**EQUITY OWNERSHIP STRUCTURE AND EARNINGS MANAGEMENT IN SOME SELECTED QUOTED MANUFACTURING COMPANIES IN NIGERIA**

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**IGBINEDION UNIVERSITY, OKADA**

**EDO STATE**

**JUNE, 2021**

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**BEING A THESIS SUBMITTED TO THE DEPARTMENT OF ACCOUNTING, MALLAM SANUSI LAMIDO COLLEGE OF BUSINESS AND MANAGEMENT STUDIES, IGBINEDION UNIVERSITY, OKADA, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF DOCTOR OF PHILOSOPHY IN ACCOUNTING**

**SUPERVISOR: DR. ATU, O. O. KINGSLEY CO-SUPERVISOR: DR. (MRS.) MARY JOSIAH**

**JUNE, 2021.**

**DECLARATION**

I, Adeboye Omoniyi Moses, declare that:

1. This thesis was based on a study undertaken by me in the Department Of Accounting, Mallam Sanusi Lamido College Of Business And Management Studies, Igbinedion University, Okada, under the supervision of Dr. Kingsley O. Atu and Dr. (Mrs) Mary Josiah.
2. This work has not been submitted for the award of any degree in any university.
3. All ideas and views were a product of my personal research, and where the views of others were expressed, they were duly acknowledged.
4. I shall be totally, wholly and fully responsible for any liability that may arise or flow from this study, if any.

……………………………………………….

**Adeboye Omoniyi Moses**

**CERTIFICATION**

This is to certify that this research was carried out by Adeboye Omoniyi Moses in the Department of Accounting, Mallam Sanusi Lamido College of Business and Management Studies, Igbinedion University, Okada.

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# Dean College of Business Management Date

**External Examiner** …………………………

Date

# Dedication

The project is dedicated to Almighty God, the Fountain of knowledge, for His grace, mercies and faithfulness over my life and those of my family members and also for supporting me in the completion of my academic and research work.

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**ABSTRACT**

The objective of the study was to examine the impact of equity ownership structure and earnings management on some selected quoted manufacturing companies, taking into consideration the challenges of rewarding investors adequately which is a topical issue in the modern business Ownership structure and earnings management was evaluated in determining the rewarding process to equity owners and contribute positively to the growth of the organization. The specific objectives of the research were to examine the influence of managerial equity ownership structure on earnings management, determine the impact of foreign equity ownership on earnings management, ascertain the influence of institutional equity ownership on earnings management, investigate the effect of concentrated ownership on earnings management and to ascertain the presence of monotonicity in the relationship between equity ownership and earnings management in Nigeria. In carrying out the research work, the following hypothesis tested are: managerial equity had no significant relationship with earnings management, foreign equity ownership had no significant relationship with earnings management; Institutional equity ownership had no significant relationship on earnings management; concentrated ownership had no significant relationship with earnings management; and there was no monotonicity in the relationship between equity ownership and earnings management. The study employed a research design of objectivist perspective and positivity was used with a population of 64 forms quoted on Nigeria stock exchange through a longitudinal research design using secondary data retrieved from listed manufacturing firms quoted on the Nigerian Stock Exchange. A sample of 64 manufacturing firms which actually covered the population was used for the study with a time period between 2009-2019. The panel regression analysis technique was used in the estimation of the specified models alongside Robust Statistics to address potential outliers after a preliminary analysis such as descriptive statistics. Correlation analysis, panel co-integration analysis and variance inflation factor test were conducted. The outcome of the research revealed that managerial equity ownership (MOWN) had a negative effect on earnings management and it was statistically significant at 5%. The result thus confirmed that an increase in managerial equity ownership resulted in a decline in earnings management. Furthermore, the estimation results showed that Institutional equity ownership (IOWN) had a positive effect on earnings management and it was statistically significant at 5%. The effect of foreign ownership (FOWN) was negative and statistically significant at 5%. Also, the result indicated that foreign ownership presence could be effective in constraining the opportunistic practices of managers in the form profit repatriation at the determent of other investors. While concentrated ownership (COWN) had a negative effect on earnings management and was statistically significant at 5%, the study’s results confirms the presence of non-monotonicity and a curvilinear pattern in the behaviour of managerial ownership in relation to an increase in its percentage share, and how it affected earnings management. Therefore, the study recommended a more direct institutional monitoring by promoters and not only should foreign equity ownership be employed by companies, it should also be regulated by statutory agencies appointed by Government so as to avoid a situation where nationalistic interests were sidelined in favour of profit repatriation which was often the practice of foreign owned and dominated public interest entities (PIE’s). The study thus recommends for increase in concentrated shareholding But should also be regulated not to exceed 10% shareholding. The study further recommended that to keep the effect of managerial equity within the alignment space, ownership equity should be maintained at moderate and not higher levels.

Keywords: - (a) Concentrated equity, (b) Earnings management, (c) Equity ownership, (d) Foreign equity, (e) Insider equity, (f) Institutional equity, (g) Monotonicity relationship.

Total words - 542

**CHAPTER ONE INTRODUCTION**

# 1.1 Background to the Study

The preponderance of earnings management poses a huge risk to investors, shareholders and indeed, the sustainability of businesses in recent times. The Price Water House Coopers (PwC, 2017) crime survey revealed that earnings management remained a serious problem in every country around the world, and it topped the list of the five most common frauds committed globally. Aiming to find some ways to earnings management practice, researchers started to analyse the factors that were related to them in order to implement preventive actions and mechanisms or, at least, reduce the possibility of its occurrence (Bar-Gill & Bebchuck, 2003; Hemray, 2004; Lev, 2003). Specifically, a large part of the international literature focused on the relationship between equity ownership structure and earnings management (Young, 2001). In order to provide protection in the corporate world for vulnerable stakeholders there is the need to improve corporate monitoring and control. One instrument of management control and monitoring is equity ownership and environment/structure of the company. The equity ownership structure is critical because of its effect on the weak investor protection that is associated with most developing economies (World Economic Forum 2016).

Discourses on the theoretical expectations suggested that there were two schools of thought concerning the role of equity ownership structure in deterring earnings management. Different views hold for the different variants of ownership structure. In the case of institutional and foreign ownership structure, two views were pointed out by Bushee (2001). In the first view, institutional and foreign ownership investors have both the power and incentive to restrict opportunistic behaviour and hence, reduce fraud likelihood by executives. In the second view, institutional and foreign ownership are often more concerned with short-

term returns and are not interested in controlling managers. They would rather sell their stakes than monitor or remove incompetent management (Bushee, 2001). With regards to managerial ownership, its relationship with fraud likelihood is not straightforward, but it can be addressed using two hypotheses: (i) alignment of interest and (ii) entrenchment. The alignment-of-interest hypothesis states that when managers’ ownership stake in a firm increases, it reduces the agency conflict between shareholders and managers (Jensen & Meckling, 1976).

This should, in turn, reduce the scope for opportunistic behaviour and hence fraud likelihood. The entrenchment hypothesis states that when an ownership stake increases beyond a certain level, it put managers in a dominant position which they can use to exploit external minority shareholders. Thus, it appears that there is a cubical or nonlinear relationship between fraud likelihood and managerial ownership. A similar expectation also holds for ownership concentration. According to the alignment hypothesis, owners in a concentrated ownership structure have more incentive to monitor management because it costs less to do so than the anticipated advantages of their large stakes in the company. The alignment impact decreases the controlling owner’s incentive to expropriate firms for their personal benefit and minimise earnings management practices in order to secure firms and their own future (Fan & Wong, 2002). With the theoretical expectations regarding the relationship between the various ownership structure variables in perspective, this study focused on a discourse and review of literature on corporate ownership structure and earnings management with the aim of understanding the nature and the direction of the relationship between both concepts and identifying areas needing further study.

# Statement of the Problem

The challenges of earnings management in rewarding equity owners (both concentrated and institutional) has become worrisome to researchers in academic and financial fields. A large number of studies (Beneish, 2001, Coombs & Gilley, 2006; DeAngelo, 1986; Harris & Bromiely, O’Connor, Priem, 2007; Singh, 2008, Barton, Zhang, Pfarrer & Khanin, 2008) were conducted in determining the equity ownership incentives for earnings management, and most of them focused on the private sectors in developed economies such as USA, UK, Canada, Australia, New Zealand and lately, Nigeria. In emerging economies, such studies are rare and hardly pursued. Due to the presence of institutional and regulatory differences between developed and emerging economies, it is not only difficult but also futile to generalize research results from studies in developed to emerging economies. Hence, there is the need to examine this issue for a developing country like Nigeria especially because of the undeveloped nature of the capital market when compared with that of developed countries. According to Omolehinwa, Mokoro and Obigbemi, diverse studies have considered the role of equity ownership structure on firm performance both in developed and developing economies, with most of the studies identifying ownership structure as a factor which influences the performance of companies. However, company performance as reported in the published financial reports can also be affected by other factors such as environmental, managerial efficiency as well as institutional framework. These other factors affect performance. What are the factors responsible for the accuracy and credibility of financial reports and what is the role of ownership structure on the earnings management practices of companies in Nigeria? Earnings management, as defined by Schipper (2016), is the act of identifying the gaps in the financial laws and the usage of such to the advantage of a selected group of financial report users, and not to the benefit of all the users

To provide empirical justification for whatever theoretical expectations are held regarding the effect of equity ownership structure on earnings management was the focus of this study (Tan, Xue & Yu 2003, Gulzar & Wang 2011, Chalaki, Didar & Riahinezhed 2012, Yeh & Chou 2014; Cristina 2010; Dabor & Adeyemi 2009’ Adeyemi & Uadiale 2010; Sen & Inanga 2004, Domash 2002; Effiok & Eton 2012) which also spanned four decades. Based on the review of this study there appeared not to have any agreement in the relationship between equity ownership structure and earnings management. While some studies defended the position of a positive effect, others found a negative effect. More so, some found that the relationship depended on the particular variable in question. The absence of a clear unanimity suggests that this issue is still open to debates, and there is the need to re-examine and provide fresh views. However, the study introduced a unique approach which was different from the way other studies cited above examined the subject. The study employed the seasonally adjusted discretionary accrual measure. Seasonal effects can distort the baseline behaviour of the data, introduce several oscillations to the series and make the results biased. Therefore, it was better to employ seasonally adjusted series and that was what this study adopted. In the light, the study provided unique insights and contribution to knowledge.

# Research Objectives

The broad objective of the study is to examine the impact of equity ownership structure on earnings management. The specific objectives are to:

* + 1. Examine the influence of managerial equity ownership on earnings management in Nigeria;
    2. Determine the influence of foreign equity ownership structure on earnings management in Nigeria;
    3. Find out the influence of institutional equity ownership on earnings management in

Nigeria;

* + 1. Investigate the effect of concentrated equity ownership on earnings management in Nigeria; and
    2. Ascertain the presence of monotonicity in the relationship between equity ownership and earnings management in Nigeria.

# Research Questions

1. What is the relationship between managerial equity ownership and earnings management in Nigeria?
2. What is the relationship between foreign equity ownership structures and earnings management in Nigeria?
3. What is the relationship between institutional equity ownership and earnings management in Nigeria?
4. What is the relationship between concentrated equity ownership and earnings management in Nigeria?
5. Is there any presence of monotonicity in the relationship between equity ownership and earnings management in Nigeria?

# Research Hypotheses

The hypotheses are stated in the null form as follows:

H01: Managerial equity ownership has no significant relationship with earnings management in Nigeria.

H02: Foreign equity ownership has no significant relationship with earnings management in Nigeria.

H03: Institutional equity ownership has no significant relationship with earnings management in Nigeria

H04: Concentrated equity ownership has no significant relationship with earnings management in Nigeria

H05: There is no monotonicity in the relationship between equity ownership and earnings management in Nigeria.

# Scope of the Study

This is the extent to which the research was carried out on some selected quoted manufacturing companies in Nigeria through research design and methodology, sample size, population sampling technique and time frame to identify the component of the dependant and independent variables and this was used to analyse the result of the findings on ownership structure and earnings management. The study examined equity ownership structure and earnings management in quoted manufacturing firms in Nigeria. The variables in the study covered managerial equity ownership, foreign equity ownership, Institutional equity ownership, concentrated equity ownership and monotonocity in equity ownership. The Modified Jones (1995) discretionary accruals model was utilised as the measure of earnings management. This study focused on manufacturing firms quoted on the Nigerian Stock Exchange. The choice of such firms was due to the deficiency of studies examining this research aim for such firms. The study covered the period 2009-2019.

# Significance of the Study

The study would be of immense significance to the following groups:

# Accountants and the Auditing Profession

The impact of earnings management on ownership structure has always had its own implication for accountants and the accounting profession. For accountants, there is the general expectation that their monitoring activities should provide confidence to the users of financial statements that the information contained therein actually represents a true and fair view of the company’s affairs. Any time it is discovered that a company has “doctored” its

books, it is assumed generally that this must have been in connivance with the accountants/auditors. Therefore, there is the need for accounting and auditing professionals to understand the issues in earnings management and take steps to address them and hence this study would be useful in this regard.

# Investors and Shareholders

A key objective of financial reporting is to provide information about an enterprise that is useful to a wide range of investors and shareholders in making economic decisions. However, most investors and shareholders may not understand the issues in earnings management even though the effects may be known to them. Often times, in the case of corporate collapse of some organisations, the investors and shareholders lose their investments. Hence, it is needful that investors and shareholders become more informed about the subject of earnings management and particularly, the precipitating factors.

# Regulatory Bodies

Regulatory bodies such as The Institute of Chartered Accountants of Nigeria (ICAN), the Association of National Accountants of Nigeria (ANAN), the Financial Reporting Council of Nigeria (FRC) amongst other regulatory bodies would find the study useful in the development of policies to help improve financial reporting credibility and stakeholders confidence in financial reports on earnings management.

# Researchers

The study would also be useful to other academic researchers who are interested in examining the implications of the impact of ownership structure on earnings management as the area has become an important part of financial reporting research. In addition, the research evidence showed that not many studies in Nigeria had examined the possible implications of managerial incentives on earnings management and hence the study would provide additional insights that would be interesting to researcher.

# Limitation of the Study

Although good efforts had been made to put up an empirical research, the following variables critically constituted limiting factors to this study:

1. Annual reports and financial statements for estimated sample sizes included only the companies which were listed on the Nigerian Stock Exchange Market (NSE) whose annual reports were statutorily published and made available to the general public. The research was limited by information about companies that were not public quoted companies since they were not statutorily required to make available their annual reports to the public.
2. Besides, even when quoted on the Stock Exchange, quite a number of companies did not have reported information in their financial statement on equity ownership structure and the statistical methods in rewarding the investors.
3. Another limiting factor was the unavailability of concentrated equity ownership structure on some selected firms at the time of the study which, necessitated a short period of study. However, the study carried out investigations on 64 companies which gave an opportunity for a reasonably large sample size of the entire companies’ subsectors.

# 1.9 Definition of Operational Terms

**Equity ownership:-** This is the amount of shareholdings held by individuals and organisations which serves as a financial support to the operations of the organisation.

**Managerial equity ownership:-** This is the amount of investments held by the staff of the organisation (Staff and Directors).

**Institutional equity ownership:-** This is the total number of shares outstanding that is owned by various organisation (Corporate bodies)

**Foreign equity ownership:** This is the amount of investments held by non Nigerians in an

organisation which contributes positively to the growth of the organisation.

**Earnings Management:-** This is the strategy adopted by the directors of a company in a reasonable, legal and management in decision making process to achieve stable and predictable financial result.

**Ownership Structure:-** This is the amount of investment owned by equity investors to influence the financial decision of the organisation.

**Concentrated Equity Ownership Structure:-** This is the significant number of shares held by investors either as a group or individuals that contribute positively to the growth of the organization and can influence financial decision

**CHAPTER TWO LITERATURE REVIEW**

# Introduction

The chapter covers the literature review for the study which comprises the conceptual, empirical and the theoretical frameworks of equity ownership and earnings management

# Conceptual Framework

Conceptual framework can be defined as the basic processes, principles and instruments underlying the assumption on the position of the dependent and independent variables of the thesis. Furthermore, the conceptual framework for the study reviews the key concepts of earnings management and its effect on equity ownership structures.

# Earnings Management

Earnings management is recognized as attempts by management to influence reported earnings by using specific accounting methods, accelerating expense or revenue transactions, or using other methods designed to influence short-term earnings (Isenmila & Afensimi, 2012). Healy and Wahlen (1999) defined earnings management as when managers used judgment in financial reporting and structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers. Noronha and Zeng **(**2008) also viewed earnings management as a continuum of intentional interventions in the external financial reporting chain from legitimate actions to fraud violating Generally Acceptable Accounting Principles (GAAP) with the aim of misleading stakeholders about the true economics and performance of the firm.

The basic objective of financial reporting is to provide information about an enterprise that is useful to a wide range of users in making economic decisions. However, the validity of

this objective has been questioned by many users of corporate financial reports because of the probable effects of earnings management on information contents of such reports.

According to Jara and Lopez (2011), earnings management can be defined as a strategy used by the management of a company to modify the firm’s earnings so that the figures match a predetermined target. Earnings management may also be defined as a reasonable and legal management decision making and reporting process intended to achieve stable and predictable financial results (Rahman, 2012). Accrual has been used as a proxy in most studies for earnings management. Dickinson (2011), in his study, showed that matured firms earned or achieved positive and abnormal or unusual returns suggesting that investors underrated matured firms by not fully recognizing their performance persistence. Liu (2006) showed that an investment in operating assets considerably increased firms’ working or operational capital accruals in the first phase of the firm’s life cycle (i.e introduction stage). Dickinson (2011) mainly focused on the abnormal returns earned by mature firms; His findings also showed that firms in the introductory and growth stages earned negative abnormal returns. Accordingly, the absolute value of the coefficient on property, plant and equipment (PPE) was likely to be smaller in the introductory phase than in the other phases that carried a huge amount of depreciation expenditure or expense (Dickinson, 2011).

Schipper (2016) defined earnings management as an intentional alteration in the external financial reporting chain or process, with the intention of obtaining some private benefits or gain (as opposed to say, merely facilitating the unbiased operation of the reporting process). Scott (2007) also defined earnings management as a choice of accounting policies from a set of generally acceptable accounting principles by managers to maximize their own utility or the market worth of the firm. Ortega and Grant (2003) argued that earnings management was the utilization of the flexibility in a financial reporting process to alter the

financial outcome of the firm. Earnings management is recognized as attempts by

management to influence or manipulate reported earnings by using specific accounting methods, accelerating expenses or revenue transactions or using other methods designed to influence short-term earnings (Isenmila & Afensimi, 2012). The term, as generally understood, refers to a systematic misrepresentation of the true income and assets of corporations or other organizations (Beneish, 2001).

Levit (2018) opined that earnings management was a gray area where the true accounting records were being altered, where managers manipulated earnings figures, and where earnings reports reflected the sole desires of managers rather than the true financial performance of the organisation. He agreed that earnings management is equivalent to earnings manipulation. Earnings management is also considered as the use of accounting methods to depict financials that emphasize a better position than the firm is actually at. It involves either the manipulation of earnings directly or indirectly through accounting methods. Sometimes, companies use this to meet investors’ expectations or smooth earnings when they are volatile.

Prior studies showed that companies indulged in upward earnings management and as reported high earnings (Marquardt & Wiedman, 2004). Broadly speaking, according to Jara and Lopez (2011), earnings management can be defined as a strategy used by the management of a company to modify the firm’s earnings so that the figures match a predetermined target. Earnings management is primarily accomplished through an earnings level. Prior research suggested that managers had both personal and business motivations to display impressive or, at the very least, satisfactory performance in their reports on a consistent basis (DeFond & Park, 1997; Greenfield, Carolyn, Norman & Wier (2008). However, due to a variety of reasons the sustainability of such a performance is sometimes impossible. In these circumstances, managers may decide to use their discretion in the

application of accounting principles and procedures which can result in altering the business

operations to a more favourable outcomes for instance, in the Nigerian corporate environment, the presence and the negative effect of earnings management on the credibility of financial reporting and corporate failure have also been experienced. For example, a report of a creative accounting scandal in African Petroleum Plc showed that the financial statements of the company did not fairly represent the company’s financial position (Oyejide & Soyibo, 2001). In November 2006, an accounting scandal in Cadbury Nigeria Plc also raised more questions than answers about creative accounting (Itsueli, 2006). Also, earnings management proactive has been increasing in recent years in the Nigerian banking industry to attract unsuspecting investor, or obtain undeserved accounting-based rewards by presenting an exaggerated misleading or deceptive state of bank financial affairs. There is the need for the subject of earnings management and its impact on ownership structure to be properly reviewed in the accounting profession it has elicited considerable concerns from a wide range of stakeholders and this formed the basis for this study.

The problem that formed the motivation for the research was that firstly, we found that the tendency for earnings management had been witnessed among companies in Nigeria, and it suggested that earnings management was fast becoming a key challenge to stakeholders in the Nigerian corporate setting. The banking sector challenges which saw the Economic and Financial Crime Commission (EFCC) summoning the top management of banks as a result of fraudulent financial reporting which affected the stability of the financial system suggested to us that the threat of earnings management already lurked around. The implication is that there will be the gradual emergence of scepticisms in the mind of investors, shareholders and other stakeholders on the credibility of financial reporting of companies in Nigeria Earnings management is an intervention conducted by management on

the financial statement process to external parties to obtain personal benefits (Rahmawati, 2006).

Healy and Wahlen (1999) explained earnings management as when managers used judgment in financial reporting and structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depended on reported accounting numbers. The practice of earnings management is said to involve the deliberate dampening of fluctuations about some level of earnings considered to be normal for a firm.

