5 Timeliness of Earnings and Share Price

Timeliness refers to the availability of accounting information to users before it loses its capacity to influence decisions (FASB, 1980). It implies providing information in the financial statements in a timely manner, which means recognizing all pertinent information (e.g., revenues, expenditures, changes in the value of assets) to enable the users of current financial statements to form an expectation about the future cash flows of the business. However, financial information inherently suffers from the lack of timeliness due to conservatism. SFAC No. 2 also states that "timeliness is an ancillary aspect of relevance" (FASB 1980 para-56).

Accounting earnings information has attracted interest in prior accounting and finance literature since the publication of two key research papers by Ball and Brown (1968) and Beaver (1968). As explained in Walker (2004), the literature emerges as a response by

accounting and finance academics to the market efficiency hypothesis, which is concerned with the degree to which share prices fully reflect all available information. Since accounting is an important source of value relevant information about companies, it is natural for academic researchers to examine the efficiency of the stock market with respect to accounting information (Walker, 2004).

Lev (1989) surveyed the association between current share returns and current earnings changes. He found that the R-Square values obtained by regressing current year share returns on annual earnings or earnings changes are very low. He also finds that the values of earnings response coefficient (ERC) estimates are very low. He attributed these weak results to the low accounting earnings quality. Lev's review paper has motivated academic researchers to identify other potential explanations for the weak returns-earnings association. A possible explanation for low earnings quality is the lack of timeliness in reported accounting earnings (Collins, 1994). The literature on accounting earnings' timeliness is concerned with the degree to which the stock market has access to value-relevant information other than reported accounting earnings. Reported accounting earnings' lack of timeliness is due to the fact that value-relevant events are reflected in share prices as soon as the information reaches the stock market, while their influence on reported earnings often occurs with a time lag (Schleicher, 1996). This lagged reaction of earnings is to a certain extent due to accounting conventions such as objectivity, conservatism and verifiability that prevent earnings from reflecting the value-relevant information on a timely basis (Schleicher, 1996).

Collins *et al*. (1994) significantly contribute to the accounting and finance literature by empirically investigating the reasons for the weak returns-earnings association. They showed that earnings' lack of timeliness is the most important contributing factor to the low returns-earnings relation. They produced a new model to improve the association between returns and earnings known as the Future Earnings Response Coefficient "FERC" framework.

2.6 Theoretical Framework

Generally, two theories are commonly used in studies on accounting earnings and share price. The theories, which incidentally are opposed to each other are considered the main theories on the valuation of shares. The first theory, popularly known as the traditional view was taken by Williams (l938), which states that a share derives its value from the discounted value of all future dividends. In line with this, it is argued that investors do invest to receive a benefit and that this benefit can only take the form of dividends. The opposing theory, which was popularised by Modigliani and Miller (l961) normally referred to as M & M argued in favour of earnings orientated approach to investment. The theory postulates that at any point in time earnings are all that matter to the investor and that dividends are irrelevant for determining the economic value of a firm.

The argument of M & M is in support of the traditional earnings theory. The theory, which is anchored on financial economics theory posit that the market price of a share

depends on a firm's profit. According to the theory, the value of a firm can be regarded as the present value of its cash flows. Miller–Modigliani (1961, 1966) are among the strong proponents of earnings theory. The M & M line of thinking is predicated on the belief that investors do not have any preference between current dividends and capital gains. Accordingly, they argued that dividend policy is irrelevant to investors as dividend is not deterministic of the market value. According to the theory, all that shareholders want are high returns either in the form of dividends or in the form of re-investment of retained earnings by the firm. In view of this, the M&M theorem states that it is the investment pattern and consequently the earnings of the firm that affect the share price or the value of a firm rather than the division of retained earnings between new investment and dividends.

A number of studies have sought to validate the M & M theory. For instance, Pilotte (1986) examined the effect of shareholder wealth on external financing by non-dividend-paying firms. The findings were generally consistent with the hypothesis that earnings rather than dividend payment is what affect value of firms. Yli-Olli (1979) and Suvas (1994) tested the propositions of M & M on stock valuation in Finland. Both studies showed that in Finland dividend policy has no effect on the market value of the firm. The studies also confirmed that earnings are what impact share price.

In view of the fact that share price is significantly influenced by earnings as explained above, this study adopts the M & M theory of share valuation to underpin the relationship

between earnings quality and share price of listed manufacturing firms in Nigeria. The choice is supported by the use of the same theory by previous researchers such as Tisshaw (1982), Pilotte (1986), Suvas (1994) and Muhammady (2011).

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design, sources and methods of data collection, population and sampling, techniques of data analysis employed in the research, measurement of variables, and some of the diagnostic tests conducted on the data to enhance the reliability of the results.

3.2 Research Design

Correlation research design was used to describe the statistical association between the independent and dependent variables of the study based on quantitative approach. The design was considered appropriate for this study because it allows for testing of expected relationships between and among variables and the making of predictions regarding relationships in everyday life events, and in view of the fact that the study involves the measurement of several variables as well as assessment of the relationship between or among the variables. Quantitative approach, which has its root in positivism and deductive enables us to use theory to frame and thus understand the problem at hand, use systematic measurement and statistical analyses to obtain findings.

3.3 Population and Sample Size of the study

The population of the study comprises all the 37 listed manufacturing firms on the Nigerian Stock Exchange (NSE) as at 31st December 2013 that are engaged in manufacturing activities. The firms are classified into 3 subsectors namely Conglomerates (9) Consumer Goods (16) and Industrial Goods (12) companies. In view of the nature of the model used in the study, the following filters were employed to arrive at an adjusted population in line with the studies of Cassey and Anderson (1999) and Adelegan (2003):

i. Firms with record of cash flows during the period of the study
ii. Firms with record of capital spending during the period of the study
iii. Firms with record of current assets and current liabilities during the period of the study
iv. Firms with the financial and market information necessary to extract the panel data needed for the period 2009-2013 from the annual reports and accounts of the firms and daily lists of the NSE for the study period.

In view of the filters, 17 firms were eliminated and the remaining 20 firms were found to have satisfied all the filters and therefore used as the adjusted population of the study. Having satisfied all the criteria used in filtering, all the 20 firms that formed the adjusted population were studied based on census approach. The list of the companies is attached as appendix I (a) and I (b).

3.4 Sources and Methods of Data Collection

The study used data from secondary sources only because the data needed for analysis can adequately and conveniently be extracted from the audited financial reports of the selected firms within the period of the study. The data for variables of the study were all extracted from the audited financial statements of the sampled firms downloaded from the websites of the firms.