Akers, Giacomino and Bellovary (2007) defined earnings management as attempts by management to influence or manipulate reported earnings by using specific accounting methods (or changing methods), recognizing one-time non-recurring items, deferring or accelerating expense or revenue transactions, or using other methods designed to influence short-term earnings. Furthermore, earnings management includes a wise and proper activity that includes a part of financial management process and reviving stockholders’ value. Good earnings management starts with running a company with perfect management in which management identifies reasonable budget and positively reacts to unexpected threats and opportunities, and fulfils most or all of its obligations (Faghani & Amoei, 2014). According to Leuz, Nanda & Wysocki (2003), earnings management is basically described as the alteration of a firms’ reported economic performance by insiders either to mislead stakeholders or to influence contractual outcomes. In essences, it basically covers the true financial results and position of businesses and obscures facts that stakeholders ought to know (Loomis, 1999).

Ronen and Yaari (2008) classified earnings management definitions into three

different categories depending on their nature and the effects they had on financial reporting. First, the beneficial (white) “Earnings management is taking advantage of the flexibility in

the choice of accounting treatment to signal the manager’s private information of future cash flows.”. Then the pernicious (black) “Earnings management is the practice of using tricks to misrepresent or reduce transparency of the financial reports, and finally, the grey “Earnings management here is viewed as the choice of accounting treatment that is either opportunistic (maximising the utility of management only) or economically efficient.” In addition, Fields, Lys, and Vincent (2001) also stated that earnings management occurred when managers exercised their discretion over the accounting numbers with or without restrictions. Such discretion could be either firm value maximising or opportunistic. This paper viewed, earnings management as simply the process by which management could potentially manipulate the financial statements to represent what they wished to have happened during the period rather than what actually happened.

Defining earnings management through its practices, Shah (1996) and Trotman (1993) saw it as a communication techniques having in view the amelivoration of the information provided to the investors’ or to the prospective investors financial statements passed through the filter of some techniques capable of generating a more favourable image on the market and also the illusion of some more attractive results. A firm can intentionally alter reported financial results, i.e., income statements and statements of cash flows, or reported financial position, i.e., the balance sheet, in some desired amount and/or some desired direction.

Healey and Wahlen (1999) noted that earnings management undermined financial reporting quality when managers used judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying performance of the company or influence contractual outcomes that depended on reported accounting records.

Similarly, Schipper (1989) opined that earnings management resulted in low quality financial reporting resulting from a purposeful intervention in the external financial reporting process with the intent of obtaining some private gain. These definitions take an opportunistic view of creative accounting as the basis for a level or reporting quality whereby the intent of management is to obtain some private gain by misleading stakeholders or influencing contractual outcomes. Therefore, from this perspective, ownership structure negativity impacts on the quality of earnings, i.e., the greater the extent of creative accounting practices, the lower the earnings quality, and vice versa. If earnings were managed opportunistically, the reported earnings number and the overall financial reports would be of a lower quality.

Filed, Sullivan and Lin (2001) stated that earnings management was witnessed when managers exercised their discretion over accounting records with or without restrictions. Such descretion can either be firm value maximizing or opportunistic. Thus, there are two types of earnings managemen; opportunistic and informative. Opportunistic earnings management practices mean that managers seek to mislead investors by pursuing the management’s interest. while information on earnings management means the process embarked upon by managers to convince the investors and stakeholders of the operating performance of the company in a positive direction. The literature on this type of creative accounting mainly originated with Healy (1985) who found that managers used accruals to strategically manipulate bonus income.

Earnings quality was used in this study to refer to management. In other words, a higher earnings management mean a lower earnings performance, and vice versa. The paper contained several approaches in measuring earnings quality. One such approach was to measure how closely cash flows tracked with changes in working capital. That was the measure of earnings quality this study adopted. In other models, any changes in working

capital that could not be explained by cash flows were considered to be the result of lower quality accruals (Dechow & Dichev, 2002). Because earnings quality informs investors about the mapping of accounting results into cash flows, poor quality earnings reports will increase information risk by weakening that connection (Francis et al., 2005)

In order to understand the concept of earnings management, we employed agency theory in this study. Agency theory best helps to explain agency relationship which is a relationship between two parties, where one party is the agent and the other the principal (Hendriksen & Van Breda 2000). The relationship arises when one or more persons (Principal) employ another person (agent) to provide a service and then delegate decision making authority to the agent. The issue of earnings quality begins with the separation between owners (as principals) and management (as agent). Agency theory suggests that due to the contractual relationship between the shareholders and management, the latter is often involved in earnings management in an attempt to meet the contractual obligation it has to the shareholders. Existing literature identifies several attributes of reported earnings that are widely considered to be desirable characteristics of a firm’s reported earnings (Francis et al., 2004)

Furthermore, the awareness of the role of organizations in society on equity ownership structure has increased across the globe in recent years. Aguilera, Conley and Rupp (2007) observed that among the topical issues which had engaged the attention of researchers in the area was the determination of the factors that motivated organizations to increasingly engage in robust Consolidated Social Responsibility (CSR) initiatives. Prior empirical studies such as those by Chapple and moon (2005), Graves and Stanwick (1998), Johnson and Greening (1999), Roberts (1992) and Woddock (1994) documented the existence of a link among CSRD and firm size, profitability, corporate governance, leverage,

employees, industry and environmental pressure. Most of the prior studies were carried out in the UK, USA and Asian countries where the levels of economic and technological advancement on earnings management differed significantly from those of emerging countries such as Nigeria.

# Earnings Management Models

The section put forward the models used by various researchers in the literature on earnings management. The most challenging issue in earnings management literature is the method of measuring earnings management. This is evidenced by the number of earnings management measurement models in the literature as described below. “The seven most popular models identified for determining the existence of earnings management were the Healy (1985) model, DeAngelo (1986) model, the Jones (1991) model, the Modified Jones model, the Industry model (Dechow, Sloan & Sweeney,1995), the Cross-Sectional and the Cross-Sectional Jones Model and the Cross-Sectional Modified Jones Model. DeFond & Jiambalvo, 1994. However, other models came after much criticisms of existing models of earnings management by extant studies.

# Measurement of Earnings Management

The qualities of earnings management as opined by Josiah and Adeboye (2017) were measured in different ways under different circumstances to attract investors to evaluate the performance of an organization for the purpose of ascertaining its viability and profitability and the circumstances relating to non-performance. Some of the standards methods used were:-

# The Healy Model

Healy (1985) was the first to introduce a model that measured the use of discretionary accruals. Concerning the use of earnings management, Healy (1985) tested the comparison of the mean total accruals (scaled by lagged total assets) with the earnings management partitioning variable (Dechow et al. 1995, Healy, 1985). Dechow et al. (1995) argued that their study differed from most other earnings management studies due to the fact that it predicted that systematic earnings management occurred in every period.

The earnings management partitioning variable under this approach divides the sample into three groups of companies (Dechow et al., 1995). The first group contains companies which are predicted to manage their earnings upwards and the two other groups contain companies that are predicted to manage their earnings downwards (Healy, 1985, Dechow et al., 1995). Following the division into groups, Healy (1985) compared the mean total accruals of the group of companies which had predicted to manage their earnings upwards to each of the two groups of companies which that predicted to manage their earnings downwards (Dechow et al.,1995; Healy, 1985). Then, the group which was predicted to show upward managed earnings is treated as the estimation period and the other two groups were treated as the event period. Healy (1985) argued that the amount of discretionary accruals was basically the mean of total accruals over an estimation period prior to the event period (Dechow et al. 1995).

The Healy (1985) model used the mean of total accruals (TAτ) scaled by lagged total assets (Aτ-1) from the estimation period as a measure of nondiscretionary accruals. Thus, the model for nondiscretionary accruals in the event year *t* (NDAt) was:

NDAt = 1/n Στ(TAτ / Aτ-1 ) (2.1)

Where;

NDAt = nondiscretionary accruals in year *t* scaled by lagged total assets;

n = the number of years in the estimation period; and

τ = a year subscript for years (t-n, t-n+1,…,t-1) included in the estimation period.

The discretionary portion of accruals was the difference between total accruals in the event year *t* scaled by At-1 and NDAt.

# The DeAngelo Model

DeAngelo (1986) introduced another model to estimate nondiscretionary accruals, which would be viewed as a special case of the Healy model (Dechow et al. 1995). The DeAngelo (1986) model was based on an assumption that no systematic earnings management existed during the first year. First year total accruals were used as an estimation of non-discretionary accruals. DeAngelo (1986) tested for earnings management by “computing first differences in total accruals, and by assuming that the first differences have an expected value of zero under the null hypothesis of no earnings management” (Dechow et al, 1995). The DeAngelo (1986) model was developed based on, last period’s total accruals (TAt - 1) scaled by lagged total assets (At-2) as the measure of nondiscretionary accruals. Thus, the model for nondiscretionary accruals (NDAt) was:

NDAt = TAt - 1 / At - 2 (2.2)

The discretionary portion of accruals was the difference between total accruals in the event year *t* scaled by At-1 and NDAt.

Both the Healy (1985) and DeAngelo (1986) models were applied by using total accruals from the estimation period to proxy for expected nondiscretionary accruals (Dechow et al., 1995). Furthermore, they made the assumption that nondiscretionary accruals were constant over time and that the discretionary accruals had a mean of zero in the estimation period (Dechow et al., 1995). If those assumptions held, then both models would estimate

nondiscretionary accruals without error. However, if nondiscretionary accruals changed from

period to period, then both models tended to estimate nondiscretionary accruals with error (Dechow et al., 1995). Thus, taking into account that the nature of the accrual accounting process dictated that the level of nondiscretionary accruals should change in response to changes in economic circumstances (Kaplan, 1985), the models were unlikely to provide an estimation of the nondiscretionary accruals without errors (Dechow et.al, 1995).

# The Jones Model

Jones (1991) introduced a model in her paper, which relaxed the assumptions by Healy (1985) and DeAngelo (1986) that nondiscretionary accruals were constant and focused on some specific accruals to estimate nondiscretionary accruals instead of the total accruals. In that model Jones (1991) did not assume that nondiscretionary accruals were consistent over time but he made the assumption that those accruals were affected by the changes in the firm’s economic conditions and circumstances which aimed to control the effects caused from the changes of the company’s economic performance on non-discretionary accruals (Jones, 1991; Dechow et al., 1995).

In essence, Jones (1991) proposed model attempted to control the effects of changes in a firm’s economic circumstances on nondiscretionary accruals. The Jones Model for nondiscretionary accruals in the event year was:

NDAt = α1(1 / At - 1) + α2(ΔREVt / At - 1) + α3(PPEt / At - 1 ) (2.3)

Where;

NDAt is nondiscretionary accruals in year *t* scaled by lagged total assets; ΔREVt is revenues in year *t* less revenues in year *t - 1*;

PPEt is gross property plant and equipment at the end of year *t*;

At - 1 is total assets at the end of year *t - 1*; and α1, α2, α3 are firm-specific parameters.

Estimates of the firm-specific parameters, α1, α 2, and α 3, were obtained by using the following model in the estimation period:

TAt / At - 1 = a1(1/At - 1) + a2(ΔREVt / At - 1) + a3(PPEt / At - 1) + εt (2.4)

Where,

a1, a2, and a3 denote the OLS estimates of α1, α2, and α3, and

TAt is total accruals in year *t*. εt is the residual, which represents the firm-specific discretionary portion of total accruals. Other variables are as in equation (2.3).

Dechow et al., (1995) argued that the Jones model was able to explain approximately one quarter or the total accruals variations. The Jones model was subjected to one important limitation which was also recognized by Jones (1991) in her paper. The model orthogonalized total accruals with respect to revenues and, therefore, extracted the discretionary component of accruals, causing the estimate of earnings management to be biased towards zero (Dechow et al., 1995). In other words, it assumed that revenues were not discretionary

# The Modified Jones Model

Dechow et al., (1995) introduced a modified version of the Jones model that “is designed to eliminate the conjectured tendency of the Jones Model to measure discretionary accruals with error when discretion is exercised over revenues. More specifically, Dechow et al. (1995) made a comparison between the several existing models for detecting earnings management and came up with the conclusion that adding the change in receivables to the Jones model led to a stronger model. Dechow et al. (1995) noted that the original Jones model implicitly assumed that discretion was not exercised over revenue in either the estimation period or the event period, while the modified version of the Jones model implicitly assumed that everything changes in credit sales in the event period result from earnings management (Dechow et al., 1995). Therefore, Dechow et al. (1995) suggested that

the change in receivables should be deducted from the total change in revenues when

measuring the nondiscretionary accruals by applying the Jones model. Consequently, the adjustment aimed to remove the potential effects of the management’s discretion over credit sales from nondiscretionary accruals, and accordingly, to improve the model’s power to detect revenue-based earnings manipulation. Dechow et al. (1995) tested the efficiency of five different models in detecting earnings management: the Healy (1985) model, the DeAngelo (1986) model, the Jones (1991) model, modified version of the Jones model (Dechow et al. 1995) and the industry model (Dechow & Sloan 1991). The modified version of the Jones model is shown to have the most power in detecting earnings management practices.

In effect, the Modified Jones model 1995 was designed to eliminate the conjectured tendency of the Jones Model to measure discretionary accruals with error when discretion was exercised over revenue recognition. In the modified model, nondiscretionary accruals were estimated during the event year (the year in which earnings management was hypothesized) specified as:

NDAt = α1(1/At - 1) + α2[(ΔREVt - ΔRECt) / At - 1]+ α3(PPEt / At - 1)… (2.5)

where:

ΔRECt = net receivables in year *t* less net receivables in year *t - 1*, and the other variables are as in equation (2.3).

It is important to note that the estimates of α1, α2, α3 were those obtained from the original Jones Model, not from the modified model. The only adjustment relative to the original Jones Model was that the change in revenues was adjusted for the change in receivables in the event year (in the year earnings management was hypothesized).

# The Industry Model

The Industry model also relaxes the assumption that nondiscretionary accruals are constant over time. Instead of attempting to model the determinants of nondiscretionary accruals directly, the Industry model assumes that the variation in the determinants of non- discretionary accruals is common across firms in the same industry. The industry model for nondiscretionary accruals is:

NDAt = β1 + β2medianj (TAt / At - 1) (2.6)

Where;

NDAt is as in equation (3), and median j (TAt / At - 1) is the median value of total accruals in year *t* scaled by lagged total assets for all non-sample firms in the same two-digit standard industrial classification (SIC) industry (industry j).

The firm-specific parameters β1 and β2 were estimated using OLS on the observations in the estimation period.

# Ye model

Ye (2007) suggested that the time series Jones approach ignored the time variation in accrual intensities and, at the same time, the cross-sectional Jones approach ignored the substantial differences among firms within the same industry. Ye (2007) attempted to mitigate the model before mentioning Jones model in its weaknesses by incorporating four new variables to the proposed model, namely: the beginning balance of noncash working capital (NCWC), and its historical average; the interaction between NCWC and revenue growth and the interaction between lagged depreciation rate and PP&E. By doing that, Ye (2007) suggested the notion that the approach “allows the model better to capture systematic differences in accruals across both different firms and different time periods”.

The model as stated by Ye (2007) shows a substantially better ability to capture the

dynamics of accruals than the Jones and the modified Jones model. Furthermore, by

including these variables in the model, the ability to take into account the reversion of abnormal working capital is enhanced and the incorporation of cross-sectional differences and time-varying effects in historical financial measures such as working capital intensity and useful life of assets is allowed (Spinos, 2013).

The Ye model estimates the total accruals as follows:

TAi,t = βo + β1/Ai,t-1 + β2∆REVi,t + β3 PPEi,t + β4ROAi,t-1 + β5NCWCi,t-1 + β6NCWCi + β7NCWCi,t-1\* REVi,t + β8depi,t-1 + β9depi,t-1\*

PPEi,t 2.9

Where: NCWC: the beginning balance of noncash working capital DREV: scaled lagged total assets

NCWC: the normal noncash working capital intensity

The model estimation also required a measure of the normal non-cash working capital (NCWC), which was estimated by the three-year historical average

# Ge (2010) Model:

Abnormal cash flow levels were used to detect manipulation of sales specified as those shown in studies such as Ge (2010):

*OCFt /At-1= α0 + α1(1/At-1) + β1(St /At-1) + β2(ΔSt /At-1) + εt*

*……………………………………………………………..*2.15

# Cesar, Antonio and Newton (2016) Model

The abnormal level of discretionary expenses was estimated by using a model derived from the seminar study by Dechow, Kothari and Watts (1998) and Roychowdhury (2006) formulated as follows:

*DiscEt /At-1= α0 + α1(1/At-1) + β2(St /At-1) + εt…* *2.16*

Irrespective of various models and measurements of earnings management by extant studies starting from Healy (1985) who introduced a model that measured the use of discretionary

accruals for earnings management to date, both the Jones and modified-Jones models are criticized for their misspecifications. Nevertheless, in the absence of better alternatives, they are still favoured by many researchers to estimate discretionary accruals (Guay *et al*. 1996). Thus, the modified Jones model (1995) proved to be the best model for detecting manipulations of financial results which was consistent with earlier empirical studies (Borhan, Jamal & Murray 2013).

# Determinants of Earnings Management

Atu et al (2016) opined that the basic objective of financial reporting was to provide information about an enterprise that would be useful to a wide range of users in making economic decisions that could be measured in the following direction.

# Financial performance

In companies with a higher level of profitability, the tendency to engage in earnings management practices may be reduced since the pressure to perform tends to reduce than companies with a lower level of profitability. According to the Stakeholders theory, the economic performance of a firm affects a management’s decisions either to engage or not in earnings management accounting practices which will indicate the extent of financial reporting quality. When companies do not perform well, economic demands and the anticipated benefits will determine the nature of the firm’s information environment (Robert 1992). Ang and Chen (2006) argued that firms endogenously chose the level of information and how credible the information could be based on the costs and benefits of direct communication with the market. In this regard, several studies (Darrough & Stroughton , 1990; Feltham & Zie, 1992) hypothesized that a situation of endogenous information asymmetry could be created by the firm if the decision to disclose information to investors

was influenced by concern that such disclosures could damage their competitive position.

Freedom and Jaggi (1992) argued that the economic performance (measured by profitability) of firms could influence the level of reporting quality. Thus, if management performed badly financially, the tendency to want to manipulate the reporting process could be higher in order to impress shareholders and potential investors. Consequently, the study hypothesized that;

# Corporate Governance

The role of corporate governance is instrumental to reducing the occurrence of earnings management accounting practices and improving the financial reporting process because of the monitoring roles of corporate governance. Financial reporting quality is a dependant function of an effective corporate governance system. The premise for this assertion is that the opportunistic tendency of managers to engage in an unethical practice is reduced in the presence of an effective corporate governance structure. Thus, several empirical researches (Fama, 1980; Fama & Jensen, 1983) linked corporate governance mechanisms to a high quality financial report and an unlikelihood of creative accounting. Given these developments, there has been an emphasis on the need to improve corporate governance over the financial reporting process. According to Brennan and McDermott, (2004) one of the important functions that corporate governance can play is in ensuring the quality of the financial reporting process and thus the corporate governance system is an essential factor to consider in the continuum of factors with the potential of influencing accounting quality. Corporate governance focuses, among others, on building strong and effective boards, protecting shareholders and customers’ rights, improving the control environment, and increasing financial and non-financial reporting quality. According to Bello (2011) corporate managers have in recent times been, exploiting the loopholes in accounting standards to manipulate earnings. Sanusi (2002), in examining the role of corporate governance in sustaining the credibility of accounting outcomes, posited that disclosure and

transparency were the key pillars of a corporate governance framework because they provided all the stakeholders with the information necessary to judge whether or not their interests were being served. Consequently, the study hypothesized that;

# Firm Size

Firm size is related to the number of resources owned by the company. The size can be represented by total assets, number of sales, average sale and average total asset. Assets size is considered to be the most appropriate as a proxy for firm size (Makaryanawati, 2003). It is often argued that the larger the firms the less likely they may want to engage in creative accounting practices and, more likely they will be concerned with improving the quality of financial reporting. The findings were consistent with previous research in documenting a positive relation between firm size and disclosure policy decisions (Lang & Lundholdm, 1993). According to O’Donovan (1997), larger companies comes under more scrutiny than smaller companies. These companies thus feel the pressure to disclose more information and improve the quality of financial reporting and thus reduce the level of information asymmetry. Larger firms are also perceived to be important economic entities and therefore have greater demands placed on them to provide quality financial reports (Cooke, 1991). A positive association between the size of a cooperation and the extent of the size was consistently confirmed by prior studies (Ho & Taylor, 2007; Stanny & Ely, 2008). In addition, large firms may also have the resources to put in place effective structure and processes to ensure an improved quality reporting.

There seems to be some level of consensus in the literature on the existence of positive relationship between firm size and the quality of its financial reporting process. The reasons for this, according to studies carried out (Bujaki & Richardson, 1997) are that large

firms are more willing to reduce information asymmetry and thus reduce their political costs

since their size makes them quite visible in the coronate environment, and can make them easy targets for litigation and other regulatory sanctions consequently.

Furthermore, the effect of corporate characteristics on earnings management of listed deposit money banks in Nigeria is gaining wider acceptance. Earnings quality has received broad-based support for many years as a product of good corporate governance. Opportunistic reporting of firm performance by manipulating financial numbers is detrimental to shareholders’ value because shareholders will get false information which may result in a higher information asymmetry and a higher cost of capital. According to Yahaya (2016), earnings quality is the aggregate result of the application of various accounting treatments, estimates and assumptions that are made by management. Some literatures found that earnings quality was the aggregate result of the application of various accounting treatments, estimates and assumption that were made by management. Some literatures found that earnings quality was negatively associated with information asymmetry (Bhattacharya, Daouk, & Welker, 2003; Francis, LaFond, Olsson & Schipper, 2004) and such an asymmetry could be expected to have a negative influence on the firm. By reducing those asymmetries, a higher quality of reporting earnings was important to market participants, and useful to investigate its relationships with corporate characteristics.

The relationship between firm characteristics and earnings quality has been a subject of dicers methodological, theoretical and mixed empirical results with some reporting positive relationship (Debnath, 2017, Hassan & Bello, 2013; Nwosu, 2014; Omoye & Eriki, 2014; Uwalomwa, Uwuigbe & Okorie. 2015;). Some others studies advanced a negative relationship (Hassan & Farouk, 2014; Karami & Akhgar, 2014) and yet others reported insignificant results (Ahmed, 2014; Atu, Atu & Enegbe, 2016; Bassiounry, Olowokure, Tanko & Nyor, 2015& Soliman. & Ragab, 2016)

The inconsistencies resulting from different methodological, and theoretical positions and mixed empirical reactions is an evidence of the inconclusive nature of the relationship between corporate characteristics and earnings quality. The perspective of the issue has not received its desired attention in Nigeria, hence, the paucity of empirical considerations even though some attempts have been recorded.

The size of a firm affects earnings quality in many ways. The key-features of a large firm are its diverse capabilities, the abilities to exploit economies of scale and scope, and the formalization of procedures. These characteristics, by making the implementation of operations more effective, allow larger firms to generate superior earnings relative to smaller firms. The alternative principle of firm size suggests that firm size is correlated with market power and along with market inefficiencies are developed, thus, leading to a relatively inferior performance. Firm age is the number of years since the listing of the firm on the floor of the stock exchange (Shumway, 2001). The underlying principle is that in older firms, managers are more experienced, have enjoyed the benefits of learning, are not prone to the liabilities of newness and can, therefore, produce superior accounting-based and market- based performance. Another opposing principle is that older firms are prone to inertia and the bureaucratic classification that goes along with age, therefore, they are unlikely to have the flexibility to make rapid adjustments in changing environmental circumstances that are likely to lose out in the performance stakes to younger and more agile firms

Firm growth is used in this study to refer to a firm that grows at a rapid pace compared to its peers or the broad economy. Although there is no hard-and-fast rule for defining growth, a growing firm generally has the capability to increase annual revenues or assets by more than the industry average over a sustainable period of time. Firm growth tends to follow the Laplace distribution, with most firms not growing while a few high-growth

firms grow very fast. Firm growth was measured in this study as the relative change in firm revenue (Smith, Anderson & Hamish, 2012; Dewaelheyns & Hulle, 2012; Park & Jang, 2013).

# Auditor Type

Watts and Zimmerman (1990) considered that auditors played a major role in limiting the opportunistic behaviour by management that could result in creative accounting. Watts and Zimmerman (1986) argued that auditors incurred costs from clients to disclose as much information as possible in their annual reports. Nevertheless, empirical studies revealed that the size of audit firms and the extent of earnings management by companies were contradictory. Craswell and Taylor (1992) found a positive relationship between auditors and the tendency for earnings management identified through low reserve disclosure in the Australian oil and gas industry. It was assumed that the size (Big 4) of audit firms suggested reputation, international affiliation and integrity which were reflected in the audit report on the accounts of their clients. It has severally been argued that large audit firms significantly determine the disclosure policies of the companies they audit. Studies that have used size of audit firms in measuring the existence of creative accounting on earnings management include Kim Chung and Furth (2003) and Krishnan.

Lennox (1999) looked at the two explanations why the presence of a Big 4 audit firm deterred the practice of earnings management. The first explanation was in regards to the “reputation” hypothesis suggested by De Angelo (1981). The explanation is that large auditors have more incentives to be accurate because they have more client-specific rents to lose if referred to as the “deep” pockets hypothesis used by Dye (1982) because they have grater wealth that is exposed to risk in case of any litigation. Consequently, the study

hypothesized that there was a negative relationship between auditor type and earnings management

# Empirical Review

This was the work done by other authors which was adopted within the academic community and it formed the basis of my work. This section reviews the empirical literature on the relationship between equity ownership and earnings management.

# Equity Ownership Structure

Equity ownership structure as proposed by the agency theory is one of the most important corporate governance mechanisms to solve agency problems it suggests that concentrated ownership will result in more effective monitoring (Jensen & Meckling, 1976). Ownership structure is a mechanism that aligns the interest of shareholders with that of managers (Chau & Gray 2002; Eng & Mak, 2003; Haniffa & Cooke, 2002). It is believed that one of the most important ways through which a firm maximizes its value is through a well- designed and an effective ownership structure of the firm’s shares (Long et al., 2011).

The equity ownership structure of a firm can be categorized into two groups: proportion of shares owned by insiders and outsiders; and the proportion of shares owned by institutional versus individual shareholders (Wong, Loo, & Shamsher, 2009). There are two streams of thought regarding an effective structure of ownership. First, insiders or managers of the firm act also as shareholders if they acquire a considerable portion of the entity’s shares, and this is deemed to be useful in reducing agency conflicts and aligning the interests of management with the shareholders’. Secondly, outsiders who own a significant number of the firm’s shares have more power and more incentive to monitor management’s activity, mainly the process of financial reporting, thus reducing the earnings management probability (Ebraheem & Mohamad, 2012).

Demsetz (1983) argue that the ownership structure of a corporation should be thought of as an endogenous outcome of decisions that reflected the influence of shareholders and trading on the market for shares. When owners of a privately held company decide to sell shares, and when shareholders of a publicly held corporation agree to a new secondary distribution, they are, in effect, deciding to alter the ownership structure of their firms (Demstz & Villalonga, 2001). Samaha and Dahawy (2009) believed that ownership structure determined the extent of monitoring and it affected the quality of financial disclosure in most organizations. Ownership deals with the necessity of monitoring company management and differentiating an economic unit from its ownership, and maintaining the rights of investors and stockholders (Faghani & Amoei, 2014).

The ownership structure can either be managerial, institutional, foreign or block holder ownership. Managerial ownership deals with ownership by management. Institutional investors can be considered as sophisticated investors who typically serve a monitoring role in reducing pressure for myopic behaviour. Block holders are shareholders who tend to have a big proportion of the company’s shares as compared to other shareholders (Baryeh, 2014). Block holder ownership may take the advantage of the various forms including individual investors, private equity firms, banks and trusts. Foreign ownership are investors who are typically mutual funds or other institutional investors (Dahlquist & Robertsson, 2001).

Ownership structure is a subset of corporate governance that relates to the nature of ownership of the equity shareholding of a firm.

Juhmani (2013) described ownership structure as the number of shares owned by institutional investors divided by the total number of shares outstanding. Hashim (2008) conceptualized ownership structure as the ratio of shares owned by the largest corporate investors to the total number of shares issued. Samaha and Dahawy believed that ownership

structure determined the extent of monitoring and its effect on the quality of financial

disclosure in most organizations. Ownership deals with the necessity of monitoring a company’s management, and differentiating an economic unit from its ownership and maintaining the rights of investors and stockholders (Faghani & Amoei, 2014). Govert and Brian (2010) simply asserted that ownership structures related to the objectives of both managers and owners.

Firm ownership structure is acknowledged to be an important corporate governance mechanism and current corporate governance literature also appreciates this importance. However, the impact of ownership structure on corporate environmental responsibility disclosure remains unresolved in emerging economies. Arising from the foregoing, this paper raised and intended to find an answer to the questions: Does corporate ownership structure affect earnings management disclosure in emerging markets such as Nigeria? This study therefore, examines the impact of ownership structure on earnings management of listed firms in Nigeria.

The ownership structure of a company which is also seen to be among corporate governance variables in the extant literature is found to influence financing decisions of firms. Friend and Lang (1988) investigated whether capital structure decisions were, at least in part, influenced by the extent of managerial self-interest. They theorized that if the management of a company owned shares in the same company, it would be more efficient and effective in discharging its obligations and thus the company would be less financed by debt. Their findings showed that debt ratio was negatively related to management’s shareholding. Similarly, Joher, Ali and Nazrul (2006) investigated the impact of institution holdings on managerial ownership and debt policy of firms in Malaysia between 1998 and 2002. they documented that corporate debt policy was governed by managerial ownership which exhibited a negative relationship. Kumar (2005) examined the role of corporate

governance mechanism in the financing pattern of selected listed firms in India over the period 1994-2000, and they found out that the financing mix of the firms was non-linearly linked to ownership structure. That indicated that ownership structure did not have a definite effect on financing decisions. Furthermore, in an investigation into the effect of ownership structure on capital structure and firm performance, drawing a sample from four East Asian countries (Korea, Indonesia, Thailand and Malaysia), Driffield, Mahambare and Pal (2006) showed that higher ownership concentration increased leverage in family firms while it reduced leverage among non-family firms in Indonesia, Malaysia and Thailand. A family firm is one in which the control is in the hands of one family or the firm is owned by an individual. Similarly, Guo, Ding and Sun (2010) explore the effect of ownership structure on leverage employing firm level data of 365 firm in the UK between 1997 and 2009. They found that firms with highly concentrated ownership were more likely to choose more debt and less equity than are firms with dispersed ownership structure. However, Chen (n.d) found no significant effect of ownership structure of concentration on the financial structure of firms.

# Insider/Managerial Equity Ownership

Managerial ownership can be defined as the shares that are held by managers. Holderness (2003) defined managerial ownership as the amount of the total shares held by insiders (officers and directors) or that block holders corporate ownership types exhibited divergent and motivation for controlling shareholders. Different types of owners have divergent preferences regarding various decisions and investments. Varying shares owned by specific types of investors have a differential effect on corporate decisions. Managerial owners are corporate executives or directors who are stock ownership. The managerial ownership structure is a major influential factor that is associated with management

efficiency. Top managers have the power to allocate resources among a broad range of

stakeholders in a way that assures support from them and have a strong incentive to reduced agency conflicts between shareholders and mangers by aligning other stakeholders’ interests. If top managers own significant equity, they are more likely to make corporate decisions maximizing the shareholders’ value. Top managers may be more likely to pursue short-term strategies that boost the firms’ profits and endow the managers with greater power to make decisions in their own interest.

A number of studies evaluated the link between institutional ownership and firms’ financial performance which determines earnings management. However, their results were mixed and unclear. For instance, Agrawal and Knoeber (1996) found no significant relationship between institutional ownership and firms’ financial performance based on a list of 383 firms, Craswell et al. (1997) examined the relationship between two cross-sectional Australian sampled firms for 1986 and 1989 respectively. The study revealed no significant correlation between institutional ownership and earnings management and firms’ sample of 867 acquisitions of publicly traded firms in the United States of America (US) between 1978 and 1988, Loderer and Martin (1997) found no significant relationship with firms’ earnings management. By partitioning institutional investors into institutions which had appointed a representative to the board of directors of the firms where they had a block investment and institutions with a similar holding but without a representative on the board of directors in the New Zealand, Navissi and Naiker (2006) found that institutions with board representation had a greater incentive to monitor management. Therefore, their presence would have a positive influence. However, at high levels of ownership, institutional investors with board representations may induce boards of directors to make sub-optimal decisions.

# Institutional Equity Ownership

Institutional equity ownership is the total number of shares outstanding that is owned by institutions. Institutional ownership can simply be viewed as the number of shares held by institutional investors divided by the total number of shares outstanding in the firm (Ding, Zhang, & Zhang, 2007). Institutional investors may play a significant role as external monitors of a corporate activity (Ahmad & Jusoh, 2014). As large investors with significant economic stakes, institutional investors have more incentives to monitor managers than do small investors (Spinos 2013). The high level of institutional equity ownership will lead to greater oversight efforts by the institutional investors who can deter the opportunistic behaviour of managers. So, the higher the institutional ownership, then the better control is exercised by the institution, in order to deter the opportunistic behaviour of managers (Ahmad & Jusoh, 2014; Uwuigbe & Olusanmi, 2012).Previous studies suggested that a high level of institutional ownership could play a crucial role in corporate governance mechanism (Alves, 2011). which would increase the extent of disclosures on earnings management (Chau & Gray, 2010) In addition, institutional investors have more capability to detect earnings management than individual investors because of their ability to access relevant information in a timely manner (Balsam, Bartov & Marquardt (2002).

# Foreign Equity Ownership

Foreign equity ownership relates to a situation where the composition of the investors is dominated by foreigners and partial Nigerian investors who have less than ten percent (10%) of the total investments. Therefore, financial and investment decisions may be taken without consulting the minority shareholders. Josiah and Atu (2017) opined that in ensuring that earnings were properly managed, foreign equity owners must involve minority shareholders in the corporate decision making process relating to earnings management, and

which should be streamlined to the benefit of all shareholders

Namazi and Kermani (2008) analysed the impact of ownership structure on corporate performance of listed companies on the Tehran Stock Exchange. The findings of this research indicated that there was a negative and meaningful relationship between institutional ownership and earnings management. In contrast, McConnell and Servaes (1990) found a positive relationship between institutional ownership and earnings management using a cross- sectional sample of 1,173 firms listed on NYSE/AMEX in 1976 and another 1093 firms in 1986. They further claimed that such a relationship had an efficient monitoring role assumed by institutional investors. Similarly, Chaganti and Damapour (1991) provided evidence of a positive relationship between institutional ownership and return on equity in the US manufacturing sector continuously surveyed by the Value Line between 1983 and 1985. Han and Suk (1998) also found that stock returns were positively related to institutional ownership for 301 NYSE/AMEX firms from 1988-1992. They attributed the observed significant relationship to effective management monitored by institutional investors. Clay (2001) found that a positive impact of institutional ownership translated into a 0.75% firm performance enhancement. Selecting the 1,914 firms included a standard & poor’s from 1992 through 1997, Hartzell (2003) found that institutional ownership concentration was positively related to the pay-for-performance sensitivity of executive compensation while it was negatively related to the level of compensation even after controlling for firm size, industry, investment opportunities and performance. They suggested that institutions served a monitoring role in mitigating the agency problem between shareholders and mangers. Examining the relationship of earnings management in the North American casino industry from 1999-2003. Tsai and Gu (2007) revealed that investing institutionally in casino firms could help casinos in the separation of management from ownership. Finally, Mahoney and Robert (2007) examined the relationship between earnings management and institutional ownership for

publicly held Canadian firms. They found a significant relationship between firms’ stock.

Gelb (2000) assessed the relationship between earnings management of annual reports and ownership concentration. The study observed a negative relationship between insider’s ownership and adequate disclosure in earnings management which implied that the quality of annual reports increased when the ownership was less concentrated. Ho and Wong (2001) examined the relationship between four major corporate governance mechanisms and the extent of voluntary disclosures in Hong Kong. The results showed that the existence of an audit committee had a significant positive relationship with the extent of voluntary disclosure, while the percentage of family members on the board was negatively related to the extent of voluntary disclosure.

Haniffa and Cooke (2002) examined the relationship among various corporate governance variables, cultural and firm specific factors and the extent of voluntary disclosures in Malaysia. The findings of the study showed that ownership diffusion was significantly and positively related to the extent of voluntary disclosures. Chau and Gray (2002) assessed the effect of ownership structure of voluntary disclosure in Hong Kong and Singapore and observed that the age extent of outside ownership had a positive effect on voluntary disclosure. In another study by Eng and Mak (2003) which examined the relationship between ownership structure and voluntary disclosures in Singapore, the results indicated a significant negative relationship between managerial ownership and level of voluntary, and a significant positive relationship between government ownership and voluntary disclosure. However, the study observed no significant relationship between blockholders ownership and voluntary disclosures. Cox et al. (2004) assessed the impact of institutional shareholding on the socially responsible behaviour of companies in the UK. The results showed that social performance had a positive impact on the long-run institutional investment and it concluded that institutional investors would choose to place their

investments in companies that had good achievement and avoid investing in companies that had poor social performance.

Makhija and Patton (2004) examined the impact of ownership structure and earnings management and the extent of voluntary financial disclosure by Czech firms. The results showed that the extent of disclosure had positive impact on investment fund ownership at low levels of fund and ownership while disclosure had negative impact on investment fund at high levels of ownership. Arako, et al (2006 evaluated the impact of various corporate governance variables on voluntary corporate disclosure and earnings management in Kenya, and that observed that the existence of an audit committee, foreign ownership, institutional ownership, firm size and leverage, had a significant positive impact on earnings management and the level of voluntary disclosures. However, the findings showed that shareholder concentration had a significant negative impact on voluntary disclosures

Huafang and Jianguo (2007) evaluated the relationship among structure, board composition and the level of earnings management in China and reported that a higher ownership concentration was significantly related to an increased level of voluntary disclosure on earnings management. However, the study revealed that managerial ownership, state ownership and legal-person ownership had no relationship with earnings management with disclosure. Zourarakis (2009) examined the impact of corporate governance on earnings management on the voluntary disclosure of intellectual capital information by British firms. The result of his study showed a negative impact of blockholder ownership on earnings and no significant relation between managerial ownership and voluntary disclosures. Nazli and Ghazali (2007) determined the influence of ownership on corporate social responsibility disclosure in Malaysia and the results showed that companies where the directors held a higher proportion of equity shares disclosed significantly less information, while companies

where the government was a substantial shareholder disclosed significantly more information.

Donnelly and Mulcahy (2008) assessed the impact of ownership structure on earnings management and voluntary information disclosure and they observed that there is a clear evidence that voluntary disclosure increases with the number of nonexecutive directors on the board. Firms that have a nonexecutive chairman make voluntary disclosure and has no significant impact on ownership structure. Samaha et al. (2012) assess the impact of a comprehensive set of corporate governance attributes on the extent of corporate voluntary disclosure on earnings management in Egypt. The results revealed that the extent of disclosure was lower for companies with duality in position and higher ownership concentration as measured by concentrated ownership and increased with the proportion of independent directors on the board and also with firm size. Alves et al. (2012), examined the relationship between corporate governance variables and voluntary disclosure in Portugal and Spain. The empirical results showed that the main determinants of voluntary disclosure on earnings management were firm size, growth opportunities, organizational performance, board compensation and the presence of a large shareholder.

# Monotonicity in Ownership Structure

Monotonicity in ownership structure describes the non-linear, curvilinear or U-shaped behaviour of ownership equity structure particularly in relation to earnings management in this context. Monotonicity often comes to play when we increase the ownership stake of managers in a firm. The resultant effect of this is not straightforward, but it can be addressed by two hypotheses: (i) alignment of interest and (ii) entrenchment. The alignment-of-interest hypothesis states that when managers’ ownership stake in a firm increases, it reduces the agency conflict between shareholders and managers (Jensen & Meckling, 1976). This should,

in turn, reduce the scope for opportunistic behaviour on the part of managers. Consistent with this idea, Demsetz and Lehn (1985) found a positive relationship between managerial ownership and firm performance. The entrenchment hypothesis states that ownership stakes beyond a certain level put managers in a dominant position which they can use to exploit external minority shareholders (Morck, Shleifer & Vishny, 1988). Teshima and Shuto (2008) who investigated the relationship between managerial ownership and earnings management in Japanese firms developed a theoretical model earnings management incentives were lower when the level of managerial ownership was either low or high; and incentives higher at an intermediate level of managerial ownership. Thus, there is a cubical or nonlinear relationship between earnings management and managerial ownership. Correspondingly, managerial ownership is significantly and negatively associated with discretionary accruals at low and high levels, and positively associated with discretionary accruals at an intermediate level. Warfield, Wild, and Wild (1995) and Banderlipe (2009) found an inverse association between earnings management and managerial ownership.

The majority of researchers have provided evidence of a monotonic, usually a positive association between ownership concentration and accrual earnings management. In accordance with some research, an increased ownership concentration increases earnings management. More complicated and curvilinear associations between earnings management and ownership concentration have been indicated in some research. Ding et al. (2014) provided an evidence that the link between the magnitude of earnings management of Chinese companies and ownership concentration could be described by an inverted U-shaped model.

Al-Amri et al. (2016) observed that there was rather weak evidence that the

relationship must be monotonic. Bozec (2016) expected a U-shaped (but not inverted) relationship between ownership concentration and the magnitude of real earnings

management which would mean that there was an optimal degree of ownership concentration that minimized the magnitude of upward real earnings management.

# Managerial Equity Ownership and Earnings Management

Managerial equity ownership refers to equity shares held by the company’s management. Managers are shareholders of the company and they actively participate in the making of corporate decisions. It is measured by the percentage shares owned by the management (Herdjiono & Indah, 2017 ) and recognised as being crucial in generating a greater alignment of interests between the management and the shareholders (Jensen & Meckling, 1976). Managerial equity ownership is considered an important device of ownership structures for mitigating the conflict between managers and shareholders (Adebiyi & Olowookere, 2016). The studies showed that when managerial equity was between 5-25%, opportunistic behaviour of managers was expected and the likelihood of engaging in financial statement fraud was higher. According to the agency theory, the increasing managerial ownership level is used as one way to address the problems that exist in the company (Herdjiono & Indah, 2017). The greater the managerial equity ownership in the company, the harder the management will work to improve the company’s performance because they have the responsibility to fulfill the wishes of shareholders (Bozek, 2015). Meanwhile, some studies also suggested that greater managerial ownership had an entrenchment effect – controlling shareholders’ extrapolating private benefits at the expense of minority shareholders through accounting methods chosen and less conservatism (LaFond & Roychowdhury, 2008).