3.5 Technique and Tool of Data Analysis

In this study, Ordinary Least Square (OLS) multiple regression was adopted to examine the effect of earnings quality properties and share price of listed manufacturing in Nigeria. The study used STATA version 10 software for data analysis.

3.6 Model Specification

In order to examine the influence of earnings quality properties on the share price of listed manufacturing firms in Nigeria, the following model was used to encapsulate the linear relationship between the dependent and independent variables in line with Dechow and Dechev (1995) and Kothari (2005):

$$SP_{it} = \alpha + \beta_1 ACCQ_{it} + \beta_2 INCSMOTH_{it} + \beta_3 EVAR_{it} + \beta_4 TLINESS_{it} + \beta_5 CONV_{it} + \varepsilon_{it} \quad \text{(i)}$$

Where:

SP_{it}: Share price for firm *i* at time *t* measured as value of shares in the market

ACCQ: Accruals quality represented by discretional accruals

INCSMOTH: Income smoothing

EVAR: Earnings variability

TLINES: Timeliness of earnings

CONV: Earnings conservatism

α: constant

$\beta_1 - \beta_5$: Coefficients of the parameters estimate.

ε: error term

Since one of the main characteristics of manufacturing firms is that they are highly levered, the study assumes that leverage plays an important role in determining relationship between earnings quality properties and share prices. Accordingly, the study used firm leverage (LEV) as a control variable in the model. In addition, the study added firm size (FS) as a control variable, because in theory, the higher the size of a firm, the lower the expected earnings management.

The modified linear relationship between the outcome variable and explanatory variables is given as:

$$SP_{it} = \alpha + \beta_1 ACCQ_{it} + \beta_2 INCSMOTH_{it} + \beta_3 EVAR_{it} + \beta_4 TLINESS_{it} + \beta_5 CONV_{it} + \beta_6 LEV_{it} + \beta_7 FS_{it} + \varepsilon_{it} \quad \text{(ii)}$$

The output of the multiple regression based on the modified model would reveal the contribution of leverage in explaining share price behaviour of listed manufacturing firms in Nigeria.

3.7 Variables Measurement

The dependent and independent variables used in this study are measured as follows:

(a) Share Price:

The share price used is the average price per share at the end of three (3) months after the balance sheet date of each of the selected firms. This approach is used in order to ensure that the share price fully reflects the information presented in the annual reports (Ou & Sepe, 2002; Abubakar, 2011).

(b) Accruals Quality:

The accruals quality is proxies by discretionary accruals which is measured using the residuals of modified Dechew and Dechev (2002) model as adopted by Shehu (2012).

$$\Delta WC_{it} = \beta_0 + \beta_1 CFO_{it} - 1 + \beta_2 CFO_{it} + \beta_3 CFO_{it} + 1 + \beta_4 \Delta REV_{it} + \beta_5 PPE_{it} + \varepsilon \qquad \text{(iii)}$$

(c) Income Smoothing:

Smoothing of income is measured using residuals of Kothari (2005) model.

$$\frac{TAC_{i,t}}{TA_{i,t-1}} = \alpha + \alpha_1 \left\{\frac{1}{TA_{i,t-1}}\right\} + \alpha_{i,t-2} \left\{\frac{\Delta REV}{TA_{i,t-1}}\right\} + \alpha_3 + \left\{\frac{PPE}{TA_{i,t-1}}\right\} + \alpha_4 \{ROA_{i,t}\} + \varepsilon_{i,t}$$

Where:

$TAC_{i,t}$: Total accruals in year t, for firm i,

$\Delta REV_{i,t}$: Revenues in year t, minus the revenues from year t-1, for firm i,

$PPE_{i,t}$: Net income divided by average assets in period t for firm i,

$ROA_{i,t}$: Net income divided by average assets in period t for firm i,

$TA_{i,t-1}$: Total assets at the end of the fiscal period t-1 for firm i,

$\varepsilon_{i,t}$: Error in the course of the year t, for firm i,

α_1, α_2, α_3, α_4: The parameter estimates for firm i

It should be noted that in Kothari (2005), as in Jones (1991), the difference between profit and cash flow from operations is recognized as accruals. In other words, total accrual, is calculated by the following equation:

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

Where:

$TAC_{i,t}$, : Total accruals of firm i in year t,

$NI_{i,t}$: Net profit of company i in year t,

$CFO_{i,t}$: Of cash from operating activities of firm i in year t.

With the regression parameters, accruals, involuntary, are determined through regression. Then, through the following equation, discretionary accrual for each firm is calculated for year t:

$$DAC_{i,t} = \frac{TAC_{I,T}}{TA_{i,t-1}} - NDAC_{i,t}$$

Where:

DAC: Discretionally Accruals

TAC: Total Accruals

NDAC: Non-Discretionally Accruals

(d) Earnings Variability:

To measure earnings variability, the research employs Leuz, Nanda and Wysocki (2003)'s approach. They argue that insiders can conceal changes in their firm's economic performance using both real operating decisions and financial reporting choices. Focusing on insiders' reporting choices, their earnings management measure captures the degree to which insiders "smooth" (i.e., reduce the variability of reported earnings by altering the accounting component of earnings, namely accruals). They measure it as the ratio of the standard deviation of operating earnings scaled by total assets divided by the standard deviation of cash flow from operations also scaled by total assets. In order to control for differences in the variability of economic performance across firms they scale it by the cash flow from operations. The decision criterion is that the smaller the ratio the lower the quality of the reported, ceteris paribus, insiders exercise accounting discretion to smooth reported earnings.

$$\text{Earnings Variability} = \frac{\text{STD of EFOPS}}{\text{STD of CFFOPS}} \qquad \text{(iv)}$$

Where:

STD: Standard deviation,

EFOPS: Earnings from operations and

CFFOPS: Cash flow from operations

(e) Timeliness:

Timeliness is similar to value relevance in that the reference construct for this measure is share returns and the measure itself is based on explanatory power. Timeliness captures the ability of earnings to reflect good news and negative return or profit that is impounded in returns, and is measured as the explanatory power of a reverse regression of earnings on returns. The use of timeliness as a measure of earnings quality is based on the same presumptions that support value relevance as an earnings quality measure. Following Ball (2000), the measure of timeliness is the adjusted R^2 from the equation below. Smaller values of timeliness imply less timely (lower quality) earnings. The equation is typically estimated on a firm-specific basis in time series as follows:

$$EARNj,t = \alpha 0,j + \alpha 1,jNEGj,t + \beta 1,jRETj,t + \beta 2,jNEGj,t \cdot RETj,t + \varsigma j,t, \quad \text{(v)}$$

Where:

$NEGj,t$ = 1 if $RETj,t$ < 0 and 0 otherwise; all other variables are the same as in measurement of value relevance above.