The agency problem arises at the point of separating ownership from management, as their interests, often time, conflict with the managers who run the business activities may likely favour their own interests over those of the shareholders. Managerial ownership is

basically a situation where a manager is also a shareholder by reason of the units of shares

acquired or earned, as the case may be. Biger and Hoang (2008) defined managerial ownership as the percentage of a total firm’s shares owned by a manager or a group of managers who had discretion over reported earnings. High share ownership would make managers have a greater responsibility in managing the company and presenting the financial statements with the correct information for the benefit of shareholders and themselves.

Most literature on earnings management has shown that a firm’s ownership structure is an important factor that limits incentives to investors, Warfield, Wild, and Wild (1995) affirmed that managers holding a large percentage of a firm’s stocks were less likely to be motivated to alter disclosed financial statements. In the framework by Jensen and Meckling (1976), management ownership can lower agency costs by aligning the interest of a firm’s management with its shareholders. The theoretical model by Watts and Zimmerman (1978) showed that the contractual constraints with earnings-based bonus plans provided incentives for managers to report accounting numbers which maximised their short-term bonus compensation. The literature on traditional agency theory argued that shareholdings held by managers helped to align their interests with those of the shareholders (Jensen & Meckling, 1976). In contrast, Morck et al. (1988) argued that greater ownership would provide managers with deeper entrenchment and, therefore, a greater scope for opportunistic behaviour. Majority of the studies pointed to a positive relationship between managerial ownership and earnings management.

Ayadi and Boujelbene (2014) investigated the relationship between ownership structure and earnings quality as a proxy earnings management and earnings informativeness. It employed a sample of 117 French companies belonging to the SBF 250 index for the period 2003-2011. After analysing data using a panel data econometrics which is the Panel Corrected Standard Errors, the results showed that managerial ownership has a positive

impact on the earnings management. They argue that in the French context, managers with higher equity ownership were more likely to act opportunistically and manage earnings.

Mehmet, Suleyman and Mustapha (2014) investigated the impact of corporate ownership structure and board size on earnings management on a sample size of 125 out of seven hundred and fifty firm of Turkish firms registered on the Istanbul Stock Exchange (ISE) for the period 2009 to 2012. The corporate ownership structure was measured with two variables: managerial ownership and institutional ownership. This study also used three controlled variables: return on assets, size of the firm and financial leverage. The adjusted Jones Model and the multivariate regression technique were utilized. The results were consistent with the previous studies which showed that the relationship between managerial ownership and earnings management was positively and statistically significant. it suggested that the high level of managerial ownership meant the higher magnitude of discretionary accounting accruals.

Hassan and Bello (2013) investigated firm characteristics from the perspective of structure, monitoring and performance elements and the quality of financial reporting of listed manufacturing firms in Nigeria between 2009-2014. Quality of financial reporting was measured by modified model of Dechow and Dichev (2002). They adopted correlation research design with pooled panel data of twenty-four firms using multiple regression analysis. The result reveals that larger firms in manufacturing sector are less likely to manage earnings. Also, Hassan and Farouk (2014) empirically examined the effects of firm characteristics on earnings quality of listed oil and gas companies in Nigeria for the period of 2007-2011. A sample of seven firms was used for the study. Firm characteristics (as the independent variable) were measured with firm size and firm growth. While the residuals from the modified Jones model was used to proxy earnings quality. The study adopted

multiple panel regression techniques and data were collected from secondary source through

the annual reports of the firms. The findings reveal that firm growth has a significant positive impact on earnings management while firm size had a significant but negative influence on earnings management of listed oil and gas companies in Nigeria.

Nwosu (2014) examined the influence of firm characteristics on financial information quality of listed deposit money (2014) banks in Nigeria over a period of seven years (2006- 2012). The study use firm size and firm growth to proxy for firm characteristics. The Financial information quality was measured using discretionary loan loss provision model. The study found that firm size and firm growth had positive significant effects on the financial information quality of listed deposit money banks in Nigeria. Similarly, Ahmed investigated the relationship between managerial characteristics and earnings management of listed banks in Nigeria over a period of five years (2006-2010). Firm size was used as a control variable to mitigate the effect of the managerial characteristics of earnings management. This study utilized the Q test model to measure earnings management and found that firm size did not have a significant effect on the level of earnings management of listed banks in Nigeria.

Furthermore, Omoye and Eriki (2014) investigated how corporate governance mechanisms related to earnings management. A sample of one hundred and thirty companies was drawn from quoted companies on the Nigerian Stock Exchange over the period 2005 to 2010. Descriptive statistics, correlation matrix, diagnostic test and binary regressions analyses were used to analyse the data. The study revealed that firm size was positive and statistically significant in determining earnings management. Karami and akhgar (2014) investigated the effects of company size and leverage on the quality of financial reporting of companies listed on the Tehran Stock Exchange over a period of ten years (2003-2012). The panel data method, first F-test of Limer and Hausman were used to select the best model

among the panel data, fixed effects and random effect. The result of the study showed that company size had a negative and significant effect on financial reporting quality.

Also, Olowokure, Tanko, and Nyor (2015) examined the influence of firm structural characteristics (age, size and level of leverage) on financial reporting quality over a period of ten years (2005-2014). They used loan loss provisions model to proxy for financial reporting quality. The study did not find any evidence of a significant relationship among firm age, firm size and financial reporting quality. Uwalomwa, Uwuigbe and Okorie (2015) assessed the effects of firm characteristics on the earnings management of listed companies in Nigeria. A total of twenty listed firms on the Nigerian Stock Exchange market were selected and analyzed for the study using the judgmental sampling technique. The corporate annual reports for the period 2006-2010 were used for the study. The study used descriptive statistics and econometric analysis and the pooled ordinary least square regression for the listed sampled firms. The findings from the study revealed that firm size had a significant positive impact on earnings management (proxy by discretionary accruals)

Bassiouny, Soliman, and Ragab (2006) assessed the impact of firm characteristics on the earnings management of listed firms in Egypt. They selected the 50 most active firms on the Egyptian Stock Exchange and the analysis was done using the financial statements from the disclosure book for the period 2007-2011. After excluding bank and insurance companies for having different disclosure requirements and different corporate governance codes, the final count for the firms included in the study was sixty firms in five years and this left us with a total of three hundred observations. The tests for this research were done using the random effect generalized least square regression model. Using STATA findings showed that firm size and firm age had an insignificant relationship with earnings management.

Atu, Atu, Enegbe and Atu (2016) examined the determinants of earnings management using selected companies in Nigeria. The study adopted a cross-sectional research design while the sampling technique was employed in selecting thirty companies from 2007-2014 financial years. The study used ordinary least square regression analysis to examine how firm size had an impact on earnings management using discretionary accruals measure. The findings indicated an insignificant relationship between firm size and earnings management. Finally, Debnath (2017) assessed the impact of firm growth on earnings management through discretionary accruals estimation in India for nine years from 2007 to 2015. The study uses the cross-sectional modified Jones model to estimate discretionary accruals, a proxy for earnings management. A sample of seven hundred and fifty-six firm-year observations from the non-financial corporate sector was considered based on some accounting and market measurement criteria from capitaline plus corporate database. The study analysed the panel data using a fixed effect model to estimate the influence of firm growth and performance on the discretionary accruals. The regression analysis of the study disclosed that the growth of the firm was positively associated with discretionary accruals. Also, firm size was found statistically significant in influencing variables.

Teshima and Shuto (2008) examined the relationship between managerial ownership and opportunistic managerial behaviour relating to earnings management with a sample of Japanese firms from the period 1991-2000. Economics theory identified two apparently conflicting effects of managerial ownership on managers’ incentives: the incentive alignment effect and the management entrenchment effect. A theoretical model constructed by them showing the two effects suggested that as managerial ownership increased, earnings management decreased for both high and low levels of managerial ownership, while it increased for intermediate levels of managerial ownership if the sensitivity of the probability

of managerial dismissal to the corporate performance was high enough and/or the manager’s private benefit derived from the managerial position was high enough. The findings showed that there existed a significant and non-monotonic relationship between managerial ownership and discretionary accruals it was consistent with our model which meant that there was a significantly negative relationship for both low and high levels of managerial ownership with earnings management, while that of the intermediate level was significantly positive.

You, Tsai, and Lin (2003) examined the relationship among managerial ownership, earnings management and audit quality in Taiwan. The target population was companies listed on the Taiwan Stock Exchange. The data were obtained from their financial statements for the period 1991-2000, and the pooled cross-sectional regression model was used to analyse the data. The findings showed that managerial ownership had a negative relationship with earnings management. They concluded that there was an inverse association, that an increase in managerial ownership resulted in better earnings quality and lowered the practice of earnings management.

Alves (2012) examined the relationship between corporate ownership structure and earnings management in Portugal. Existing literature suggested that ownership structure decreased the incentive to manage earnings but it also provided the opportunity and incentive to manipulate earnings. Therefore, the main purpose of this paper was to analyse whether a firm’s ownership structure (measured with three variables: managerial ownership, ownership concentration and institutional ownership) exacerbated or alleviated earnings management. A sample of 34 non-financial listed Portuguese firms from years 2002 to 2007 was investigated and analysed with the ordinary least square (OLS) regression. The managerial ownership was calculated as the proportion of the company’s shares directly or indirectly owned by the

manager. They found that discretionary accruals as a proxy for earnings management were

negatively related to managerial ownership. The study’s results suggested that managerial ownership improved the quality of annual earnings by reducing the levels of earnings management.

Ali, Saleh, and Hassan, (2010) examined the relationship between the level of managerial ownership and earnings management activities represented by the magnitude of discretionary accounting accruals in Malaysian listed firms. Secondary data were obtained from annual reports of firms listed on the Malaysian for the years ending 2002 and 2003. Firms from the finance industry and unit trusts were excluded from the study as they were subjected to some unique regulations. The accruals behaviour was different compared to other firms. In total, 1,001 public listed firms were chosen. Managerial ownership was found to be an effective monitoring mechanism, particularly in small firms. The result suggested that managerial ownership should be encouraged in small firms so that it could be the substitute for the weakness of other corporate governance mechanisms. The results showed that managerial ownership was negatively associated with the magnitude of accounting accruals. However, this study found that managerial ownership was less important in large- sized firms compared to small-sized firms. The findings suggested that large-sized firms demanded and used better corporate governance mechanisms due to higher agency conflicts and, therefore, less managerial ownership was needed for control.

Saftiana et al. (2017) Sought to identify the effects of good corporate governance constituting institutional ownership, managerial ownership, frequency of board meetings, frequency of audit committee, firm size and leverage on earnings management. They used a population target of manufacturing firms listed on the Indonesian Stock Exchange (IDX) for the period 2010-2014, and purposive sampling to obtain the required sample which resulted in the 21 firms examined for the study. The variables were tested with a multiple linear

regression analysis. Earnings management was measured by discretionary accruals which

were calculated using the Modified Jones model, while managerial ownership was measured by a dummy variable calculated as the number of shares owned by management against the total outstanding shares. The results of the research showed that managerial ownership had no significant effect on earnings management even though all the variables had simultaneously significant effects on earnings management.

Spinos (2013) investigated the relationship between earnings management and managerial ownership in the United State of America to examine whether the relationship was influenced by the financial crisis that hit the U. S. in 2006. It employed the Modified Jones model on 235 U.S. firms listed in the S&P 500 index and tried to examine the relationship both in the whole research period (2004-2009) as well as compared the findings 3 years before (2004-2006) and 3 years after (2007-2009) the economic recession in order to investigate whether the potential association between them was affected by it. The empirical results evidenced that during the whole research period, there was no significant relationship between managerial ownership and earnings management. However, the findings suggested that the latter relationship was indeed influenced by the effects of the financial crisis. More specifically, evidence was presented that the level of managerial ownership decreased, thus signaling a change in the use of earnings management.

Ownership structure ranges from individual to collective, and this causes new problems in the area of financial resource management . Berl and Moses (1932) considered it as an agency problem. Morey, Gottesman Baker, and Godridge (2008) opined that it cauld caused conflict of interest and agency problems. The relationship between shareholders structure (ownership structure) and the financial performance of firms is important and continues to be debated in the field of financial management (Alipour, Amjadi Ezazi, and Sadeghisharif 2011). In analysing the relationship, up till now different aspects of ownership

structure are considered. These aspects include, being managerial or non-managerial

shareholders, shareholders concentration or dispersion, whole or retail, internal (Domestic) or foreign shareholders, or institutional or individual shareholders

Several researches conducted on managerial shareholding and firm methodologies reported mixed results, for instance, some found a positive relationship between managerial shareholding and firm financial performance Mehran (1995), Larker (1998) Oswarld & Jahera, 1991), while others found a negative relationship (Houlhthausen and Poulsen 1988; Rall, Slovin & Suchka, 1993).

Institutional shareholding is also important as it plays a vital role in the governance of the firm moving from good to great. Institutional shareholders can be banks, mutual funds, insurance companies, clubs, societies, churches and mosques. A number of studies sought to evaluate the link between institutional ownership and firm performance. However, their results were mixed. For instance, some studies showed that there was no relationship between institutional ownership and earnings management (Argrawak & Knoeber, 1996). Craswell, Taylor and Saywell (1997), Loderer & martin (1997) New Zealand and Navissi & Naiker (2006). While others, found a positive relationship between institutional ownership and firm performance (McConnell & Servaes, 1990), Chaganti and Damanpour (1991), Han and Suk (1998), Clay (2001) and Hartzell and Starks (2003).

Berle and Means (1932) pointed out that potential conflicts of interest arose between corporate managers and dispersed shareholders when managers did not have ownership interest in the firm. As such, shares held by the managers in a firm helped to align the interests between shareholders and managers. When the managers’ interest coincide more closely with those of shareholders, the conflicts between the shareholders can ‘entrench’ the controlling power over the firm’s activities, leaving external or minor shareholders with the difficulty in controlling the actions of such ownership. Short (1994) supported the notion and

suggested that implicitly assuming the linear relationship and firms’ financial performance in the previous research possibly brought misleading results because there could be the opposite relationship between managerial shareholding at a certain level and firms financial performance. Morch, Shleifer and Vishny (1988) investigated whether or not there was a non-linear relationship with firms’ financial performance (measured by firms’ market value and a profit rate) for 456 of the fortune 500 firms in 1980. To capture the this relationship, they categorized managerial shareholding into three different levels: 0% -5%, 5%- 25% and beyond 25%. The result revealed that there was a positive relationship between managerial ownership holding at 0% to 5% and firm value. After that, a negative relationship was found at 5% to 25% of managerial shareholding and then the relationship was positive again (but not significant) beyond 25% of shareholding. In the profit rate regression, they reported that there was only a significant positive relationship between managerial ownership holdings at 0% -5% and the profit rate.

McConnel and Servaes (1990) investigated the effect of managerial ownership on firm value. In their study, instead of fixing the level of managerial ownership, as had been conducted by Morck et al (1988) they adopted managerial shareholding and managerial variables. To do that, they drew upon a sample of 1739 firms in 1976 and 1,093 firms in 1986. The results reported that a positive relationship existed between managerial ownership holding at 0% to approximately 50% of shareholding and firm performance. Beyond 50%, a negative relationship between them was found. McConnell and Servaes (1990) therefore, suggested that the impact of managerial ownership on firm value was nonlinear.

Short and Keasy (1990) also investigated whether there was a non-linear relationship between managerial ownership and firm financial performance based on return on shareholder’s equity and market value in the case of United Kingdom. Their study adopted

the Cubic model to investigate the relationship. With the model, the coefficients of managerial ownership variables (DIR, DIR2 and DIR3) were able to determine their turning points (indicating the maximum and the minimum points of the managerial performance). Short and Keasy (1999) also suggested that the performance (as measured by return on shareholder’s equity) was positively related to managerial shareholding in the 0% to 15.58% range, negatively related in the 15.58% to 41.84% range, and positively related again beyond 41.48%. The market return (as measured by Tobin’s Q) was positively related to managerial shareholding in the 0% to 12.99% range, negatively related in the 12.99% to 41.99% range, and turned positive again when managerial shareholding exceeded 41.99%.

Han and Suk (1998) examined the non-linear relationship between insider and outsider ownership when squared variables were applied. The inside ownership in their study consisted of not only the board members, but also the officers, beneficiary owners and principal stock holders who owned ten percent or more of the firm’s stock. The results showed that the inside ownership was positively related to the stock returns. In Thailand, Wiwanttanakantung (2000) examined the relationship between managerial performances in 1996. Managerial shareholding was classified into three levels (25%-50%, 50%-75% and beyond 75%). The study compared the three levels of managerial shareholders with non- managerial controlling shareholders, and reported that there was a non-linear relationship between managerial shareholder and firm financial performance based on the return on assets and sales-asset, that is, managerial shareholders who controlled between 25%-50% of outstanding shares had poorer returns on assets compared to non-managerial controlling shareholders. Kesner (1987) also investigated the relationship between members of the board of directors and six performance measures (profit margin, return and equity, return on assets, earnings per share, stock market performance, and total return to shareholder). The results

illustrated that a proportion of shares held by board members was positive and significant to only two of the performance measures (the profit margin and return on assets).

# Institutional Equity Ownership and Earnings Management

Institutional ownership refers to the stock market investments of institutional investors such as, pension funds, insurance companies, mutual funds, etc. Many studies reported that institutional owners who had a significant influence on organizational decisions by exercising substantial were likely to gain the attention of management informed by the stakeholder theory. In most cases, institutional investors invest a considerable part of their funds in stocks.

Ajay and Madhumathi (2016), using a panel data methodology, focused on firms listed in CNX 500 on National Stock Exchange to empirically examine the impact of institutional equity ownership on the earnings management practices in India. Earnings management was measured using discretionary accounting accruals. Firms with higher institutional holdings are found to have higher earnings quality thus restricting managers from using their discretionary powers to report earnings. Institutional ownership had a negative relationship with earnings management for larger and matured firms. Growing firms were found to have higher earnings management. Institutional investors monitored the firms and hence, reduced aggressive earnings management practices within the firm. Foreign institutional ownership also had a negative relationship with earnings management.

Latif, Latif and Abdullah (2017) examined the impact of institutional equity ownership on earnings management for listed firms on the Pakistan Stock Exchange (PSX). The data of 200 non-financial listed firms from 2002 to 2014 were collected for that study. The conceptual framework of Financial Accounting Standards Board (FASB, 1980) was used to measure the earnings management. The four dimensions of earnings management studied

were: predictive value, neutrality, timeliness and representational faithfulness. The results showed that institutional equity ownership was positively associated with earnings management and, by implication, a negative relationship between institutional shareholdings and earnings management. Moreover, a greater level of institutional shareholding brought more oversight and enhanced earnings management.

Koh (2003) investigated the relationship between firms' aggressive earnings management strategies and institutional equity ownership in Australia. The relationship between firms' income increasing discretionary accruals and institutional ownership varied as the proportion of institutional ownership structure changed. It suggested that a positive relationship existed at the lower institutional ownership. That could suggest that institutional investors provided incentives for managers to manage earnings. On the other hand, a negative relationship was found at the higher proportion of institutional ownership, indicating that institutional investors' monitoring was one of the factors limiting managerial accruals discretion.

Alves (2012) examined the effect of equity ownership structure on a firm’s earnings management activity. It employed a sample of 34 Euronext Lisbon non-financial firms over a period of 6 years, from 2002 – 2007, with the data obtained from annual reports and corporate governance reports available at [www.cmvm.pt,](http://www.cmvm.pt/) it analysed the data with the OLS regression. Earnings management was measured using the Jones model and the Modified Jones model; while institutional ownership was measured using a dummy variable where it was given that if an institutional investor held at least 2% of a particular firm’s shares. The result of the study showed, among other things, that institutional equity ownership had a negative relationship with earnings management.

Yang, Chun and Ramadili (2009) examined the role of outside directors and

institutional shareholders in constraining earnings management activities. A sample of 613

firms from construction, industrial products and consumer products sectors was selected from the main board. The time period covered for the study was years 2001 to 2003. Modified Jones Model with cross sectional approach was employed in the study. The findings showed that the magnitude of earnings management in Malaysian listed firms has approximately 16% of the prior year total assets on earnings management. Most firms managed the earnings upward rather than downwards. No relationship was observed between the degree of earnings manipulation and the proportion of institutional shareholders.

# Foreign Equity Ownership and Earnings Management

Guo and Ma (2015) conducted an intensive investigation into the determination of ownership characteristics in earnings management behaviours of Chinese domestic listed firms. The sample used contained 1,176 firms with 7,937 firm year observations reported from 2004 – 2010. The majority of the data obtained was from the China Stock Market and Accounting Research Database (CSMAR) created by the GTA Information Technology Company and the University of Hong Kong. Other sources included series of Shanghai Stock Exchange Statistical Annuals, Shenzhen Stock Exchange Fact Books, and firms’ annual reports available from the firms’ homepages. The results of the study proved that foreign equity ownership was positively associated with earnings management practice among Chinese firms.

Gill-de-Albornoz and Rusanescu (2017), in a sample that consisted of 2,055 large private Spanish subsidiaries owned by local and foreign groups during the period 1997-2013, observed that the magnitude of discretionary accruals was significantly higher when the parent company was foreign than when it was local. Our tests supported the thesis of recent research on earnings management strategies within multinational corporations (MNCs), suggesting that the parent company’s incentives underlay the observed negative relationship

between foreign ownership and financial reporting quality at the subsidiary level. In

particular, their observation was that the tenure of the controlling shareholder had a negative incremental effect on the financial reporting quality in firms under foreign control, but not in subsidiaries of local groups; and the negative association between foreign ownership and financial reporting quality was mainly driven by the subsample of subsidiaries with parent companies located in countries with a higher institutional quality.

Guo, Huang, Zhang and Zhuo (2015) examined the impact of foreign ownership on real earnings management using a unique set of foreign ownership data from Japan. A sample of 15,212 firm year observations conducted over the period 2004 to 2008 was used for the study. Two hypotheses were tested: the information asymmetry hypothesis which predicted that the distance made it difficult for foreign investors to monitor a firm’s accounting performance and limit real earnings management, and the knowledge spillover hypothesis which predicted that the superior knowledge of foreign investors can curtail real earnings management. Consistent with the knowledge of spillover hypothesis, their findings revealed that firms with greater foreign ownership engaged in less real earnings management. Our findings contributed to the literature by identifying foreign investors as a factor in controlling real earnings management.

Enofe, Iyafenke and Eniola (2017) examined the impact of foreign directorship and other factors on earnings management. The study employed quantitative and a cross sectional survey data of non-financial institutions quoted on the Nigerian Stock Exchange as at 2014. the data were analysed using descriptive statistics, correlation and multiple Least Square (MLS) regression. The study found out that foreign board members were negatively related to earnings management. It recommended that in a firm where foreigners had shares a certain proportion of them should be appointed into the board so as to give room for cross ideology that could encourage or discourage earnings management practices.

Ahmed and Iwasaki (2015) investigated the effects of foreign equity ownership on a monitoring mechanism, a monitoring outcome and firm value for a sample of over 12,600 Japanese firms in the period 2000-2014. They analyzed the data using ordinary least squares regression and their findings showed that foreign ownership had a significantly positive association with the appointment of independent directors which also had a negative significant and association with both accrual and real earnings management, and it was significantly positively associated with firm value. Overall, the evidence suggested that foreign investors enhanced monitoring, reduced agency costs, and enhanced firm value.

Ryu and Ji (2015) investigated the role that foreign equity investors played in restraining the earnings management activities of firms. For this study, we used two variables, equity ratio and investment horizons of foreign investors as the proxies for foreign investors. The investment horizons of foreign investors were measured as the investor turnover, and earnings management was measured by the modified Jones model. The sample was drawn from all manufacturing companies listed on the Korean Stock Exchange (KSE) during the four-year period, from 2008 to 2011. The study found that corporate earnings management was less prevalent when long-term foreign investors were among shareholders, showing that if investment horizons of foreign investors were short, equity ratio of foreign investors would not be influenced to facilitate the mitigation of managers’ use of earnings management.

# Concentrated ownership and earnings management

It is believed that one of the most important ways through which a firm can maximise its value is through a well-de-signed ownership structure of the firm’s shares. Concentrated equity ownership can be bad for the governance of the firm since it gives the largest shareholders too much discretionary powers of using firm resources in ways that serve their own interest at the expense of other shareholders, that is, too much concentrated ownership

(the largest shareholders) may accentuate earnings management (Long et al., 2011). According to Goldberg, Danko and Kessler (2016), a concentrated ownership system is more common in continental Europe. In this system, one shareholder, family or group of shareholders has majority or dominant control of companies. Different types of fraud are incentivized under each system. Dispersed ownership systems encourage earnings management, so executives benefit from short-term performance measures. Concentrated control encourages appropriation of private benefits of control, and corporate governance is designed to protect shareholders' interests. Corporate ownership systems have implications for the efficacy of governance techniques (Goldberg et al., 2016). Concentrated ownership also provides more discretionary power for controlling shareholders to divert resources for personal benefit.

Concentrated ownership is always regarded as a poor corporate governance since it gives the largest shareholders more discretionary powers to use a firm’s resources to serve their benefits. Such ownership structure will allow controlling shareholders to obtain more control power at minimal capital expense which makes “tunneling” much easier (Classens, Djankov & Lang, 2000). Furthermore, controlling shareholders are easily subjected to financial statement or information disclosure fraud.

Wang (2006) investigated the relationship between the presence of concentrated owners and the incidence of fraud. The study revealed that high ownership concentration was linked with a higher likelihood of and a tendency to commit fraud. Moreover, Lui and Lu (2007) found a positive and significant association between the level of ownership concentration and earnings management practices. Therefore, the concentrated ownership reduced the quality of financial reporting. Therefore, concentrated ownership firms had a tendency to manipulate accounting data and commit fraud (Wang, 2006). Moreover, the

result is consistent with Fan and Wong (2002) findings which indicated that concentrated

ownership and associated pyramidal and cross-holding structures were negatively associated with the quality of accounting information.

Rezaee and Chen (2013) investigated two types of financial reporting fraud (i.e., earnings manipulation fraud and tunnelling fraud) and their association with ownership structure and audit quality in detecting fraud using a sample of Chinese listed firms. They found that more concentrated ownership tended to be associated with tunnelling fraud, and more dispersed ownership tended to be associated with earnings manipulation fraud. Specifically, controlling shareholders tend to over-reach minority shareholders when they got more powerful, but at the same time, they tended to curb earnings manipulation fraud. The second largest shareholder was able to curb earnings manipulation fraud through monitoring the management. However, they did not find evidence that they were able to curb tunnelling fraud.

Chen, Firth, Gao and Rui (2006) examined whether ownership structure and boardroom characteristics have an effect on corporate financial fraud in China. The data were gotten from the enforcement actions of the Chinese Securities Regulatory Commission (CSRC). The results from univariate analyses where they compared fraud and no-fraud firms showed that ownership structure was important in explaining fraud.

D’onza and Lamboglia (2014) examined the relationship between corporate governance characteristics and financial statement frauds in Italy using logit regression analysis. The research covered a period of 11 years (2001-2011). The research evidence showed a significant positive relationship between concentrated ownership and financial reporting fraud in Italian context.

Yang and Buckland (2010), in a paper, developed on the analysis of the prevalence

and determinants of fraudulent financial reporting as identified in the Chinese listed firms over the period 1996 to 2007, and highlighted the relationship of financial fraud with

corporate governance mechanisms. 82 cases of fraudulent activities which were identified by the China Securities Regulatory Commission were selected as the study’s sample, and 82 control peers are designed to correspond to the study sample as closely as possible, regarding the assets size and industries, in order to exclude the influence of those factors on the dependent variable. However, the findings in the paper revealed that ownership structure on the fraud firms and their non-fraud peers were not statistically distinct.

Hsu and Wen (2015) carried out a study to investigate the influence of ownership structure and board characteristics on discretionary accruals and real earnings management using the data of A-shares in Chinese Shanghai and Shenzhen Stock Exchange Securities Market from 2002 to 2012. To examine the impact of institutions, insiders and characteristics of the board on earnings management, the panel regression model was utilised. The empirical results showed that institutions with high shareholding concentration gave managers incentives to manipulate discretionary accruals for short-term profitability.

Jara and Lopez (2011) carried out a study to investigate how the distribution of ownership and the contest for control of the largest family shareholder impacted the earnings management of family-owned firms. Using a sample of 590 firms from European countries, the results showed that the distribution of control among several blockholders reduced earnings management in family firms. The results also showed that in firms where the largest shareholder was a family member, a second or third family shareholder increased discretionary accruals.

Hidetaka (2010), in a paper, using a sample of 799 large Japanese manufacturing firms from the period 1999 to 2004 verified the effect of different governance mechanisms including internal ownership concentration on earnings management. The paper used discretionary accruals as the proxy for earnings management. Discretionary accruals were

estimated by two cross-sectional models, which were the Jones Model (1991) and the

modified version of the Jones model (Dechow et al. 1995). For internal governance mechanisms, the study presented the following three results. First, there was a significant U- shaped relationship between ownership concentration and earnings management.

Achleitner, Fichtl and Kaserer (2012), in a paper, analysed the impact of ownership structures on both accounting earnings management as well as real earnings management. They utilized a large hand-collected panel data set of listed German firms over the period 1998 to 2008. Specifically, they tested the hypothesis that firms owned by their founding families should engage more in accounting earnings management and less in real earnings management activities as compared to their non-family counterparts. The result from their study indicated that the motives for earnings management were related to the position of the founding family as blockholders in the company.

Gonzale and Garcia-Meca (2014) carried out a study to examine the relationship between the internal mechanisms of corporate governance and earnings management measured by discretionary accruals. They utilized a sample of listed Latin American non- financial companies for the period 2006–2009. Using a linear regression technique, they regressed the absolute value of discretionary accruals on the variables of ownership structure, board of directors and control. The results from the study showed that in the Latin American context, the role of external directors was limited and that boards which met more frequently took a more active position in the monitoring of insiders, thereby showing a lower use of manipulative practices. In addition, they found a non-linear relationship between insider ownership and discretionary accruals.

Pattaraporn (2016) investigated the relationship between ownership structure and accounting statement as a proxy for the incidence of fraud in listed firms on the Stock Exchange of Thailand. The study employed firms’ accounting statements to reveal the poor

quality of financial reporting. The characteristics of ownership structure in the study

consisted of ownership concentration and the results were consistent with the hypothesis that the characteristics of ownership structure were associated with the quality of financial reporting. The findings showed that concentrated ownership firms and politically connected firms were positively associated with their accounting restatements.

Khamoussi and Abir (2012) carried out a study with the objective of examining the impact of blockholders on earnings management in 31 Tunisian companies listed on the Tunisian Stock Exchange during the period 1998 - 2009. Four hypotheses were formulated by referring to previous studies results. Using Kothari et al. (2005) and Zhong et al. (2007) models to estimate the discretionary accruals as a measure of earnings management, the results from the study showed that in the case of declining premanaged earnings: (1) some firms manage their earnings more than others firms, (2) the presence of blockholders affected positively the discretionary accruals; (3) those blockholders were not effective monitors of earnings management.

Chalaki, Didar and Riahinezhed (2012) investigated the effect of corporate governance attributes on the financial reporting quality of firms listed on the Tehran Stock Exchange (TSE) in Iran during the period 2003 to 2011. In the study, McNichols (2002) and Collins and Kothari (1989) were used for financial reporting quality measurement purpose, and ownership concentration was considered as a corporate governance attribute. Multiple regression analysis was utilized for the purpose of the study. The results from the study showed that there was no relationship between ownership concentration and financial reporting quality.

Usman and Yero (2012) examined ownership structure and earnings management practice of Nigerian listed conglomerates. Earnings management was proxied by using the modified Jones (Dechow et’al, 1995) model. Using 30 firm-year paneled observations, they

estimated panel OLS and controlled for fixed/random effects. The result showed a significant

negative relationship between ownership concentration and earnings management. The Hausman specification test also showed that the panel result, after controlling for random, best suited the population as the fixed effect hypothesis was rejected by the Wald/Ch2 test. They however, concluded that ownership concentration indeed moderated the practice of earnings management in the Nigerian listed conglomerates.

Shehu and Abubakar (2012), in a paper, examined the impact of ownership structure on earnings management in quoted food and beverage firms in Nigeria. Secondary data were extracted from the annual reports of some sample firms for the period 2006 to 2010 and OLS multiple regression was used as a tool for the data analysis. Ownership structure affected earnings management in divergent ways. Specifically, the study documented an inverse relationship between institutional shareholding and discretionary accruals, while ownership concentration and family ownership positively impacted on earnings manipulation.

Isenmila and Afensimi (2012) carried out a study to examine the relationship between ownership structure and earnings management in Nigeria. The pooled data design was employed in the study. The study employed the simple random sampling technique in selecting a sample size which consisted of 10 commercial banks as at 2012. Secondary data retrieved from the audited financial statements of the banks for 2006-2010 were used for the study. The method of data analysis used was the multivariate regression technique based on the ordinary least squares assumptions. A series of diagnostic tests such as the variance inflation factor test, heteroskedasticity test and the Breusch -Godfrey LM correlation test were also employed as diagnostic checks for the result. The ownership structure was disaggregated into insider ownership, institutional ownership and external block ownership respectively. The findings of the study revealed the existence of a positive and significant relationship between external block ownership and earnings management. The relationship

between insider ownership and earnings management was also observed to be positive and statistically significant at 5% level. A positive relationship was also observed between institutional investors ownership and earnings management. However, the relationship was statistically insignificant at 5% level.

Junaida and Abdulrahmen (2014) carried out a study to examine the relationship between corporate governance and earnings management of six petroleum and petroleum products distributors out of the nine petroleum products distributors that were listed on the floor of the Nigerian Stock Exchange. Data were collected from the annual reports and accounts of the sampled companies covering a period of ten years, from 2003 to 2012. Descriptive statistics, correlation as well as panel data analysis (Random-effect GLS regression techniques) were utilized as the analytical tools in the study. The results indicated that the going concern was significantly and positively driven ownership concentration.

Farouk and Hassan (2014) in a study examined the influence of possession formation and earnings management of listed chemical and paints companies in Nigeria. Possession formation was proxied with managerial ownership, institutional ownership and block-holder ownership, while earnings management was represented by modified Jones (Dechow et al 1995) model. Using 40 firm-year paneled observations, panel Ordinary least square (OLS) was estimated. The study employed the use of criteria to arrive at the sample size consisting of eight (8) listed chemical and paints firms in Nigeria out of nine(9). Secondary data source was extracted from the audited annual reports of the sampled firms from 2007-2011. Various tests such as normality, and multicolinearity tests were conducted to diagnose the result. The findings revealed that there was a positive and significant relationship among managerial ownership, institutional ownership and earnings management, while the relationship between the block-holders’ ownership and earnings management was found to be negative and

statistically significant.

* 1. **THEORETICAL FRAMEWORK**

This is the principles, guideline and procedure used by previous authors and reviewers which formed the basis for this research. The theoretical framework, tied to this work was stated below:

# Agency Theory

One crucial assumption that has been widely examined in the literature which has received evidence is the agency theory. Agency theory is one of the theories that has been tested widely in different articles like foreign ownership and earning management by Guo Hang, Zhang, and Zhour (2015) and has gained supportive observations. Jensen and Meckling (1976) suggested the principles of agency theory. In general, the theory demonstrates manager (agent) and owner (client) conflict of interest. The conflict of imprest arises as a result of our domination of authority. They emphasize the existence existing of the contrast between managers and stockholders as one of the main hypotheses of agency theory. Agency theory suggested that external governance mechanisms (e.g., activist owners, the market for corporate control, securities analysts) can deter managers from acting opportunistically (Shi, Connelly & Hoskisson, 2017).

Specifically, the relationship between financial statement frauds and corporate governance as a whole can be analysed within the agency theory theoretical framework (Jensen & Meckling, 1976; Fama, 1980; Fama & Jensen, 1983a; Eisenhart, 1989; Demsky, 2003) and within the conflicts of interest problems arising among different actors of the firms in those realities not characterised by the separation between owners and managers (evidence of different corporate governance systems). In the two contexts, some figures can be of benefit to information asymmetry to achieve their personal aims (La Porta et al., 1999; Dennis and McConnell, 2003; Dey, 2008). It was argued that the agency problems, when

high and made worse by a weak corporate governance of the firm as well as conflicts among

the main stakeholders of a firm, ended up in fraudulent behaviour by those who could take advantage of information asymmetry and gain personal benefits from them. Thus, financial statement fraud is the result of high agency problems and high conflicts of interest not solved by the company.

# The Stewardship theory

The stewardship theory suggests that the interests of corporate executives- stewards are aligned with the interests of the organization and its shareholders, unlike the agency theory (Albrecht et al., 2004). According to Habbash (2010), theorists focus on how to empower and facilitate managers instead of how to monitor and control them, as opposed to the agency theory, and hence, they rejected the idea of shareholders having to observe managers’ performances by monitoring them or giving them incentives as a controlling device. The stewardship theory suggests that managers are trustworthy and behave in a good manner to protect the organisation’s resources that are put under their control which makes the concept of monitoring them unnecessary (Donaldson & Davis, 1994).

The Stewardship theory stresses that managers should be good stewards of the assets entrusted on them by the companies they manage instead of misappropriating funds in order to keep their fiducial duty to the shareholders of the company (Chang 1999). The theory also stresses that managers are good stewards of their firms therefore, they should work diligently to attain a high corporate profit and increase the return of the shareholders (Donaldson and Davis, 1994). They should also work closely with their principals to achieve the goal of the organisation (Davis, 1997). The theory expects management and directors to be accountable to the owners of their resources that they manage. The stewardship theory explains that companies have the responsibility of being accountable for their stewardship to the numerous stakeholders which include shareholders, debenture holders, pressure group, regulatory

authorities, government agencies, general public, among others, of the resources entrusted on

them (Jessen & Meckling, 1976; and Chang, 1999). Albrecht et al. (2004) also supported the idea that the implementation of the stewardship theory and the extreme trust by shareholder for their agents could provide higher opportunities for managers to commit fraud. Therefore, managers’ interests may not always be aligned with those of the shareholders.

# Table 2.8.1. SUMMARY OF LITERATURE REVIEW

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SN** | **Author and**  **Year** | **Country** | **Objective** | **Methodology** | **Findings** |
| 1 | Ayadi and Boujelbene (2014). | **France** | Investigated the relationship between ownership structure and earnings management. | Panel data econometrics Secondary data were used on a sample of listed French companies. | The results showed that managerial ownership had a positive impact on the earnings management. |
| 2 | Mehmet et al. (2014) | **Turkey** | Investigated the impact of corporate ownership structure on earnings management | OLS regression technique was employed using a sample of  Turkish firms registered on the Istanbul Stock Exchange (ISE) for the period  2009 to 2012. | The results showed that the relationship between managerial ownership and earnings management was positive and statistically significant. |
|  | Guo and Ma (2015) | **China** | Investigated the impact of ownership  structure on | The sample used contained 1,176  firms with 7,937  firm year | Their findings evidenced the presence of a positive  impact of managerial |

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|  |  |  | earnings management | observations reported from 2004 – 2010. The  majority of the data were obtained from the China Stock  Market. The panel regression was employed  for the data  estimation. | ownership on earnings management which was as a result of the entrenchment effect. |
| 4 | Teshima and Shuto (2008) | Japanese | Examined the relationship between managerial ownership and opportunistic managerial behaviour relating to earnings  management | Panel data econometrics Secondary data were used for a sample of  Japanese firms from the period 1991-2000. | The findings showed that there existed a significant non- monotonic relationship between managerial ownership and discretionary accruals. |

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| --- | --- | --- | --- | --- | --- |
|  | You, Tsai and Lin (2003) | **Taiwan** | Investigated the impact of corporate ownership structure on earnings  management. | OLS regression technique was employed using a sample of Turkish firms | The findings showed that managerial ownership has a negative relationship with earnings management. |
| 5 | Alves (2012) | Portuguese | Investigated the relationship between ownership structure and earnings management | A sample of 34 non-financial listed Portuguese firms for years 2002 to 2007,  was analysed with the OLS regression. | They found that discretionary accruals as a proxy for earnings management were negatively related to managerial ownership. The study’s results suggested that managerial ownership improved the quality of annual earnings by reducing the levels of  earnings management. |
| 6 | Ali et al. (2010) | **Malaysia** | Investigated the relationship  between | Secondary data were obtained  from annual | Managerial ownership was found to be an  effective monitoring |

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| --- | --- | --- | --- | --- | --- |
|  |  |  | managerial ownership and earnings management | reports of firms listed on Bursa Malaysia for the years 2002 and  2003. | mechanism, particularly in small firms. The result suggested that managerial ownership should be encouraged in small firms so that it could be the substitute for the weakness of other corporate governance  mechanisms. |
|  | Saftiana et al., (2017) | Indonesia | Investigated the impact of ownership structure on earnings management | Using a  population target of manufacturing firms listed on the Indonesian Stock Exchange (IDX) for the period 2010-  2014, the  purposive sampling was used to obtain the | The results of the research showed that managerial ownership had no significant effect on earnings management even  though all the  variables had a simultaneous significant effect on earnings management. |

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| --- | --- | --- | --- | --- | --- |
|  |  |  |  | sample required which resulted in the 21 firms examined for the study. The  variables were tested with a multiple linear regression  analysis. |  |
| 8 | Spinos (2013) | **United States** | Investigated the relationship between earnings management and managerial ownership in the U.S., and examined whether the relationship was influenced by the financial  crisis that hit | It employed the Modified Jones model on 235  U.S. firms listed in the S&P 500 index for the period (2004- 2009) as well as compared the findings of 3 years before (2004-2006) and  3 years after  (2007-2009) the | The empirical results provided evidence that during the whole research period, there was no significant relationship between managerial ownership and earnings management.  However, the findings suggested that the latter relationship was indeed influenced by  the effects of the |

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| --- | --- | --- | --- | --- | --- |
|  |  |  | the U. S. in 2006. | economic recession. | financial crisis. |
|  | Ajay and Madhumathi (2  016) | **India** | To empirically examine the  impact of institutional equity ownership on the earnings management practices in India. | OLS regression analysis was used and secondary  data was  obtained from audited financial statements. | The results showed that Institutional ownership had a negative relationship with earnings management for larger and matured firms. Also, institutional investors monitored the firms and hence, reduced aggressive earnings management practices within the  firm. |
| 10 | Latif, Latif and  Abdullah (2017) | **Pakistan** | Investigated the  impact of institutional | The data of 200  non-financial listed firms from | The results showed  that institutional equity ownership was |

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| --- | --- | --- | --- | --- | --- |
|  |  |  | equity ownership on earnings management | 2002 to 2014  were collected for the study | positively associated with earnings quality, and by implication, it meant a negative relationship between institutional shareholdings and  earnings management. |
| 11 | Koh (2003) | Australia | Investigated the relationship between firms' aggressive earnings management strategies and institutional equity. | The study adopted a sample of listed  companies in Nigeria.  Regression analysis was used for the data analysis method. | The results showed that there was a negative relationship at the higher  proportion of institutional ownership indicating that institutional investors' monitoring was one of the factors limiting managerial accruals discretion. |

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| 12 | Yang, Chun and Ramadili (2009) | Malaysia | Investigated the relationship and examined the role of outside directors and institutional shareholders in constraining the earnings management activities between ownership structure and earnings  management | Panel data econometrics Secondary data were used on a sample of listed French companies. | The results showed that managerial ownership had a positive impact on earnings management. |
| 13 | Enofe et al. (2017) | Nigeria | Examined the impact of foreign directorship and other factors on earnings  management. | The study employed quantitative and a cross sectional survey data of non-financial institutions  quoted on the | The study found that foreign board  members were negatively related to earnings management. It recommended that in a firm where  foreigners had shares |

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|  |  |  |  | Nigerian Stock Exchange as at 2014. The data were analysed using descriptive statistics, correlation and multiple Least  Square (MLS)  regression. | a certain proportion of them should be appointed into the board so as to give room for cross ideology that could encourage or discourage earnings management  practices. |
| 14 | Ahmed and Iwasaki (2015) | **Japan** | Investigated the relationship between foreign equity ownership and earnings management. | Had a sample of over 12,600 Japanese firms in the period 2000-  2014. The data were analysed  using ordinary  least squares regression | Findings showed that foreign ownership had a significantly positive association with the appointment of independent directors. It also had a negative significant relationship with both accrual and real  earnings management. |

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| --- | --- | --- | --- | --- | --- |
| 15 | Ryu and Ji (2015) | **South Korea** | Investigated the role that  foreign equity investors played in restraining earnings management activities of firms. | The sample was drawn from all manufacturing companies listed on the Korean Stock Exchange (KSE) during the four-year period, from 2008 to  2011. | The study found that corporate earnings management was less prevalent when long- term foreign investors were among shareholders, showing that if investment horizons of foreign investors were short, the equity ratio of foreign investors  would not be influenced to facilitate the mitigation of managers’ use of  earnings management |
| 16 | Chen, Firth, Gao and Rui (2006) | **China** | To examine whether ownership structure and boardroom characteristics  had an effect on | OLS regression technique was employed using a sample of Chinese firms | The results from univariate analyses, where they compared fraud and no-fraud firms, showed that ownership structure  were important in |

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| --- | --- | --- | --- | --- | --- |
|  |  |  | corporate  financial fraud in China. |  | explaining fraud. |
| 17 | Hsu and Wen (2015) | **China** | Investigated the relationship between ownership structure and earnings management | The data covered Chinese Stock Exchange Securities Market from 2002 to  2012. The panel regression model was utilized. | The empirical results showed that  institutions with high shareholding concentration gave managers incentives to manipulate discretionary accruals for short-term  profitability |

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**CHAPTER THREE METHODOLOGY**

# Introduction

This section deals with the methodology employed by the researcher in conducting the research work. The chapter covers the research design, the population and sample, sampling technique, sources of data, method of data analysis and model specification.