(f) Conservatism:

CON ACCRUAL is used in measuring conservatism in this study. The study adopted the accrual measure used by Duellman (2004), Joo (2009) and Rahimah (2011). The formula is given as follows:

Accruals*3 years* = [(INC + DEPRN – OCF)] / TA

CONACCR = (Accruals / 3 years) X (-1) (vi)

Where:

INC: Income before tax and extraordinary items

DEPRN: Depreciation Charge for the year

OCF: Operating Cash Flow

TA: Total Assets

This measure is profit before extraordinary items less cash flow from operations plus depreciation expense deflated by average total assets, and averaged over a period of three years centered on year t multiplied by negative one. Therefore positive CON ACCRUAL indicates higher conservatism. The intuition underlying this measure is that conservative accounting results in persistently negative accruals also averaging over a number of years ensures that the effects of large accruals are mitigated, as accruals tend to reverse in one or two period (Givoly & Hayn, 2000 cited in Duellman, 2004; Richardson et. al, 2004).

(g) Leverage is measured as ratio of total debt to equity.

(h) Firm Size is measured by the natural log of total assets.

3.8 Diagnostic and Robustness Tests

The following diagnostic and robustness tests were conducted to enhance the reliability of the findings of this study in addition to descriptive statistics and correlation analysis:

a) **Multicollinearity test:** This is to check whether there is a high level of correlation between independent variables themselves. To formally substantiate the lack of multicollinearity between the independent variables, collinearity diagnostics was observed using the Variance Inflation Factors (VIF) and Tolerance Values (TV). The VIF and TV are two advanced measures of assessing multicollinearity between independent valuables. The rule is that if the values of VIF and TV are found to be consistently smaller than ten and one respectively, multicollinearity is absent and vice versa (Neter, Kutner, Nachtsheim & Wasserman, 1996; Casey & Anderson, 1999).

b) **Heteroskedasticity:** This test was conducted to check whether the variability of error terms is constant or not. The presence of heteroskedasticity signifies that the variation of the residuals or term error is not constant which would affect inferences in respect of beta coefficient, coefficient of determination (R^2) and F-statistic of the study.

c) **Cross-Sectional Dependence Test:** This is called the contemporaneous correlation to check whether the individual manufacturing firm specific characteristics in the panel are depending on each other or not. That is to check whether the residuals are correlated across firms in the panel. Cross-sectional dependence can lead to biasness in the overall results of the study if present.

Breusch-Pagan Lagrange multiplier (LM) test was used to ascertain the presence or absence of cross section dependence.

CHAPTER FOUR
DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents and analyses the results obtained from the data. The chapter begins with descriptive statistics and correlation analysis of the variables. This was followed by the presentation and discussion of the regression results for the purpose of estimating the model used in the study. The chapter concludes with discussion of findings of the study and policy implications of the results.

4.2 Descriptive Statistics

The summary of the descriptive statistics of the variables are presented in table 4.1. The full result is contained in appendix II (a).

Table 4.1: Descriptive Statistics

Variables	Mean	Std. Dev.	Minimum	Maximum	S. Wilk
SP	42.6664	52.39161	0.75	271.57	0.00000
ACCQ	0.0065614	0.1673103	-0.19561	0.43931	0.00000
INCSMOOTH	-0.000782	0.2752193	-0.22035	0.54165	0.00000
EVAR	0.0027	0.0513654	-0.11561	0.18439	0.00003
TLINESS	-0.00062	0.0353014	-0.0719	0.0831	0.00383
CONV	-0.0030323	0.1318482	-0.6445	0.1475	0.00000
LEV	1.0683	1.142625	0.039	5.7300	0.00000
FS	18.52106	3.606741	11.07	27.228	0.00006

Source: Summary Statistics from Stata Output.

The result from table 4.1 shows that the mean value of SP is 42.7 with a standard deviation of 52.4. This high figure indicates high inflation in the period of the study in Nigeria's economy. It also implies that there is wide variation of the market price of shares across the sample firms, which is further attested to the minimum of 0.75 and maximum of 271.6. The variability serves as a useful indicator for further analysis of the data.

Regarding the independent variables, ACCQ has a mean value of 0.006 with standard deviation of 0.167. This implies that ACCQ deviates significantly across the sample firms. The minimum values of -0.196 and maximum of 0.44 also show significant variability in the data. The standard deviation is higher than the average mean value, which indicates that there is great difference in the data. In addition, INCSMOOTH has an average mean value of -0.00078 and standard deviation of 0.275. EVAR reveals an average of 0.0027 and a standard deviation of 0.051 with a range of values from -0.116 to 0.184.

TLINESS and CONV exhibit averages of -0.00062 and -0.00303 respectively while their respective standard deviations are 0.03 and 0.132 indicating that there is great disparity regarding the behavior of the variables across the sampled manufacturing firms. The observations of TLINESS range from -0.072 to 0.08 while that of CONV range from -0.64 to 0.15. Lastly, with respect to the control variables, the averages are 1.0683 and

18.52106 with standard deviation of 1.14 and 3.606741 respectively. The minimum values are 0.039 and 11.07 while the maximum values are 5.73 and 27.228 respectively.

Overall, all the standard deviations of all the variables vary significant from the respective means of the data indicating that there are wide variations regarding the firms behavior to these phenomena. Another reason that could be attributed to that is due to the fact that the data was mean- centered in order to improve the robustness of the result. In addition, the Shapiro Wilk test for normality of data as per appendix II (b) indicates that all the variables are not normally distributed. Generally, non-normality of data does not affect the validity of estimations with regression based on Gauss-Markov Theorem as explained by Shao (2003). It however, points to the need for caution when taking decision based on the result. In order to correct non-normality, especially where the data used in the study are mean-centered, robust estimation is often used.

4.3 Correlation Analysis

The Pearson correlation analysis matrix shows the relationship between the explanatory and the explained variables and also the relationship among all pairs of independent variables themselves. It is useful in discerning the degree or extent of relationship among all independent variables as excessive correlation could lead to multicollinearity, which could consequently lead to misleading findings and conclusions. The correlation matrix does not lend itself to statistical inference but it is relevant in deducing the direction and

extent of association between the variables. Table 4.2 presents the correlation matrix for all the variables. The full result is attached as appendix II (c).

Table 4.2: Correlation Matrix

Variables	SP	ACCQ	INCSMOOTH	EVAR	TLINES	CONV	LEV	FS
SP	1.0000							
ACCQ	-0.2481	1.0000						
INCSMOOTH	-0.0635	-0.3788	1.0000					
EVAR	0.4773	-0.0840	-0.1379	1.0000				
TLINESS	0.0194	0.0617	0.0813	0.5435	1.0000			
CONV	-0.4832	0.1682	0.2239	-0.5574	0.0872	1.0000		
LEV	-0.2120	-0.0255	-0.1238	-0.1893	-0.2347	0.0774	1.0000	
FS	0.0232	-0.0389	-0.0339	0.0367	0.0176	0.1712	0.0259	1.000

Source: Correlation Matrix from Stata Output

In correlation analysis, high level and strong form of relationship between dependent and individual independent variables are expected while low level and weak form of relationship between and among independent variables are expected. According to Gujarati and Porter (2009), a correlation coefficient between two independent variables above ±0.80 is considered excessive and thus certain measures are required to correct the likely presence of collinearity and multicollinearity. From table 4.2, it can be seen that all correlation coefficients are below 0.80 suggesting that the variables are well selected and can fit in the same regression model.

The table reveals that there is an inverse correlation between the dependent variable, SP and four explanatory variables: ACCQ, INCSMOOTH, CONV and LEV with coefficients of -0.25, -0.06, -0.48 and -0.21 respectively. This implies that the four explanatory variables move in opposite direction with SP, which means that the lower their values the higher the share price. On the contrary, as these explanatory variables increase at individual levels, SP declines. The table also reveals that EVAR, TLINESS and FS exhibit positive correlations with SP, with coefficients of 0.48, 0.02 and 0.02 respectively. This means that these three explanatory variables and the outcome variable move in the same direction. Thus, as the variables increase SP also increases.

With respect to the association among the independent variables themselves, ACCQ is found to be inversely correlated with INCSMOOTH, EVAR, LEV and FS based on the values of -0.38, -0.08, -0.06 and -0.04 respectively, while it moves in the same direction with TLINESS and CONV as per the values of 0.06 and 0.17 respectively. INCSMOOTH positively correlates with TLINESS and CONV while it shows negative relationship with EVAR, LEV and FS. More so, EVAR has positive association with TLINESS and FS, and negative relationship with CONV and LEV. Furthermore, TLINESS reveals positive relationship with CONV and FS on one hand and negative association with LEV on other. Lastly, CONV is positively associated with both LEV and FS while LEV and FS exhibit positive relationship.

It is noteworthy that the highest absolute correlation coefficient among the explanatory variables is between CONV and EVAR, which is approximately -0.56 and the lowest absolute degree of association is that which is between FS and ACCQ 0.01. The rather mild correlation between the pairs of independent variables indicates that they can exist in the same model without raising concern on harmful correlation or problem of multicollinearity.

4.4 Robustness Tests

The two robustness tests conducted in this study are multicollinearity and heteroskedasticity tests. These tests are important to regression estimation in order to satisfy the assumptions of the Ordinary Least Square (OLS) of homoskedasticity and absence of exact correlations among the independent variables in the model.

Table 4.3 shows the results of the value inflation factor (VIF) and tolerance value (TV). The VIF and TV are two advanced measures used in addition to the Pearson correlation matrix to assess the presence or absence of multicollinearity between the explanatory variables. The output generated using STATA is attached as appendix II (d).

Table 4.3: VIF Test for Multicollinearity

Variables	VIF	TV (1/VIF)
ACCQ	1.31	0.763232
INCSMOOTH	1.37	0.727547
TLINESS	2.21	0.452253
EVAR	3.17	0.315643
CONV	2.40	0.415931
LEV	1.10	0.909105
FS	1.10	0.907859
Mean VIF	1.81	

Source: Multicollinearity test result from Stata

From table 4.3, the VIF and TV are found to be consistently smaller than 10 and above 0.10 respectively indicating the absence of multicollinearity as suggested by Neter, Kutner, Nachtsheim and Wasserman (1996), Tobachnick and Fidell (1996) and Cassey and Anderson (1999). The low mean VIF is also a pointer to the mild correlation among the regressors. This shows the appropriateness and fitness of the explanatory variables used in the model.

In addition, the Breusch-Pagan or Cook-Weisberg test was used to test for the existence of heteroskedasticity after the OLS result was obtained as per appendix II (e). The null hypothesis in this test assumes that the variance of the residuals is constant. If the p-value is significant at 5%, then there is substantial evidence to reject the null hypothesis indicating the presence of heteroskedasticity. The result as per appendix II (f) reveals that the chi^2 value is 63.7 which is significant at 1%. This indicates that the homoscedasticity

assumption is violated and thus OLS is not an appropriate estimator of the model. In line with the suggestion of Gujarati and Porter (2009), the robust OLS regression was employed to correct the heteroskedasticity of the residuals.

4.5 Presentation and Discussion of Regression Results

In this section, the robust regression result is presented and analysed. The analysis is followed by hypotheses testing and discussion of policy implication of the findings. The summary of the robust OLS result is presented in table 4.4 while the full result is attached as appendix II (g).

Table 4.4 Summary of Robust Regression Result

Variable	Coefficient	T-Value	Prob.
Constant	41.90099	1.68	0.096
ACCQ	-57.54865	-2.23	0.028
INCSMOOTH	-6.562047	-0.42	0.670
EVAR	490.8967	2.64	0.010
TLINESS	-383.2649	-1.52	0.071
CONV	-57.71171	-1.02	0.308
LEV	-8.2575	-2.87	0.005
FS	0.4547372	0.34	0.734
R-squared			0.38
F. Stat.			3.36
Prob. of F. Stat			0.0031

Source: Summary of Regression Result from Stata Output

Table 4.4 indicates that the aggregate influence of the explanatory variables included in the model are able to explain SP up to about 38% as indicated by the R-squared, while the remaining 62% are controlled by other factors that are not included in the model. The F-Statistics value of 3.31, which is significant at 1% shows that the model is fitted and therefore provides substantial evidence that earnings quality has significant impact on SP of listed manufacturing firms in Nigeria. Substituting the coefficients of the variables in the regression equation gives the following:

SP = 41.9 – 57.5ACCQ – 6.56INCSMOOTH + 490.9EVAR – 383.3TLINESS – 57.7CONV – 8.3LEV + 0.5FS

The table shows that ACCQ inversely influences SP with coefficient of -57.5 and t-value of -2.23 which is significant at 5%. This implies that 1% increase in ACCQ will lead to a decline in SP by 57 kobo and vice versa. The finding is in line with those of Neill, Pourciau and Schaefer (1995), Dechow, Sloan and Sweeney (1995), Beaver and Engel (1996), Rangan (1998), Jeter and Shivakumar (1999), Erickson and Wang (1999), Akintola and Chris (2000), Penman and Zhang (2002), Hirshleifer (2004), Kraft (2006) and Allen *et al* (2010). The finding is however, contrary to the studies of Marquardt and Wieldman (2004), Ducharme *et al* (2004), Ekoja (2004), Francis, Olsson and Schipper (2005), Lee, Li and Yue (2006), Zaluki (2008) and Shah *et al* (2009). Based on the finding, the study fails to accept the null hypothesis that ACCQ has no significant impact on SP of listed manufacturing firms in Nigeria.