# Research Design

The methodology adopted for the study stemmed from the philosophical assumption about the nature of social science and the view of human nature (Burrell & Morgan, 1992; Gill & Johnson, 2010). Accordingly, the study employed an (a) objectivist perspective of reality, (b) positivity, (c) a deterministic view of human nature and (d) a scientific methodology. Based on a researcher’s ontological stance which is the understanding of reality, an entity is viewed as real constructs derived from existing theories and empirical relationships which are independent of human interaction or are socially constructed. The study gained its knowledge about reality which relates to its understanding as that which evolves thorough models, scientific observations and research techniques from natural sciences. It assumes that society or social phenomena evolved in same way as nature, irrespective of its actors, i.e., human participants (Burrell & Morgan, 1992). The human nature of social science explains the relationship between human beings and their environment; whether individuals are controlled by societal rules or are free to do anything they want in society.

According to Burrell and Morgan (1992), the combination of the philosophical assumptions about the nature of social science and the society along the objective – subjective continuum yields four paradigms which underpin a study. These paradigms are the

interpretative, functionalist, radical humanist and radical structuralist. Based on the

philosophical assumptions of social science and society, the study adopted a functionalist paradigm of objectivity as it involves scientific and quantitative methods of conducting research. The study drew from existing theories, models and methods used in formulating the research hypotheses. The hypotheses formulated are subjected to testing and confirmation which further led to the development of a theory for further testing.

The study employed a longitudinal research design. A longitudinal design involves repeated observations of the same variables over long periods of time unlike the cross- sectional design which examines variables at a point in time. As a result, they can establish sequences of events. The choice of the design was because the nature of the variables, especially the data for the study involved repeated observations of the same variables over periods. Hence, the design was suitable for this study.

# 3.3. Population and Sample

The population of the study comprised all listed manufacturing companies on the Nigerian stock exchange. As at December 2019, there were 64 manufacturing firms listed on the floor of the Nigerian Stock Exchange (NSE, Fact Book, 2019) they also formed the population for the study. The uniqueness of the study was that it adopted the population as the sample in order to produce robust estimates from a true representation of the population parameters. Therefore, the study adopted a sample size of 64 manufacturing firms.

# Sources of Data

Secondary data were used for this study. The data were retrieved from corporate annual reports of the sampled quoted companies on the Nigerian Stock Exchange for the period 2009-2019 annual financial statement. The researcher utilised only corporate annual reports because they were readily available, accessible and also provided a greater potential for comparability of results.

# Method of Data Analysis

The effect of ownership equity structure on earnings management was analysed using panel regression. The study utilised panel data regression as the technique for estimating the econometric models specified in this chapter. The panel data regression was chosen because of the multidimensional nature of the data which had either time or periodic and cross- sectional dimensions as a result of variations on data collection. Unlike pooled regressions, panel data regression has enormous benefits and hence, its choice in this study. Firstly, panel data can take an explicit account of individual-specific heterogeneity, Secondly, by combining data in two dimensions; panel data gives more data variations, less collinearity and more degrees of freedom. Thirdly, it is better in detecting and measuring the effects which cannot be observed in either cross-section or time-series data. And finally, it can minimise the effects of aggregation bias from aggregating firms into broad groups.

The panel regression has both the fixed effects (FE) and the random effects (RE) estimation options. The major difference between them is the assumption made regarding the behaviour of the error terms. The fixed effect model allows for a correlation between the unobserved effect and the independent variable. On the other hand, the random effect does not allow for any correlation (Hausman, 1978). To determine the preferred estimation technique between the FE and RE, the hausman specification test was employed because of its effect on ownership structure and earnings management. The Hausman test is used to select between the fixed effect and random effect estimator in a panel data analysis (Hausman, 1978; Wooldridge, 2000).The pooled OLS random effects (RE) and fixed effects (FE) were estimated. To determine which model was better, an F-test for the FE model, the Breusch-Pagan Lagrange Multiplier (LM) test for RE and the Hausman test for both fixed and random models were conducted. Based on the results of those tests, the suitable model

for this research was chosen.

# Diagnostic Tests

The following regression diagnostic tests were also conducted in the course of the study.

# Normality

The normality test was used to establish the behaviour of the regression variable. It helped us to determine if the regression variables followed the standard normal distribution. The Jarque-Bera test statistic was used to test the normality of the dependent variables. If the residuals were distributed normally, the statistical histogram would assume a bell-shape structure. In [statistics,](https://en.wikipedia.org/wiki/Statistics) the Jarque-cBera test is a [goodness-of-fit](https://en.wikipedia.org/wiki/Goodness-of-fit) test of whether sample data have the [skewness](https://en.wikipedia.org/wiki/Skewness) and [kurtosis](https://en.wikipedia.org/wiki/Kurtosis) matching a [normal distribution](https://en.wikipedia.org/wiki/Normal_distribution). The [test statistic](https://en.wikipedia.org/wiki/Test_statistic) *JB* is defined as

     \mathit{JB} = \frac{n-k+1}{6} \left( S^2 + \frac14 (C-3)^2 \right)   

where *n* is the number of observations (or degrees of freedom in general); *S* is the sample [skewness,](https://en.wikipedia.org/wiki/Skewness) *C* is the sample [kurtosis,](https://en.wikipedia.org/wiki/Kurtosis) and k is the number of regressors

# Testing for Multicollinearity

Multicollinearity is a situation in which an exact or almost an exact linear relationship exists between some or all the explanatory variables, that is, that they are perfectly correlated (Iyoha, 2004). If this relationship exists, the parameter co-efficient will be indeterminate and there will be large standard errors of the estimated coefficients. Various statistical methods such as using the magnitude of tolerance value and checking the significance of the t-ratio and f-statistic were put forward to test the degree of multicollinearity. However, the study used a covariance matrix to test for it.

# Serial Correlation Test

Autocorrelation, also called serial correlation, refers to a situation where the statistic error term correlates with itself overtime. Thus, autocorrelation is present if: Ut = f(Ut-1). Where Ut = stochastic error term at time t. Thus, autocorrelation occurs when there is some degree of stochastic dependence between successive values of the disturbance term. In testing for autocorrelation, the conventional method is to use the Durbin Watson statistic. This is a test of a first-order serial correlation. It uses the statistic d, which is the weighted ratio of the sum of squared differences in successive residuals.

If *et* is the [residual](https://en.wikipedia.org/wiki/Errors_and_residuals_in_statistics) associated with the observation at time *t*, then the [test statistic](https://en.wikipedia.org/wiki/Test_statistic) is

d = {\sum_{t=2}^T (e_t - e_{t-1})^2 \over {\sum_{t=1}^T e_t^2}},

where *T* is the number of observations. *et* is the [residual](https://en.wikipedia.org/wiki/Errors_and_residuals_in_statistics) associated with the observation at time *t*. The value of *d* always lies between 0 and 4. If the Durbin–Watson statistic is substantially less than 2, there is evidence of a positive serial correlation. To test for a **positive autocorrelation** at significance *α*, the test statistic *d* is compared to lower and upper critical values (*dL,α* and *dU,α*):

If *d* < *dL,α*, there is statistical evidence that the error terms are positively autocorrelated.

If *d* > *dU,α*, there is **no** statistical evidence that the error terms are positively autocorrelated. If *dL,α* < *d* < *dU,α*, the test is inconclusive.

The Breusch-Godfrey Lagrange Multiplier test of a serial correlation was adopted in this study. The LM test is generally used to test the null hypothesis that the errors are serially independent against the alternative hypothesis.

# Cumulative sum of squares test

The CUSUM of squares test as given by Brown, Durbin and Evans (1975) is based on the test statistic:

S𝑡 =

𝑡

𝑟=𝑘+1

∑

2

𝑟⁄ 𝑇 2

𝑤

∑𝑟=𝑘+1 𝑤𝑟

The expected value of under the hypothesis of parameter constancy is:

*E(St) = (t-k)/(T-k)*

which goes from zero at t = k to unity at t = T. The significance of the departure of *S* from its expected value is assessed by a reference to a pair of parallel straight lines around the expected value. The CUSUM of squares test provides a plot of *St* against *t* and the pair of 5% critical lines. Any movement outside the critical lines is suggestive of parameter or variance instability. The cumulative sum of squares is generally within the 5% significance lines, suggesting that the residual variance is somewhat stable.

# Model Specification

The study focused on examining the impact of corporate ownership structure on earnings management in listed firms in Nigeria. In line with the objectives of the study, the examined models were presented both in their functional forms and in the econometric specifications. The models were adopted from the studies of earning management variables and ownership structure carried out by Meynhardt and Gomez (2019) and Panda, D’Souza and Blankson, (2019).

# Panel Estimation Model

The fundamental advantage of a panel data set over a cross section is that it will allow the researcher great flexibility in modelling differences in behaviour across individuals. The basic framework for this discussion was a regression model of the form:

There are *K* regressors in x*it*, not including a constant term*.* The heterogeneity or individual effect is zi*α* where z*i* contains a constant term and a set of individual or group specific variables which may be observed.

If z*i* is unobserved but correlated with xit, then the least squares estimator of β is biased and inconsistent as a consequence of an omitted variable. However, in this instance, the model is given as;



Where *αi* =z*i α*, embodies all the observable effects and specifies an estimable conditional mean. This fixed effects approach takes *αi* to be a group-specific constant term in the

regression model. It should be noted that the term “fixed” as used here signifies the correlation of *ci* and x*it*, not that *ci* is nonstochastic.

If the unobserved individual heterogeneity, however formulated, can be assumed to be uncorrelated with the included variables, then the model may be formulated as

That is, as a linear regression model with a compound disturbance that may be consistently, albeit inefficiently, estimated by least squares. This random effects approach specifies that *ui* is a group-specific random element, similar to *εit* except that for each group, there is but a single draw that enters the regression identically in each period.

The model specification of this study was adopted from the Modified Jones Model by Dechow, Sloan and Sweeney (1996) used to calculate the discretionary accruals (DAC) which is a proxy for earnings management. It was specified as follows:

*TAci*,*t*

     Re*v*  *A*Re*ci*,*t*   

 *PPEi*,*t*  

*TA* 0 1  *TA TA*

 2  *TA*

 *it* (1)

*si*,*t*1

 *si*,*t*1

*si*,*t*1  

*si*,*t*1 

Where,

*TAci*,*t* =Total Accruals, calculated as firm i’s income before extraordinary items and

discontinued operations, minus cash flows from continuing operations plus extraordinary items and discontinued operations in year t;

*TAsi* ,*t* 1 =Total Assets for firm i in year t - 1;

 Re *v* =Change in net revenue for firm i from year t - 1 to t;

*A* Re *ci*,*t* = Change in accounts receivable for firm i from year t - 1 to t;

*PPEi*,*t* = Gross property plant and equipment

Several studies noted that earnings management was affected by the design of foreign equity ownership contracts (Harris & Bromiely, 2007; O’Connor, Priem, Coombs & Gilley, 2006; Zhang, Barton, Pfarrer, & Khanin, 2008) and that foreign ownership provided an incentive to deter earnings management. Hence the functional model below *ERMGT=ƒ(FOWN) (i)*

These studies (Ding, Zhang, & Zhang, 2007) pointed out institutional investors who played a significant role as external monitors of corporate activities (Ahmad & Jusoh, 2014). As large investors with significant economic stakes, institutional investors have more incentives to monitor managers than do small investors (Spinos, 2013). The high level of institutional equity ownership will lead to greater oversight efforts by the institutional investors that can deter the opportunistic behaviour of managers. Previous studies suggested that a high level of institutional ownership could play a crucial role in deterring earnings management (Alves, 2011). The model was specified below;

*ERMGT=ƒ(IOWN) (ii)*

In the case of managerial equity ownership, there are diverting perspectives. In the framework by Jensen and Meckling (1976), management ownership can lower agency costs by aligning the interest of a firm’s management with its shareholders’. Most literature showed that a firm’s ownership structure was an important factor that limits earnings management. On the contrary, Morck, Shleifer and Vishny (2008) argued that greater ownership would provide managers with deeper entrenchment and, therefore, a greater scope for opportunistic behaviour. Hence, the functional model below;

*ERMGT=ƒ(MOWN) (iii)*

Some studies argued that concentrated equity ownership could be bad for the governance of the firm since it gave the largest shareholders too much discretionary powers of using firm resources in ways that served their own interest at the expense of other shareholders. That is, too much concentrated ownership (the largest shareholders) may accentuate the earnings management (Long et al., 2011). Concentrated ownership is always regarded as poor corporate governance since it gives the largest shareholders more discretionary powers to use firm’s resources to serve their benefits (Classens, Djankov and Lang, 2000). The functional model is stated below:

*ERMGT=ƒ (COWN) (iii)*

Combining equations i,ii and iii,

*ERMGT=ƒ (FOWN, IOWN, MOWN, COWN)* *(iv)*

Specifying the econometric form and including control variables of leverage and firms size we had;

*ERMGTit = λ0 + λ1* FOWNit *+ λ2* IOWNit *+ λ3* MOWNit + *λ4* COWNit + *λ5* LEVit + *λ6* FSIZEit u*it* (v)

*Where;*

ERMGT *it=* Earnings Management MOWN= Managerial Ownership IOWN= Institutional Ownership FOWN= Foreign ownership COWN= Concentrated ownership

LEV= Leverage FSIZE= Firm size i =ith firm

t = time period

ɛt = Stochastic term.

**Table 3.1: Variable Measurement and Source of information**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | Definition | | Measurement | | | Source | Apror  i sign |
| ERMGT | Earnings Management | | Modified Jones Discretionary | | | Kothari |  |
|  |  | | Accruals Model | | | (2001), |
|  |  | | TACCit = a (1/ASSETSit -1) + a1 (Δ | | | Dechow et al. |
|  |  | | REVit – ΔRECit) + a2PPEit +Eit | | | (2010) |
|  |  | | Where TACCit = total accruals in | | |  |
|  |  | | year t for firm I | | |  |
|  |  | | Δ REVit = revenues in year t less | | |  |
|  |  | | revenues in year t -1 for firm i | | |  |
|  |  | | ΔRECit = receivables in year t less | | |  |
|  |  | | receivables in year t -1 for firm i | | |  |
|  |  | | PPEit = gross property, plant and | | |  |
|  |  | | equipment in year t for firm I | | |  |
|  |  | | Eit = error term (residuals) in year t | | |  |
|  |  | | for firm i | | |  |
| MOWN | Managerial Ownership | equity | Proportion of managerial ownership | | | Kao and Chen (2004). | **+** |
| FOWN | Foreign ownership | equity | Proportion of foreign ownership | | | Karamanou,  &Vafeas (2005). | **-** |
| COWN | Concentrated ownership | equity | Proportion ownership | of | concentrated | Kao and Chen (2004). | **-** |
| IOWN | Institutional  ownership | equity | Proportion of institutional ownership | | | Samaila  (2014). |  |
| FSIZE | Firm size | | Log of total assets | | |  |  |
| LEV | Leverage | | Debt-equity ratio | | |  |  |

**CHAPTER FOUR PRESENTATION AND ANALYSIS OF RESULT**

* 1. **INTRODUCTION**

This chapter presents the results from the analysis of the data and also goes further to present and interpret the results. The chapter is integral in analysing the provided answers to the research questions and which forms the basis for the testing of the hypothesis. Several statistical and econometric tools were employed in the generation of the empirical results discussed in this chapter and the justification for the tools employed was provided in the previous chapter. The preliminary analysis results covering descriptive and correlation statistics is first presented and then the regression results are also presented and discussed. Finally, the hypothesis testing and implications of results are presented.

* 1. **PRESENTATION OF RESULTS**

# : Descriptive Statistics

This section presents the descriptive statistics results for both the measurement of financial performance used in this study which is the dependent and the independent variables as analysed below;

Table 1: Descriptive Statistics

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | ACCRUAL | MOWN | FOWN | IOWN | COWN | LEV | FSIZE |
| Mean | -0.069068 | 0.1458 | 0.524 | 0.487 | 0.543 | 0.609 | 7.0429 |
| Median | -0.065000 | 0.0354 | 1.0000 | 0.540 | 1.000 | 0.600 | 7.000 |
| Maximum | 0.986000 | 0.844 | 1.00 | 1.000 | 1.00 | 2.030 | 9.000 |
| Minimum | -4.125000 | 0.000 | 0.000 | 0.000 | 0.00 | 0.120 | 5.0900 |
| Std. Dev. | 0.222615 | 0.2023 | 0.4997 | 0.2606 | 0.4984 | 0.2304 | 0.7521 |
| Jarque-B | 730041.0 | 260.10 | 120.50 | 41.332 | 120.528 | 802.120 | 8.2477 |
| Prob | 0.000 | 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0161 |
| Obs | 693 | 693 | 693 | 693 | 693 | 693 | 693 |

*Source: Researcher’s Compilation (2020)*

The descriptive statistics was presented in Table 4.1, and as observed, accrual had a mean value of -0.0691 with a standard deviation of 0.222. The maximum and minimum

values stood at 0.986 and -4.125 respectively. The average MOWN stood at 14.58% with a standard deviation of 0.2023.The maximum and minimum values stood at 84.4% and 0.00 respectively. The average FOWN stood at 0.524 which suggested that about 52.4% of the listed manufacturing firms in Nigeria had foreign ownership presence with a standard deviation of 0.4997. The average I0WN stood at 48.7% which suggested a moderate level of institutional ownership presence in the listed manufacturing firms in Nigeria with a standard deviation of 0.2606. The average COWN stood at 0.543 which suggested that about 54.3% of listed manufacturing firms in Nigeria had concentrated ownership presence with a standard deviation of 0.4989. The descriptive statistics for the control variables revealed that LEV had a mean of 0.609 and standard deviation of 0.2304. The maximum and minimum values stood at 2.030 and 0.120 respectively. The mean for FSIZE stood at 7.0429 with a standard deviation of 0.2304. While the maximum and minimum values stood at 9.00 and 5.090 respectively

# : Pearson Correlation Statistics

The correlation results provided some preliminary insight into the nature and direction of the relationship between the dependent and independent variables. although the correlation coefficient does not in itself imply functional dependence between the variables, nevertheless, it is a good starting point to examine the degree and direction of the relationship between the variables. The results are presented and discussed below:

Table 4.2: Correlation Statistics

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Probability | DISACC | MOWN | FOWN | IOWN | COWN | LEV | FSIZE |
| ACCRUAL | 1 |  |  |  |  |  |  |
| MOWN | -0.0046 | 1 |  |  |  |  |  |
| (Prob) | 0.9026 |  |  |  |  |  |  |
| FOWN | -0.0068 | -0.3988 | 1 |  |  |  |  |
| (Prob) | 0.8546 | 0.0000 |  |  |  |  |  |
| IOWN | 0.0768 | -0.2221 | 0.3286 | 1 |  |  |  |
| (Prob) | 0.0388 | 0.0000 | 0.0000 |  |  |  |  |
| COWN | -0.1947 | -0.07707 | 0.0944 | 0.0393 | 1 |  |  |
| (Prob) | 0.0000 | 0.0383 | 0.0111 | 0.2911 |  |  |  |
| LEV | -0.16849 | 0.0238 | - 0.0071 | 0.1137 | -0.1388 | 1 |  |
| (Prob) | 0.0000 | 0.5225 | 0.8478 | 0.0022 | 0.0002 |  |  |
| FSIZE | -0.0193 | -0.18206 | 0.1987  9 | 0.2276 | 0.0497 | 0.0952 | 1 |
| (Prob) | 0.6042 | 0.0000 | 0.0000 | 0.0000 | 0.1816 | 0.0104 |  |

*Source: Researcher’s Compilation (2020)*

As observed, DISACC was negatively correlated with MOWN (r=-0.0046, p=0.9026) which suggested that increases in managerial ownership were associated with lower discretionary accruals although not significant at 5%. There was also a negative correlation between DISACC and FOWN (r=-0.0068, p=0.8546) which suggested that increases in foreign ownership were associated with lower discretionary accruals and hence, lower earnings management although not significant at 5%. DISACC was also negatively correlated with COWN (r=-0.1947, p=0.000) which suggested that increases in concentrated ownership was associated with lower discretionary accruals and hence, lower earnings management which was significant at 5%. However, in the case of FOWN, a positive correlation was observed with DISACC (r=0.0768, p=0.8546) which suggest that increases in foreign ownership is associated with higher discretionary accruals although not significant at 5%. Looking at the control variables, DISACC was negatively correlated with FSIZE (r=-0.0193,

p=0.6042) although not significant at 5% and then also negatively correlated with LEV (r=- 0.1685, p=0.00) and significant at 5%.