The result also shows that income smoothing (INCSMOOTH) has a t-value of -0.42 and a coefficient of -6.56 with a p-value that is not significant. This means that INCSMOOTH is negatively but insignificantly influencing the share price of listed manufacturing firms in Nigeria. It also connotes that when there is an increase in the level of income smoothing by one point, the share prices of listed manufacturing firms may or may not be affected. This may be as a result of the fact that a non-smoothened income indicates higher and normal return from earnings surprise than that of smoothened income. This underlies the import of the capability of a company's manager to manage earnings so as to avoid negative earnings surprise.

The finding could not provide sufficient evidence fail to reject the null hypothesis that INCSMOOTH has no significant effect on SP of listed manufacturing firms in Nigeria. The finding is in line with those of Dye *et al* (1988), Badrinath *et al* (1989), Fudenberg *et al* (1995), Booth *et al* (1996), Arya *et al* (2002), Kirschenheiter (2002), Dharan (2003), Graham *et al* (2005), Kothari and Watts (2005) and Dechow *et al* (2009). On the contrary, the finding did not support those of Ronen *et al* (1981), Lambart (1984), Healy (1985), McNichols and Wilson (1988), Bricker *et al* (1995), Myers and Skinner (2002), Leuz *et al* (2003), Kanagaretnam *et al* (2004), Chaney and Lewis (1995) and Haghighat and Raigan (2009).

The table further reveals that earnings variability (EVAR) has a positive coefficient value of 490.9 and t-value of 2.64 that is significant at 1% level of significance. This implies

that variability of earnings positively influences the share prices of listed manufacturing firms in Nigeria. It suggests that a 1% increase in EVAR will lead to 490.9 kobo rise in market price of shares. It is noteworthy that this finding is contrary to the study's prior expectation that because there is a direct cause-and-effects relationship between earnings fluctuations and market risks, an inverse relationship was most likely.

The above finding, which provides sufficient evidence for rejection of the hypothesis that EVAR has no significant impact on the SP of listed manufacturing firms in Nigeria is in line with the findings of Dharan (1987), Easterwood (1998), Erickson and Wang (1999), Michelson *et al* (2000), Bowman and Navissi (2003), Kanagaretnam (2004), Tucker and Zarowin (2006), Singer (2007), Bouwman (2009), Sanjay (2010) who all documented a significant positive interaction between variability of earnings and share prices. However, the study contradicts Moses (1987), Collins *et al* (1997), Hunt *et al* (2000), Sankar and Subramanyam (2001), Francis *et al.* (2004), Francis *et al* (2005), Bushman and Williams (2011), Graham *et al* (2009), Li *et al* (2009), Biurrun (2010) and Biurrun and Rudolf (2010).

The table also shows that timeliness of earnings (TLINESS) has an inverse association with share price (SP) of listed manufacturing firms in Nigeria. The coefficient and t-value of TLINESS are -383.3 and -1.82 respectively and the p-value is significant at 10% level of significance. This suggests that 1% rise in TLINESS will lead to decline in SP by 383 kobo. The result may have suggested that when there is an increase in the level of

timeliness of earnings, the share price of listed manufacturing firms will decline indicating that investors do not consider timeliness as a determinant of investment decision. This finding is in contrast to those of Ball and Brown (1968), Beaver (1968), Lev (1989), Collins (1994), Neill *et al* (1995), Schleicher (1996), Watts (2002), Chan *et al* (2004), Ball *et al* (2005) and Bouwman (2009), and in line with the studies of Sterling (1967), Healy (1985), Watts and Zimmerman (1978), Dye *et al* (1988), Jones (1991), Dechow (1995), Skinner (1996), DeAngelo (1986), Erickson and Wang (1999), Ekoja (2004) and Walker (2004). Based on the finding, this study rejects the null hypothesis that TLINESS has no significant impact on the SP of listed manufacturing firms in Nigeria.

Earnings conservatism (CONV) reports a t-value of -1.02 and a beta coefficient of -57.71 with a p-value that is not significant. This means that CONV does not significantly influence the share price of listed manufacturing firms in Nigeria. It also connotes that when there is an increase in the level of conservatism by one point, the share price of listed manufacturing firms in Nigeria is not likely to be affected. This could be as a result of management incentive to employ and comply with the standards of conservative accounting reporting. From available literature, conservatism is capable of reducing information asymmetry on the flow of Nigerian Stock exchange and hence, stabilizes share prices. This finding is in line with those of Klein (2002), Sanda *et al* (2004), Ball and Shivakumar (2005), Young (2005), Qintao and Xiaho (2006), Zhang (2008), Ahmed and Duellman (2007), Garcia *et al* (2007), Donglin and Song (2009), Garcia *et al*

(2009), Sanjay (2010), Nor, Kamaran and Xu (2011) and contrary to those of Pearce and Zahra (1992), Basu (1997), Watts (2002), Beeks *et al* (2004), Garcia *et al* (2005), Khan and Whats (2007), Garcia *et al* (2007), Donglin and Song (2009), Joo (2009), Nor (2011), Rahimah (2011). The finding could not provide sufficient evidence for the rejection of the null hypothesis that CONV has no significant effect on SP of listed manufacturing firms in Nigeria.

Finally, regarding the control variables, the table reveals an inverse association between leverage (LEV) and share price (SP) of listed manufacturing firms in Nigeria. The result turns in a coefficient and t-value of -8.26 and -2.87 respectively with a p-value that is significant at 1%. This implies that 1% rise in LEV will lead to a decline in SP by 8.26 kobo. It also suggests that investors often factor in the level of a firm's leverage in their investment decision and they prefer firms that are lowly geared to those with high debt-equity ratios. The finding is in line with Bahramfar and Alam (2004), Alsaeed (2006) and Carter (2011), and is contrary to the studies of Wuchun, Cai, Chiawen and Taychang (2009), Joo (2009) and Johnston (2009). Firm size (FS) on the other hand turns in a coefficient and t-value of 0.45 and 0.34 respectively. The finding, which is consistent with theory suggests a weak positive relationship with share price of listed manufacturing firms based on the p-value of 0.73.

Overall, the table reveals that the combined outcome of all the explanatory variables used in the study has significant effect on the share price of listed manufacturing firms in

Nigeria as evident from the model's F-statistics, which is significant at 1% level of significance. At the individual level, the result indicates that ACCQ, EVAR and TLINESS have significant effect on SP while INCSMOOTH and CONV have no significant influence on the SP of listed manufacturing firms in Nigeria.

4.5 Policy Implication of Findings

The findings of this study show that investors do not ignore earnings quality when examining the information contents of accounting earnings. Given that earnings quality and earnings management affect the information contents of earnings through its impact on shareholders' perception of the integrity of the financial reporting process, the findings of this study should have implications on investors, accounting standard setters, auditors, financial analysts, and capital market regulators. Needless to say, corporate decision makers naturally need to satisfy existing shareholders and attract potential investors. Measuring the impact of earnings quality allows decision makers to evaluate the role of earnings quality in enhancing shareholders' perception of the reliability of financial reports. Once shareholders are able to obtain reliable information about corporate performance, their response to financial performance measures becomes greater. The results from this study, therefore, will unlock a new door for investors to improve their decision-making process. In addition, measuring different aspects of earnings quality allows investors to be mindful of management's capacity to alter accounting earnings for opportunistic purposes, which helps them in evaluating the reliability and value relevance of accounting earnings.

The results of the study also provide market participants with guidance in knowing which factors to take into account when evaluating firms' financial reports. The results demonstrate that earnings quality affects earnings management and the information contents of accounting earnings. The results also show that earnings quality affects the information contents of earnings in the presence of earnings management. Thus, a firm's earnings quality structure and its earning management practices are value relevant information that should be considered by equity market participants in the valuation process.

Authorities involved in regulating earnings quality can use this study as empirical support to the development of regulations and recommendations. Stock exchanges such as the NSE can employ this study to evaluate the current disclosure requirement of earnings quality practices. For example, Nigerian corporate regulators do not currently oblige listed firms to have independent boards and board committees, but the results suggest that mandatory formation could improve financial reporting credibility. While regulatory bodies have a vested interest in monitoring the financial reporting process, legislation has also acknowledged the need to monitor financial reporting in order to protect market participants.

The results of the research provide evidence to support ongoing regulatory activities aimed at effectively monitoring financial reporting and improving earnings quality

practices. Additionally the findings of the study will assist in the identification of which properties of earnings quality are likely to impact on market's response to the contents of the financial reports. New earnings quality regulations and revisions of existing earnings quality rules would be based on evidence from empirical studies rather than politically motivated debates. Empirically supporting the importance of earnings quality's role would prove that the benefits of imposing governance regulations on firms outweigh the costs; and provide regulators with sufficient justification to impose additional earnings quality requirements.

More so, recent corporate collapses have led to the rise of earnings quality as a necessary factor in courses that aim to evaluate financial statements. The potential lack of credibility of accounting information acknowledges the need to understand earnings quality. Financial statement analysis textbooks address the issue of earnings management practices and the incentives of such practices. However, few texts address the issue of how to detect earnings management practices. Financial statement analysis courses largely focus on unscrambling the ambiguity of firm valuations. The study provides further evidence of the role of earnings quality and earnings management in explaining the link between accounting information and markets' response. Furthermore, the results demonstrate the link between earnings quality and share price that tends to assist in explaining their impact of the returns-earnings relationship.

Finally, it is noteworthy that an implication of the results of this study is that NSE should perhaps, after gathering more empirical evidence, consider formally incorporating certain earnings quality practices in the listing rules to improve the credibility of financial reporting.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The purpose of financial reports is to provide the information which can be useful for business decisions. Accordingly, the most significant accounting item prepared and presented in financial reports is earnings. This study is premised on the fact that the issue of occasional judgment in accounting has come to stay rather than its possible elimination as it has become an unimaginable situation to have accounting systems that are totally ruled based. Thus, the need to begin to look up for indicators that guarantees rise in share price. Therefore, the study seeks to investigate the extent to which earnings properties influence the level of share price of listed manufacturing firms in Nigeria.

Relevant theoretical and empirical literature was reviewed. The review shows that studies on earnings quality attributes are motivated by the fact that listed firms use financial statements as one of the major medium of communication with their equity shareholders and the public at large. It also reveals that previous studies in this area of research were marred by inconsistent and inconclusive findings. The differences in findings could be attributed to methodological approaches regarding measurement of the independent variables, disparity in research domains and differences in economic systems where these studies were conducted.

The literature review also reveals dearth of studies on the subject in the Nigerian context. Currently, lot of efforts are being made by stock market regulators and Financial Reporting Council of Nigeria (FRCN) to improve the quality and transparency of accounting numbers in the financial statements of firms operating in the Nigerian Stock Exchange. Accordingly, the level of research interest in this area directly reflects the effect that the adequacy of earnings quality has on decisions making by the various users of financial statements of quoted manufacturing firms in Nigeria.

In line with the contracting and signaling theories that underpin the study, a multiple regression model was used with the aim of explaining and predicting empirically the changes in share price as a result of changes in earnings properties. The model used for the study examined the association between five independent variables: accrual quality, income smoothing, earnings variability, timeliness of earnings and earnings conservatism, and one dependent variable: share price while using leverage as a control variable.

Balanced panel data were extracted from the financial statements of 20 listed manufacturing firms in Nigeria for the period 2009-2013. The robust OLS result revealed that accruals quality, earnings variability and timeliness of earnings have significant impact on share prices, while income smoothing and earnings conservatism have no significant impact on share prices of listed manufacturing firms in Nigeria.

5.2 Conclusions

Earnings quality and its effect on the activities of firms has become a topical issue in the literature of Accounting and Finance. Attempt has been made in this study to examine the effect of five properties of earnings quality on share price of listed manufacturing firms in Nigeria. The study formulates five hypotheses that accruals quality, income smoothing, earnings variability, timeliness of earnings and earnings conservativism have no significant effect on share price of listed manufacturing firms in Nigeria. Based on the result obtained, the study concludes that in so far the properties of earnings quality are concerned, their combined influence on share price of listed manufacturing firms in Nigeria is significant. The effect however gets diluted as the variables are considered on individual basis. Specifically, of the five earnings quality attributes used in the study, accruals quality and timeliness of earnings have significant inverse relationship with share price, while earnings variability has significant positive relationship with share prices. The other two variables, that is income smoothing and earnings conservativism have negative but insignificant association with share price of listed manufacturing firms in Nigeria.