# Multicollinearity Analysis

Multicollinearity among the independent variables implies that they are perfectly correlated. If there exists a perfect correlation between the independent variables, the parameter coefficients will be indeterminate. It is worth noting that earning variables used in the hypothesis testing are influenced the ownership structure and the variables then show the same broad patterns of behaviour over time. In the presence of multicollinearity, there will be large standard errors of the estimated coefficients. In this study, the variance inflation factor test was conducted to test for multicollinearity. The result is presented below:

Table 4.3 Variance Inflation Factor Test

|  |  |
| --- | --- |
| Variable | Centred VIF |
| MOWN | 1.2935 |
| FOWN | 1.1448 |
| IOWN | 1.2416 |
| COWN | 1.4975 |
| LEV | 1.1969 |
| FSIZE | 1.0489 |

Source: Researcher’s compilation (2020)

Before proceeding to conduct the regression, the test for multicollinearity between the variables was conducted using the variance inflation factor (VIF). Basically, the VIF explains how much of the variance of a coefficient estimate of a regressor has been inflated as a result of collinearity with the other regressors. Essentially, VIFs above 10 are seen as a cause of concern. As observed, none of the variables had VIF’s values more than 10 and hence none gave a serious indication of multicollinearity.

# Panel Co-integration Results

In this study, the hypothesis of cointegration between all variables was tested using Kao cointegration tests. The results of the test indicated that the null hypothesis of no- cointegration was rejected at 5% and 1% significance levels. The empirical results supported the hypothesis of cointegration among all variables. Our co-integration results confirmed that a long run relationship existed between the dependent and independent variables and thus we could proceed to specify the estimated relationship.

Table 4.4: Kao Panel Cointegration Test

|  |  |
| --- | --- |
| Within dimension | Weighted  Statistic |
| Augmented Dickey Fuller | -2.0564 |
| P-stat | 0.0199 |
| Residual Variance | 0.0138 |
| HAC Variance | 0.0082 |

Source: Researcher’s compilation (2020) \* sig @5%

# Panel Regressions

The focus of the study was to examined the impact of equity ownership on earnings management in listed manufacturing firms in Nigeria. The study utilised the Panel regression analysis using Generalized Least Squares (GLS) technique. The reason for the panel regression used in the model testing is that it has the additional advantage that allows for the examination for variations among cross-sectional units simultaneously with variations within individual units over time. Thus, omitting relevant unobservable factors would misspecify the model from the econometric standpoint and would inevitably produce biased (or inconsistent) results. The results are presented below:

Table 4.5. Regression Result

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Aprori sign | FE-estimates Coefficient  ( ) standard error  { } p-values | RE-estimates Coefficient  ( ) standard error  { } p-values |
| C |  | 0.0469\* | 0.0395 |
|  | (0.0227) | (0.033) |
|  | {0.0395} | {0.2358} |
| MOWN |  | -0.0617\* | 0.0183 |
|  | + | (0.0142) | (0.0620) |
|  |  | {0.000} | {0.7670} |
| FOWN |  | -0.0298\* | 0.0082 |
|  | + | (0.0146) | (0.0352) |
|  |  | {0.0408} | {0.8156} |
| IOWN |  | 0.0415\* | 0.1338\*\* |
|  | + | (0.0112) | (0.0764) |
|  |  | {0.000} | {0.0803} |
| COWN |  | -0.0751\* | -0.1013\* |
|  | + | (0.0079) | (0.0162) |
|  |  | {0.000} | {0.0000} |
| LEV |  | -0.1552\* | -0.1945\* |
|  | + | (0.0176) | (0.0154) |
|  |  | {0.000} | {0.0000} |
| FSIZE |  | 0.0040\*\* | -0.0009 |
|  | (0.0022) | (0.0088) |
|  | {0.0711} | {0.9097} |
|  |  | | |

Model Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| R2 |  | 0.641 | 0.085 |
| Adjusted R2 |  | 0.533 | 0.076 |
| F-statistic |  | 28.982 | 11.032 |
| Prob(F-stat) |  | 0.000 | 0.000 |
| Durbin-Watson |  | 1.93 | 1.46 |
|  | | Model Diagnostics | |

|  |  |  |
| --- | --- | --- |
| χ2Hetero χ2Serial/Corr χ2Norm χ2Hausman |  | (0.284)  (0.381)  (0.670)  (0.00) |

Source: Researcher’s compilation (2020) \* sig @5%, \*\* sig @ 10%

Table 4.5 examined the estimation results for the impact of equity ownership on earnings management in listed manufacturing firms in Nigeria. The white adjusted standard errors were employed to control for potential heteroskedasticity in the estimation and hence, the estimation results were free from heteroskedasticity while the Cochrane Orcutt autoregressive (AR) procedure was employed to correct for serial correlations where they were detected. The Hausman test statistic with p-value = 0.000, indicated that the FE was the preferred model to the random effects indicating the presence of correlations between the errors and the explanatory variables which were the key assumption of the fixed effects (Hausman, 1998). The R2 for the model stood at 0.641 which implied that the model explained 64.1% of systematic variations in the dependent variable with an adjusted value of 53.3%. The F-stat of 28.982 (p-value = 0.00) was significant at 5% and suggested that the hypothesis of a significant linear relationship between the dependent and independent variables could not be rejected. It was also indicative of the joint statistical significance of the model. The analysis of coefficients reveals that managerial equity ownership (MOWN) had the negative effect (-0.0617) on earnings management which was statistically significant at 5% (p=0.000). The result thus confirmed that an increase in managerial equity ownership resulted in a decline in earnings management. The effect of foreign ownership (FOWN) was negative (-0.0298) which was in line with the aprori sign and was statistically significant at 5% (p=0.0408). The result indicated that foreign ownership presence could be effective in

constraining opportunistic practices of managers in the form of earnings management. Institutional equity ownership (IOWN) had a positive effect (0.0415) on earnings management and also statistically significant (p=0.000) at 5%. The direction of the effects tended to be at variance with the expectations regarding the role of institutional monitoring resulting from ownership interest in ensuring financial transparency. Nevertheless, some scholars of the heteroskedasticaly school of thought pointed out that a possible reason for the nature of the relationship observed here was not unlikely to have institutional investors who were not adequately involved in monitoring and delegating a lot of powers to management as long as their investment interests were protected. Concentrated ownership (COWN) had the expected negative effect (-0.0751) on earnings management and was statistically significant (p=0.000) at 5%. Looking at the control variables, only LEV was significant at 5%. Examining closely the performance of the diagnostic tests, the results confirmed normality of the residuals (χ2Norm = 0.670), the absence of stochastic dependence (χ2Serial/Corr = 0.381) and heteroscedastic errors (χ2Hetero = 0.284)

# Testing for Monotonicity

To determine the robustness of the results, we tested for the non-monotonic influence of equity ownership on earnings management. Teshima and Shuto (2008) provided theoretical and empirical evidence in support of the non-monotonic influence of equity ownership on discretionary accruals. They showed that, for example, at lower and higher levels of managerial ownership, the alignment of interest between managers and shareholders was more pronounced, resulting in a lower scope of earnings management. At an intermediate level of managerial ownership, the entrenchment effect was more dominant which resulted in greater earnings management. Therefore, if the study were consistent with Teshima and Shuto’s (2008), we introduced quadratic and cubic terms of the ownership

structure variables in the estimation model.

Table 4.6. Non-Monotonicity Regression Result

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Aprori sign | FE-estimates Coefficient  ( ) standard error  { } p-values | RE-estimates Coefficient  ( ) standard error  { } p-values |
| C |  | -0.4986 | -0.0639\* |
|  | (0.2183) | (0.1054) |
|  | {0.000} | {0.5444} |
| MOWN |  | 0.9983 | 0.4722 |
|  | - | (0.4312) | (0.3273) |
|  |  | {0.0210} | {0.1495} |
| *MOWN2* |  | -3.4559 | -1.4717 |
|  | - | (1.5134) | (1.1576) |
|  |  | {0.0228} | {0.2040} |
| *MOWN3* |  | 2.8386 | 1.1419 |
|  | - | (1.3415) | (1.0499) |
|  |  | {0.0348} | {0.2771} |
| FOWN |  | 0.1005\* | 0.0033 |
|  | - | (0.0352) | (0.0221) |
|  |  | {0.0045} | {0.8813} |
| COWN |  | -0.0948 | -0.1056\* |
|  | - | (0.0192) | (0.0163) |
|  |  | {0.000} | {0.000} |
| IOWN |  | 1.0014\* | 0.6880 |
|  | - | (0.4103) | (0.2875) |
|  |  | {0.0150} | {0.0170} |
| *IOWN2* |  | -1.3914 | -1.0076 |
|  | + | (1.0581) | (0.7319) |
|  |  | {0.1890} | {0.1691} |
| *IOWN3* |  | 0.7913 | 0.4936 |
|  | + | (0.7653) | (0.5221) |
|  |  | {0.3016} | {0.3448} |
| LEV |  | -0.1940\* | -0.2072 |
|  | + | (0.0519) | (0.0387) |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | {0.000} | {0.000} |
| FSIZE |  | 0.0413 | 0.0045 |
|  | - | (0.0295) | (0.0140) |
|  |  | {0.1611} | {0.7463} |
| AR(1) |  | -0.01546\* |  |
|  | (0.0577) |
|  | {0.7892} |
|  |  | |  |

Model Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| R2 |  | 0.57 | 0.095 |
| Adjusted R2 |  | 0.46 | 0.083 |
| F-statistic |  | 2.575 | 7.5026 |
| Prob(F-stat) |  | 0.000 | 0.000 |
| Durbin-Watson |  | 1.7 | 1.5 |

Model Diagnostics

|  |  |  |
| --- | --- | --- |
| χ2Hetero χ2Serial/Corr χ2Norm  χ2Hausman |  | (0.3927)  (0.862)  (0.461)  (0.00) |

Source: Researcher’s compilation (2020).

The R2 for the fixed effects estimation model based on the hausman test (p=0.000) stood at 57% with an adjusted R2 value of 46%. The F-stat of 2.475 (p= 0.00) were significant at 5% and suggested that the hypothesis of a significant linear relationship between the dependent and independent variables could not be rejected. Looking at the estimated slope coefficients, the results revealed that managerial equity ownership (MOWN) had the expected negative effect (-0.9983) on earnings management and was statistically significant at 5% (p=0.0210). The result indicated that given the existing level of managerial ownership, earnings management was reduced. Moving to estimates of increased managerial equity ownership (*MOWN2*), the coefficient maintained its negative sign and was even

stronger at -3.4559 and also significant at 5% (p=0.0228) it implied that at relatively high levels of managerial ownership, the tendency for earnings management practices was reduced. But interestingly also, we discovered that as managerial ownership rose higher (MOWN3), the slope coefficient changes from being negative to positive (2.8386), and still maintained its statistical significance at 5% (p=0.0348). Therefore, the study confirmed the presence of non-monotonicity and a complicated and curvilinear pattern in the behaviour of managerial ownership in relation to an increase in its percentage share, and how that affected earnings management. Although the study provided evidence to support the convergence effect which predicted that managers with higher ownership had stronger incentives to act in line with shareholders’ interests (Gegenfurtner, Ampenberger & Kaserer, 2009) therefore, as managerial ownership increased, the opportunistic managerial behaviour decreased monotonically. The MOWN3 coefficient showed that increasing MOWN beyond a certain level played out differently. Thus as managerial ownership increased, earnings management could increase (see Yeo et al., 2007). Warfield et al. (1995) indicated that the positive relationship was expected if either accounting-based constraints mitigated managers' accounting choices or higher ownership resulted from difficulties in accounting numbers measuring performance as reflected in increased accruals variability.

Hence, moving from MOWN2 to MOWN3, the convergence effect was seen to give way to the entrenchment effect hypothesis (Morck, Shleifer & Vishny, 1988) which argued that managers with larger ownership had greater control over firms, and therefore, possessed more freedom to act in their own private interests, often to the detriment of shareholders, that is engaging in opportunistic behaviour to serve their own interests. A similar pattern was observed for IOWN, where moving from IOWN to IOWN2 showed a change in slope coefficient from 1.0014(p=0.0150) to -1.3914 (p=0.1890) and then to 0.7913(0.3016), also

confirming the presence of non-monotonicity.The effect of foreign ownership (FOWN) was

positive (0.1005) and was statistically significant at 5% (p=0.0045). The result indicated that foreign ownership presence could be effective in constraining opportunistic practices of managers in the form of earnings management. Concentrated ownership (COWN) had negative effect (-0.0948) on earnings management and was statistically significant (p=0.000) at 5%. Looking at the control variables, only LEV was significant at 5%. Examining closely the performance of the diagnostic tests, the results confirmed the normality of the residuals (χ2Norm = 0.461) and the absence of stochastic dependence (χ2Serial/Corr = 0.862) and heteroscedastic errors (χ2Hetero = 0.3972)

* + 1. **Robust estimation for Outliers**

The classical OLS regression and even the panel regression face several estimation challenges that result in a case where the estimates are biased in assuming the possibility of outliers in the data. As pointed out by Hisham and Ehab (2017), in linear models, OLS and then the GLS in the case of panel estimators of parameters had always turned out to be the best linear unbiased estimators. However, if the data as contained in the outliers, this may affect the regression estimates. So, an alternative approach, robust regression methods is needed to obtain a better fit of the model or more precise estimates of parameters.

Table 4.7. Robust estimation Result

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Aprori sign | MM-estimates Coefficient  ( ) standard error  { } p-values | S-estimates Coefficient  ( ) standard error  { } p-values |
| C |  | 0.08184\* | 0.0832\*\* |
|  | (0.0379) | (0.0479) |
|  | {0.0308} | {0.0823} |
| MOWN |  | -0.0814\* | -0.0655\* |
|  | + | (0.0208) | (0.0263) |
|  |  | {0.0001} | {0.0129} |
| FOWN |  | -0.0243\* | -0.0335\* |
|  | + | (0.0087) | (0.0110) |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | {0.0053} | {0.0024} |
| COWN |  | -0.0705\* | -0.0607\* |
|  | + | (0.0078) | (0.0098) |
|  |  | {0.000} | {0.000} |
| IOWN |  | 0.0156 | 0.0459\* |
|  | + | (0.0159) | (0.0201) |
|  |  | {0.3258} | {0.0225} |
| LEV |  | -0.1577\* | -0.1681\* |
|  | + | (0.0169) | (0.0214) |
|  |  | {0.000} | {0.000} |
| FSIZE |  | 0.0008 | -0.0009 |
|  | (0.0053) | (0.0067) |
|  | {0.8813} | {0.8992} |
|  |  | |  |

Model Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| R2 |  | 0.23 | 0.118 |
| Adjusted R2 |  | 0.23 | 0.111 |
| Deviance |  | 7.752 | 0.009 |
| Scale |  | 0.095 | 0.095 |

Source: Researcher’s compilation (2020).

According to Holland and Welsch (2007), a robust estimation procedure is one that dampens the effect of observations that would be highly influential if least square is used. The idea of a robust estimation is to weigh the observations differently based on how well behaved the observations are. M-estimators are defined to be robust against heavy-tailed error distribution and non-constant error variance. Looking at the estimated slope coefficients of the robust regression estimates, we found a strong similarity with the panel fixed effects regression results. The results for the MM-estimation revealed that Managerial Equity Ownership (MOWN) had the expected negative effect (-0.0814) on earnings management and is statistically significant at 5% (p=0.000). The effect of foreign ownership (FOWN) is

also negative (-0.0243) and is statistically significant at 5% (p=0.0053). Concentrated ownership (COWN) has the expected negative effect (-0.0705) on earnings management and is statistically significant (p=0.000) at 5%. The effect of institutional ownership (IOWN) showed a positive effect (0.0156) although the variables were not statistically significant at 5% (p=0.3258). The results for the S-estimation type revealed that Managerial Equity Ownership (MOWN) had negative effect (-0.0655) on earnings management and was statistically significant at 5% (p=0.0129). The effect of foreign ownership (FOWN) was also negative (-0.0335) and statistically significant at 5% (p=0.0024). Concentrated ownership (COWN) also had the expected negative effect (-0.0607) on earnings management and was statistically significant (p=0.000) at 5%. The effect of institutional ownership (IOWN) also showed a negative effect (0.0456) and was statistically significant at 5% (p=0.0225). LEV was observed to have a negative (-0.1681) and statistically significant effect (p=0.000) on earnings management.

**CHAPTER FIVE**

**DISCUSSION OF RESULTS AND TEST OF HYPOTHESES**

* 1. **INTRODUCTION**

This chapter examines the discussion of the results analysed in the previous chapter which forms the basis for the test of hypotheses.

# Managerial Equity Ownership and Earnings Management

Table 4.5 revealed that managerial equity ownership (MOWN) had negative effect

(-0.0617) on earnings management and was statistically significant at 5% (p=0.000). The result thus confirmed that an increase in managerial equity ownership resulted in a decline in earnings management. The managerial behaviour was consistent with the convergence of interest hypothesis which stated that high levels of insider ownership could become effective in aligning insiders to take value-maximising decisions. **Therefore, the hypothesis that managerial equity ownership has no significant relationship with earnings management in Nigeria was rejected.** Our results were in tandem with that of Lin, Tsai and You’s (2003) which examined the relationship among managerial ownership, earnings management and audit quality in Taiwan. The data of the target population which are the companies listed on the Taiwan Stock Exchange, were obtained from their financial statements for the period 1991-2000. The pooled cross-sectional regression model was used to analyse the data based on mouth dimensional variables. The findings showed that managerial ownership had a negative relationship with earnings management and this was also in agreement with our findings and those of Alves (2012) which examined the relationship between corporate ownership structure in Portugal and earnings management. A sample of 34 non-financial listed Portuguese firms from years 2002 to 2007 was investigated and analysed with the ordinary least square (OLS) regression. It was found out that discretionary accruals, proxies

for earnings management, is negatively related to managerial ownership. Ali et al. (2010)

examined the relationship between the level of managerial ownership and earnings management activities represented by the magnitude of discretionary accounting accruals in Malaysian listed firms. In total, 1,001 public listed firms were chosen. Managerial ownership was found to be an effective monitoring mechanism, particularly in small firms. The result suggested that managerial ownership should be encouraged in small firms so that it could be the substitute for the weakness of other corporate governance mechanisms. The results showed that managerial ownership was negatively associated with the magnitude of accounting accruals.

In contrast, our results were at variance with Ayadi and Boujelbene’s (2014) own which investigated the relationship between ownership structure and earnings quality, then as using proxies for earnings management and earnings informativeness. It showed that managerial ownership had a positive impact on earnings management. Mehmet et al. (2014) investigated the impact of corporate ownership structure on earnings management on a sample of Turkish firms registered on the Istanbul Stock Exchange (ISE) for the period of 2009 to 2012. The results were consistent with the previous studies which showed that the relationship between managerial ownership and earnings management was positively correlation with the findings and statistically significant. Saftiana et al. (2017) sought to identify the effects of good corporate governance on earnings management using a population target of manufacturing firms listed on the Indonesian Stock Exchange (IDX) for the period 2010-2014. The results of the research showed that managerial ownership had no significant effect on earnings management even though all the variables had simultaneous significant effects on earnings management. Spinos (2013) investigated the relationship between earnings management and managerial ownership in the U.S. The empirical results evidenced that during the whole research period, there was no significant relationship between

managerial ownership and earnings management.

# Institutional equity Ownership and Earnings Management

From Table 4.5, the estimation results showed that Institutional Equity Ownership (IOWN) had a positive effect (0.0415) on earnings management and was also statistically significant (p=0.000) at 5%. **Therefore, the hypothesis that institutional equity ownership has no significant relationship with earnings management in Nigeria was rejected.** The direction of the effects tended to be at variance with the expectations regarding the role of institutional monitoring resulting from ownership interest in ensuring financial transparency. Nevertheless, some scholars pointed out that a possible reason for the nature of the observed relationship was that it was unlikely to have institutional investors who were not adequately involved in monitoring and delegating a lot of powers to management as long as their investment interests were protected. The institutional investors are inherently short-term oriented. Such investors are often referred to as myopic investors who focus mainly on current rather than on long-term earnings. The orientation deters institutional investors from incurring monitoring costs. However, some argue that institutional investors do not play an active role in monitoring management activities (Claessens & Fan, 2002; Porter, 1992). According to Duggal and Millar (1999), ‘institutional investors are passive investors who are more likely to sell their holdings in poorly performing firms than to expend their resources in monitoring and improving their performance’. Institutional investors may be incapable of exerting their monitoring rights because they would not like to waste their funds on identifying the weakness of the manager (Pound, 1988; Rhoades, Rechner & Sundaramurthy 2005). It was also argued that institutional owners only focused on short-term financial results that benefit investors, and as such, they were unable to monitor management (Bushee, 1998; Porter, 1992). So, there would be pressure on management to meet short-term earnings expectations. These arguments indicate that institutional investors may not limit managers’

earnings management discretion and may increase managerial incentives to engage in earnings management (passive hands-off hypothesis).