5.3 Limitations of the Study

This study has some potential limitations, which the reader should be mindful of when interpreting the findings. Firstly, the indicators of earnings properties notably earnings quality and earnings management may have some limitations. Whilst their use can be

theoretically justified, none of the two constructs can be accurately measured empirically. These limitations are minimized through the clear operational definitions of the used measures, which was provided in chapter on methodology. In certain cases, the earnings quality literature identifies more than one operational measures. However, a single operationalization was sometimes necessary to avoid nesting problems and to reduce the number of sample firms required.

Secondly, the methods used to analyze relationships between variables capture associations only in a statistical sense. Causation cannot be inferred, because it is not feasible due to the historical focus of the study. It is unclear whether investors use abnormal accruals, as measured by aggregate accruals approach, as a representation of earnings management. The complexity of such models suggests that the average investor is unlikely to use this measure.

Thirdly, the study is limited to listed manufacturing firms in Nigeria. The findings and recommendations therefore are only applicable to manufacturing firms as earnings properties may vary across different sectors. Lastly, the exclusion of firms, whether due to the nature of the industry, the size of the industry or the rank of the firm, reduces the generalizability of the results to all publicly traded manufacturing firms.

Notwithstanding the above, the validity and reliability of the results obtained are not affected by the limitations. This is because, the appropriateness of the research design

and methodology as well as the procedure followed in carefully selecting the variables and the robustness tests conducted have made the study dependable and amenable for replication. In addition, the findings of the study have support in the literature.

5.4 Recommendations

The study offers the following recommendations based on variety of people/organizations that are involved directly or indirectly with earnings properties and share price processes in Nigeria:

i. The Security and Exchange Commission (SEC) should continually subject the earnings of manufacturing sector to stress quality tests to insulate the investing public from possible rip off.

ii. Management of manufacturing firms should avoid undue earnings management practice by limiting their choice of accounting treatment alternatives to the provision of the accounting standard on consistency of practice in order to improve financial information quality that will reduce information asymmetry and consequently lead to share price improvement.

iii. The Board of Directors of manufacturing firms should increase their monitoring capacity towards discretionary earnings management activities by increasing the number of experts in accounting and finance on the Board to at least three in order to improve earnings quality.

iv. Investors should be mindful of a firm's earnings quality properties and its earnings management practices as these properties and practices provide value relevant information that are useful to equity market participants in the valuation process.

v. The SEC should provide incentive, in form of commendation, to firms that disclose accounting information necessary for assessment of the quality of their earnings and impose penalty through rebuttal on firms that do not make full disclosure.

5.5 Contributions of the Study

This study made the following theoretical and practical contributions:

a) Previous studies on Nigeria used single earnings quality property. This study extends the number of earnings quality properties to have a robust and more representative outcome by using five variables namely accrual quality, income smoothing, timeliness of earnings, earning variability and earnings conservatism.

b) Most studies in Nigeria did not consider moderating effect of control variables. This study included leverage and firm size to control the effect of the independent variables.

c) The study provides evidence of the high level of association between the control variable (leverage) and share price, and weak relationship between firm size and share price of listed manufacturing firms in Nigeria.

d) The study provides empirical evidence that earnings quality increases investors' decision making process through share price changes.

5.6 Suggestions for Further Research

This study is believed to have paved way for further research in the following areas:

i. The study made use of only five earnings properties; accrual quality, income smoothing, earnings variability, timeliness of earnings, and earnings conservatism. Other earnings properties such as predictability, persistence and value relevance were left out. It is therefore suggested that future researchers who might be interested in this area should include other properties not included in this study.

ii. Future researchers should look into the relevance of value-relevance literature by showing whether value relevance studies can be treated as a basis for earnings quality assessments because several studies debated on the questions about the contribution of value relevance studies in standard setting processes.

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APPENDICES

Appendix I (a): List of Listed Manufacturing Firms

	Subsectors	Firm
1	Building Materials	Ashaka Cement Plc.
2	Building Materials	Cement Co. of Northern Nigeria Plc.
3	Building Materials	Nigerian Wire PLC.
4	Building Materials	Lafarge Plc
5	Building Materials	Dangote Cement Plc
6	Building Materials	WAPCO PLC.
7	Chemical and Paints	DN Meyer PLC.
8	Chemical and Paints	CAP PLC
9	Chemical and Paints	Berger Paints PLC
10	Chemical and Paints	Chemicals & Allied Products
11	Chemical and Paints	Ipwa PLC
12	Chemical and Paints	Premier Paint PLC
13	Chemical and Paints	Afri Paints PLC
14	Chemical and Paints	May and Baker PLC
15	Conglomerate	A.G. Leventis (Nigeria) Plc
16	Conglomerate	Chellarams.
17	Conglomerate	John Holt Plc.
18	Conglomerate	P Z industries Plc.
19	Conglomerate	SCOA Nigeria Plc.
20	Conglomerate	UAC of Nigeria Plc.
21	Conglomerate	Unilever Nigeria
22	Conglomerate	Transnational Corporation PLC
23	Food/Beverages & Tobacco	7up Bottling Co Plc
24	Food/Beverages & Tobacco	Dangote Flour Mills Plc
25	Food/Beverages & Tobacco	Flour Mills Nigeria Plc
26	Food/Beverages & Tobacco	Nestle Nigeria Plc
27	Food/Beverages & Tobacco	Nigerian Bottling Company Plc
28	Food/Beverages & Tobacco	UTC Nigeria Plc
29	Food/Beverages & Tobacco	P.S. Mandrides & Co Plc
30	Food/Beverages & Tobacco	Union Dicon Salt Plc
31	Food/Beverages & Tobacco	Cadbury Plc
32	Food/Beverages & Tobacco	Multi Trex Nigeria Plc
33	Food/Beverages & Tobacco	Beverages WA Plc
34	Food/Beverages & Tobacco	National Salt Co. Nig. Plc
35	Food/Beverages & Tobacco	Honeywell Flour Mill Plc
36	Food/Beverages & Tobacco	Tate Industries Plc
37	Food/Beverages & Tobacco	Northern Nigeria Flour Mills Plc

Appendix I (b): List of firms used in the Study

	Subsectors	Firm
1	Building Materials	Ashaka Cement Plc.
2	Building Materials	Cement Co. of Northern Nigeria Plc.
3	Building Materials	WAPCO PLC.
4	Chemical and Paints	DN Meyer PLC.
5	Chemical and Paints	Berger Paints PLC
6	Chemical and Paints	Chemicals & Allied Products
7	Chemical and Paints	Premier Paint PLC
8	Conglomerate	A.G. Leventis (Nigeria) Plc
9	Conglomerate	John Holt Plc.
10	Conglomerate	P Z industries Plc.
11	Conglomerate	SCOA Nigeria Plc..
12	Conglomerate	Unilever Nigeria
13	Conglomerate	Transnational Corporation PLC
14	Food/Beverages & Tobacco	7up Bottling Co Plc
15	Food/Beverages & Tobacco	Flour Mills Nigeria Plc
16	Food/Beverages & Tobacco	Nestle Nigeria Plc
17	Food/Beverages & Tobacco	UTC Nigeria Plc
18	Food/Beverages & Tobacco	Union Dicon Salt Plc
19	Food/Beverages & Tobacco	Cadbury Plc
20	Food/Beverages & Tobacco	National Salt Co. Nig. Plc

Appendix II (a)

```
  /__    /   ____/   /   ____/
___/   /   /___/   /   /___/   13.0   Copyright 1985-2013 StataCorp LP
  Statistics/Data Analysis            StataCorp
                                      4905 Lakeway Drive
     MP - Parallel Edition            College Station, Texas 77845 USA
                                      800-STATA-PC        http://www.stata.com
                                      979-696-4600        stata@stata.com
                                      979-696-4601 (fax)

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Notes:
      1.  (/v# option or -set maxvar-) 5000 maximum variables

. edit


. summarize sp accq incsmooth evar tliness conv lev fs
```

Variable	Obs	Mean	Std. Dev.	Min	Max
sp	100	42.6664	52.39161	.75	271.57
accq	100	.0065614	.1673103	-.19569	.43931
incsmooth	100	-7.82e-10	.2752193	-.22035	.54165
evar	100	.0027369	.0513654	-.11561	.18439
tliness	100	-.000062	.0353014	-.0719	.0831
conv	100	-.0030323	.1318482	-.6445	.1475
lev	100	1.0683	1.142625	.039	5.73
fs	100	18.52106	3.606741	11.07	27.228

Appendix II (b): Normality Test

```
. swilk sp accq incsmooth evar tliness conv lev fs

                    Shapiro-Wilk W test for normal data

    Variable |     Obs       W           V         z       Prob>z
-------------+--------------------------------------------------
          sp |     100    0.74152     21.341     6.790    0.00000
        accq |     100    0.83182     13.886     5.836    0.00000
   incsmooth |     100    0.70726     24.169     7.066    0.00000
        evar |     100    0.92579      6.127     4.021    0.00003
     tliness |     100    0.95970      3.328     2.667    0.00383
        conv |     100    0.72304     22.867     6.943    0.00000
         lev |     100    0.78538     17.720     6.377    0.00000
          fs |     100    0.93158      5.649     3.841    0.00006
```

Appendix II (c): Correlation Matrix

```
. correlate sp accq incsmooth evar tliness conv lev fs
(obs=100)
```

	sp	accq	incsmo~h	evar	tliness	conv	lev	fs
sp	1.0000							
accq	-0.2481	1.0000						
incsmooth	-0.0635	-0.3788	1.0000					
evar	0.4773	-0.0840	-0.1379	1.0000				
tliness	0.0194	0.0617	0.0813	0.5435	1.0000			
conv	-0.4832	0.1682	0.2239	-0.5574	0.0872	1.0000		
lev	-0.2120	-0.0256	-0.1238	-0.1893	-0.2347	0.0774	1.0000	
fs	0.0232	-0.0389	-0.0339	0.0367	0.0176	0.1712	0.0259	1.0000

Appendix II (d): VIF Test for Multicollinearity

```
. vif
```

Variable	VIF	1/VIF
evar	3.17	0.315643
conv	2.40	0.415931
tliness	2.21	0.452253
incsmooth	1.37	0.727547
accq	1.31	0.763232
fs	1.10	0.907859
lev	1.10	0.909105
Mean VIF	1.81	

Appendix II (e): OLS regression result

```
. regress sp accq incsmooth evar tliness conv lev fs
```

Source	SS	df	MS		
Model	103697.13	7	14813.8757	Number of obs	= 100
Residual	168046.064	92	1826.58765	F(7, 92)	= 8.11
				Prob > F	= 0.0000
Total	271743.194	99	2744.88075	R-squared	= 0.3816
				Adj R-squared	= 0.3345
				Root MSE	= 42.739

sp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
accq	-57.54865	29.38674	-1.96	0.053	-115.9133	.8159554
incsmooth	-6.562047	18.29756	-0.36	0.721	-42.90259	29.77849
evar	490.8967	148.8449	3.30	0.001	195.2778	786.5155
tliness	-383.2649	180.934	-2.12	0.037	-742.6154	-23.9143
conv	-57.71171	50.51473	-1.14	0.256	-158.0383	42.6149
lev	-8.2575	3.942682	-2.09	0.039	-16.08801	-.4269937
fs	.4547372	1.249909	0.36	0.717	-2.027691	2.937165
_cons	41.90099	23.91063	1.75	0.083	-5.587583	89.38957

Appendix II (f): Heteroskedasticity Test

```
. hettest

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

         chi2(1)      =    62.34
         Prob > chi2  =   0.0000
```

Appendix II (g): Robust OLS regression result

```
. regress sp accq incsmooth evar tliness conv lev fs, robust

Linear regression                               Number of obs =     100
                                                F(  7,    92) =    3.36
                                                Prob > F      =  0.0031
                                                R-squared     =  0.3816
                                                Root MSE      =  42.739
```

sp	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
accq	-57.54865	25.84287	-2.23	0.028	-108.8748	-6.222485
incsmooth	-6.562047	15.46482	-0.42	0.672	-37.27651	24.15241
evar	490.8967	186.1624	2.64	0.010	121.162	860.6313
tliness	-383.2649	210.1207	-1.82	0.071	-800.5828	34.05306
conv	-57.71171	56.32161	-1.02	0.308	-169.5713	54.14787
lev	-8.2575	2.872366	-2.87	0.005	-13.96227	-2.552734
fs	.4547372	1.335088	0.34	0.734	-2.196863	3.106337
_cons	41.90099	24.92709	1.68	0.096	-7.60635	91.40834