Our results were in tandem with that of Latif, Latif and Abdullah’s (2017) which examined the impact of institutional equity ownership on earnings management for the firms listed on the Pakistan Stock Exchange (PSX). The data of 200 non-financial listed firms from 2002 to 2014 were collected for the study. The results showed that institutional equity ownership was positively associated with earnings management. In addition, Koh (2003) investigated the relationship between firms' aggressive earnings management strategies and institutional equity ownership in Australia. He suggested that positive relationship existed at the lower institutional ownership that could suggest that institutional investors provided incentives for managers to manage earnings. In contrast, Ajay and Madhumathi (2016), using a panel data methodology focused on firms listed in CNX 500 on the National Stock Exchange to empirically examine the impact of institutional equity ownership on earnings management practices in India. Institutional ownership had a negative relationship with earnings management for larger and mature firms. Alves (2012) examined the effect of equity ownership structure on a firm’s earnings management activities. It employed a sample of 34 Euronext Lisbon non-financial firms over a period of 6 years, from 2002 – 2007. The result of the study showed among other things, that institutional equity ownership had a negative relationship with earnings management. Yang, Chun and Ramadili (2009) examined the role of outside directors and institutional shareholders in constraining earnings management activities. A sample of 613 firms from construction, industrial products and consumer products sectors were selected from the main board. No relationship was observed between the degree of earnings manipulation and the proportion of institutional shareholders.

# Foreign Equity Ownership and Earnings Management

The effect of foreign ownership (FOWN) was negative (-0.0298) and in line with the appropriate sign, and was statistically significant at 5% (p=0.0408). The result indicated that foreign ownership presence could be effective in constraining the opportunistic practices of managers in the form of earnings management. **Therefore, the hypothesis that foreign equity ownership has no significant relationship with earnings management in Nigeria was rejected.** Our research findings were in tandem with Guo, Huang, Zhang and Zhuo’s (2015) work which examined the impact of foreign ownership on real earnings management using a unique set of foreign ownership data from Japan. A sample of 15,212 firm year observations conducted over the period 2004 to 2008 was used for the study. Consistent with the knowledge of spillover hypothesis, their findings revealed that firms with greater foreign ownership engaged in less real earnings management. In addition, Enofe, Iyafekhe and Eniola (2017) examined the impact of foreign directorship and other factors on earnings management. The study employed quantitative and a cross sectional survey data of non- financial institutions quoted on the Nigerian Stock Exchange as at 2014. The data were analysed using descriptive statistics, correlation and multiple Least Square (MLS) regression. The study found that foreign board members were negatively related to earnings management.

Our findings were also supported by those of Ahmed and Iwasaki (2015) which investigated the effects of foreign equity ownership on a monitoring mechanism, a monitoring outcome and firm value for a sample of over 12,600 Japanese firms in the period 2000-2014. Overall, the evidence suggested that foreign investors enhanced monitoring which reduced agency costs and enhanced firm value. Moreso, Ryu and Ji (2015) investigated the role that foreign equity investors played in restraining earnings management

activities of firms. The sample was drawn from all manufacturing companies listed on the

Korean Stock Exchange (KSE) during the four-year period, from 2008 to 2011. The study found that corporate earnings management was less prevalent when long-term foreign investors were among shareholders. In contrast, Guo and Ma (2015) conducted an intensive investigation into the determination of ownership characteristics in earnings management behaviours of Chinese domestic listed firms. The results of the study proved that foreign equity ownership was positively associated with earnings management practice among Chinese firms.

# Concentrated ownership and earnings management

Concentrated ownership (COWN) had the expected negative effect (-0.0751) on earnings management and was statistically significant (p=0.000) at 5%. **Therefore, the hypothesis that concentrated equity ownership has no significant relationship with earnings management in Nigeria was rejected.** It is believed that one of the most important ways a firm maximizes its value is through a well-designed ownership structure of the firm’s shares. Our findings were in tandem with Usman and Yero (2012) research which examined the ownership structure and earnings management practice of Nigerian listed conglomerates. Earnings management was proxied by the modified Jones (Dechow et al., 1995) model. Using 30 firm-year paneled observations, they estimated panel OLS and controlled for fixed/random effects. The result showed a significant negative relationship between ownership concentration and earnings management. Also consistent with our findings was the research by Farouk and Hassan (2014) which was done for listed chemical and paints firms in Nigeria. Earnings management was represented by the modified Jones (Dechow et al., 1995) model. Using 40 firm-year panelled observations, panel Ordinary least square (OLS) was estimated. The findings revealed that the relationship between the concentrated ownership and earnings management was found to be negative and statistically significant.

However, our findings were different from those of Lui and Lu (2007) which found a positive and significant association between the level of ownership concentration and earnings management practices. Therefore, the concentrated ownership reduced the quality of financial reporting. Therefore, concentrated ownership firms had a tendency to manipulate accounting data and commit fraud (Wang, 2006). Moreover, the result was consistent with Fan and Wong (2002) findings which indicated that concentrated ownership and associated pyramidal and cross-holding structures were negatively associated with the quality of accounting information. Wang (2006) investigated the relationship between the presence of concentrated owners and the incidence of fraud. The study revealed that high ownership concentration was linked with a higher likelihood of fraud and a tendency to commit fraud. Furthermore, Chen, Firth, Gao and Rui (2006) examined whether ownership structure and boardroom characteristics had an effect on corporate financial fraud in China. The data came from the enforcement actions of the Chinese Securities Regulatory Commission (CSRC). The results from univariate analyses, where they compared fraud and no-fraud firms, showed that ownership structure was more important in explaining fraud. In the same vein, D’onza and Lamboglia (2014) examined the relationship between corporate governance characteristics and financial statement frauds in Italy using logit regression analysis. The research covered a period of 11 years (2001-2011). The research evidence showed a significant positive relationship between concentrated ownership and financial reporting fraud in the Italian context.

Also in contrast with our findings were those of Hsu and Wen (2015) which investigated the influence of ownership structure and board characteristics on discretionary accruals and real earnings management using the data of A-shares in Chinese Shanghai and Shenzhen Stock Exchange Securities Market from 2002 to 2012. The empirical results

showed that institutions with high shareholding concentration gave managers incentives to

manipulate discretionary accruals. Pattaraporn (2016) investigated the relationship between ownership structure and accounting statement as a proxy for the incidence of fraud of listed firms on the Stock Exchange of Thailand. The findings showed that concentrated ownership was positively associated with their accounting restatements. Khamoussi and Abir (2012) carried out a study with the objective of examining the impact of blockholders on earnings management in 31 Tunisian companies listed on the Tunisian Stock Exchange during the period 1998 - 2009. Four hypotheses were formulated previous studies results. Using Kothari et al. (2005) and Zhong et al. (2007) models to estimate the discretionary accruals as a measure of earnings management, the results from the study showed that the presence of blockholders positively affected the discretionary accruals. Chalaki, Didar and Riahinezhed (2012) investigated the effect of corporate governance attributes on financial reporting quality in firms listed on the Tehran Stock Exchange (TSE) in Iran during the period 2003 to 2011. In the study McNichols (2002) and Collins and Kothari (1989) were used for financial reporting quality measurement purpose ownership concentration was considered as a corporate governance attribute and multiple regression analysis was utilised. The results from the study showed that there was no relationship between ownership concentration and financial reporting quality.

# Monotonicity in Ownership Structure and Earnings Management

This study also examined if the relationship between equity ownership structure and earnings management tended to exhibit non-monotonicity in their relationship. Looking at the estimated slope coefficients in Table 4.6., the estimates of increased managerial equity ownership (*MOWN2*), maintained its non-influencial position which was even stronger at - 3.4559 and also significant at 5% (p=0.0228) implying that at relatively high levels of managerial ownership, the tendency for earnings management practice was reduced. But

interestingly also, we discovered that as managerial ownership continues to rise (MOWN3),

the slope coefficient changed from being negative to positive (2.8386) and still maintained statistical significance at 5% (p=0.0348). Therefore, the study confirmed the presence of non- monotonicity and a complicated and curvilinear pattern in the behaviour of managerial ownership in relation to the increase in its percentage share, and how that affected earnings management.

Although the study provided evidence to support the convergence effect that predicted that managers with higher ownership had stronger incentives to act in line with shareholders’ interests (Gegenfurtner, Ampenberger & Kaserer, 2009), and therefore, as managerial ownership increased and the opportunistic managerial behaviour decreased monotonically, the MOWN3 coefficient showed that increasing MOWN beyond a certain level played out differently. Hence, moving from MOWN2 to MOWN3, the convergence effect was seen to give way to the entrenchment effect hypothesis (Morck, Shleifer and Vishny, 1988) which argued that managers with larger ownership had greater control over firms, and therefore possessed more freedom to act in their own private interests, often to the detriment of the shareholders, that is engaging in opportunistic behaviour to serve their own interests. A similar pattern was also observed for IOWN where moving from for IOWN to IOWN2 showed a change in slope coefficient from 1.0014(p=0.0150) to -1.3914 (p=0.1890) and then to 0.7913(0.3016), also confirming the presence of non-monotonicity. **Therefore, the hypothesis that the absence of non-monotonicity in the relationship between Ownership Structure and earnings management was rejected.**

Our findings were in tandem with those of McConnel and Servaes (1990) which showed that instead of fixing the level of managerial ownership, they adopted managerial shareholding and managerial variables. To do that, they drew upon a sample of 1739 firms in 1976 and 1,093 firms in 1986. The results reported that a positive relationship existed

between managerial ownership holding at 0% to approximately 50% of shareholding and firm

performance. Beyond 50%, a negative relationship between them was found. McConnell and Servaes (1990), therefore, suggested that the impact of managerial ownership on the firm’s value was nonlinear. In a similar vein, Gonzale and Garcia-Meca (2014) carried out a study to examine the relationship between the internal mechanisms of corporate governance and earnings management measured by a discretionary accrual. They utilised a sample of listed Latin American non-financial companies from the period 2006–2009. Using a linear regression technique, they regressed the absolute value of discretionary accruals on the variables of ownership structure and the results from the study showed a non-linear relationship between insider ownership and discretionary accruals. Also consistent with our findings were those of Short and Keasy (1990) which investigated whether there was a non- linear relationship between managerial ownership in the case of the United Kingdom. Their study adopted the Cubic model to investigate the relationship. With the model, the coefficients of managerial ownership variables (DIR, DIR2 and DIR3) determined their turning points (indicating the maximum and the minimum points of the managerial performance) The findings of the study supported the presence of non-monotonicity. Similar findings were also seen in the study by Han and Suk (1998).

**CHAPTER SIX**

**SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION**

* 1. **INTRODUCTION**

This chapter examines the summary of findings, the conclusion and the recommendations.

* 1. **SUMMARY OF FINDINGS**

The summary of the study findings was provided below;

1. The results revealed that managerial equity ownership (MOWN) had negative effect (- 0.0617) on earnings management and was statistically significant at 5% (p=0.000). The result thus confirmed that an increase in managerial equity ownership resulted in a decline in earnings management. The managerial behaviour was consistent with the convergence of interest hypothesis which stated that high levels of insider ownership could become effective in aligning insiders to take value-maximising decisions.
2. The estimation results showed that institutional equity ownership (IOWN) had a positive effect at 5% (0.0415) on earnings management and was also statistically significant at 5% (p=0.000) The direction of the effects tended to be at variance with the expectations regarding the role of institutional monitoring resulting from ownership interest in ensuring financial transparency. Nevertheless, some scholars of notable research Schipper K. (2016) pointed out that a possible reason for the nature of the observed relationship was that it was unlikely to have institutional investors who were not adequately involved in the monitoring and delegated a lot of powers to management as long as their investment interests were protected.
3. The effect of foreign ownership (FOWN) which was also negative (-0.0298) was in line with the appropriate sign, and it was statistically significant at 5% (p=0.0408). The result indicated that foreign ownership presence could be effective in constraining the opportunistic

practices of managers in the form of earnings management.

1. Concentrated ownership (COWN) had negative effect (-0.0751) on earnings management and was statistically significant (p=0.000) at 5%. Therefore, the hypothesis that concentrated equity ownership had no significant relationship with earnings management in Nigeria was rejected. It is believed that one of the most important ways through which a firm maximises its value is through a well-designed ownership structure of the firm’s shares.
2. This study examined if the relationship between equity ownership structure and earnings management tended to exhibit monotonicity in their relationship. The result confirmed the presence of non-monotonicity and a curvilinear pattern in the behaviour of managerial ownership in relation on increase in its percentage share and it’s effects on earnings management.
   1. **CONCLUSION**

The preponderance of earnings management poses a huge risk to investors, shareholders and indeed, the sustainability of businesses in recent times. Aiming to find some ways to earnings management practice, researchers have started to analyse the factors that are related to them in order to implement preventive actions and mechanisms or, at least, reduce the possibility of its occurrence. As noted earlier, specifically, a large part of the international literature has begun to focus the relationship between equity ownership structure and earnings management. In order to provide protection in the corporate world for vulnerable stakeholders, there is the need to improve corporate monitoring and control. One instrument of management control and monitoring is the equity ownership and environment/structure of the company. The equity ownership structure is critical because of its effect on the weak investor protection that is associated with most developing economies.

Discourses on the theoretical expectations suggested that there were two schools of

thought concerning the role of equity ownership structure in deterring earnings management. Different views held for the different variants of ownership structure. In the case of

institutional and foreign ownership structure, two views were pointed out by Bushee (2001). In the first view, institutional and foreign ownership investors had both the power and incentive to restrict opportunistic behaviour and hence, reduce fraud likelihood by executives. In the second view, institutional and foreign ownership are often more concerned with short- term returns in controlling managers: they would rather sell their stakes than monitor or remove incompetent management (Bushee, 2001). With regards to managerial ownership, its relationship with fraud likelihood is not straightforward, but can be addressed using two hypotheses: (i) alignment of interest and (ii) entrenchment. The alignment-of-interest hypothesis states that when managers’ ownership stake in a firm increases, it reduces the agency conflict between shareholders and managers (Jensen & Meckling, 1976). This should, in turn, reduce the scope of opportunistic behaviour and therefore, fraud likelihood. The entrenchment hypothesis states that when ownership stakes increase beyond a certain level, it put managers in a dominant position which they can use to exploit external minority shareholders. Thus, it appears that there is a cubical or nonlinear relationship between fraud likelihood and managerial ownership. A similar expectation also holds for ownership concentration.

The outcome of the research revealed that managerial equity ownership (MOWN) had negative effect on earnings management and was statistically significant at 5%. The result thus confirmed that an increase in managerial equity ownership resulted in a decline in earnings management. (ii) The estimation results showed that institutional equity ownership (IOWN) had a positive effect on earnings management and was also statistically significant at 5%. (iii) The effect of foreign ownership (FOWN) which was negative was in line with the aprori sign and was statistically significant at 5%. The result indicates that foreign ownership presence could be effective in constraining the opportunistic practices of managers in the

form of earnings management. (iv**)** Concentrated ownership (COWN) had the expected

negative effect on earnings management and is statistically significant at 5% and finally, (v) this study’s results confirmed the presence of non-monotonicity and a complicated and curvilinear pattern in the behaviour of managerial ownership in relation to an increase in its percentage share and how that increased affected earnings management.

* 1. **RECOMMENDATIONS**

The summary of the study’s recommendation is as stated below:

1. The result confirmed that an increase in managerial equity ownership resulted in a decline in earnings management. Therefore, the study recommended that it would be in the best interest of companies to increase managerial equity holdings as that tended to support the alignment perspective that managers with ownership equity would work in the best interest of the company and ensure shareholder protection by improving financial transparency.
2. The estimation results showed that institutional equity ownership (IOWN) had a positive effect on earnings management and was also statistically significant. As pointed out earlier, a possible reason for the nature of the observed relationship was that it was not unlikely to have institutional investors who were not adequately involved in the monitoring and delegating a lot of powers to management as long as their investment interests were protected. Therefore, the study recommended more direct institutional monitoring.
3. The effect of foreign ownership (FOWN) which was negative was in line with the aprori sign and was statistically significant at 5%. The result indicated that foreign ownership presence could be effective in constraining the opportunistic practices of managers in the form of earnings management. Therefore, the study recommended that not only should foreign equity ownership be employed by companies, it should also be regulated so as to avoid a situation where nationalistic interests were sidelined in favour of profit repatriation which was often the practice of foreign owned and dominated public interest entities (PIE’s).
4. The results of the study revealed that concentrated ownership (COWN) had negative effect on earnings management and was statistically significant at 5%. It is believed that one of the most important ways through which a firm maximises its value is through a well-designed ownership structure of the firm’s shares. The study thus recommended an increase in concentrated shareholding. Although concentrated ownership also had its challenges, especially for a concentrated dominant shareholder, the study recommended that concentration should also be regulated to not exceed 10% shareholding so that their shareholding structure would not influence the decision making process.
5. Although the study provided evidence to support the convergence effect which predicts, that managers with higher ownership have stronger incentives to act in line with shareholders’ interests, and hence, as managerial ownership increases, the opportunistic managerial behaviour decreases monotonically, the MOWN3 coefficient showed that increasing MOWN beyond a certain level played out differently, hence, moving from MOWN2 to MOWN3, the convergence effect was seen to give way to the entrenchment effect hypothesis, and a similar pattern was also observed for IOWN. Therefore, the study recommended that to keep the effect of managerial equity within the alignment space, such ownership should be maintained at moderate and not higher levels.
   1. **CONTRIBUTION TO KNOWLEDGE**

Ironically, based on the review of those studies, there appeared not to be any unanimity in the relationship between equity ownership structure and earnings management While some studies defended the position of a positive effect, others found a negative effect. More so, some found that the relationship depended on the particular variable in question. The absence of a clear unanimity suggests that this issue is still open for debates and there is the need to re-examine and provide fresh views. However, the study introduced a unique

approach different from the way other studies cited above examined the subject. The study

employed the seasonally adjusted discretionary accrual measure. Seasonal effects can distort the baseline behaviour of the data and introduce several oscillations to the series and make the results biased and hence, it is better to employ seasonally adjusted series. That was what this study adopted and in that light, the study provided unique insights and contributions to knowledge.

**6.5. RECOMMENDATION FOR FURTHER STUDIES**

For the purpose of recommendation for further studies, the researcher recommended that it would be insightful if other studies could extend the enquiry using other forms of earnings management manipulation which were not used in this study such as real earnings management, income smoothing and creative accounting. In addition, this study focused on only listed manufacturing firms in Nigeria and therefore, there is the need for other researchers to look at those sectors which did not receive adequate research attention in this regard such as the health, natural resource and ICT sectors.

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**DATA ANALYSIS**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Fiscal Year** | **Companies** | **Board Ownersh ip** | **C O N O**  **W N** | **Block Institution alOWN** | **Block Foreign Ownership Dummy** | **LEV** | **FSI ZE** | **Total Accrual Index** |
| 2009 | John Holt Plc | 0.66% | 1 | 73% | 1 | 0.75 | 7.5 | -0.133 |
| 2010 | John Holt Plc | 0.66% | 1 | 73% | 1 | 0.73 | 7.52 | -0.17 |
| 2011 | John Holt Plc | 0.74% | 1 | 73% | 1 | 0.79 | 7.6 | -0.141 |
| 2012 | John Holt Plc | 0.65% | 1 | 73% | 1 | 0.77 | 7.65 | -0.148 |
| 2013 | John Holt Plc | 0.60% | 1 | 73% | 1 | 0.76 | 7.71 | -0.248 |
| 2014 | John Holt Plc | 0.60% | 1 | 73% | 1 | 0.69 | 7.75 | -0.249 |
| 2015 | John Holt Plc | 0.55% | 1 | 73% | 1 | 0.65 | 7.83 | -0.179 |
| 2016 | John Holt Plc | 0.47% | 1 | 73% | 1 | 0.63 | 7.83 | -0.201 |
| 2017 | John Holt Plc | 0.45% | 0 | 73% | 1 | 0.85 | 7.94 | 0.019 |
| 2018 | John Holt Plc | 8.32% | 0 | 88% | 1 | 0.32 | 7.14 | 0.037 |
| 2019 | John Holt Plc | 0.26% | 1 | 88% | 1 | 0.37 | 7.22 | 0.093 |
| 2009 | A.G.Leventis  Nig | 0.38% | 1 | 88% | 1 | 0.52 | 7.29 | 0.019 |
| 2010 | A.G.Leventis  Nig | 0.57% | 1 | 88% | 1 | 0.51 | 7.32 | -0.023 |
| 2011 | A.G.Leventis  Nig | 0.42% | 1 | 88% | 1 | 0.55 | 7.36 | -0.017 |
| 2012 | A.G.Leventis  Nig | 0.47% | 1 | 88% | 1 | 0.52 | 7.31 | -0.028 |
| 2013 | A.G.Leventis  Nig | 0.15% | 1 | 88% | 1 | 0.57 | 7.38 | -0.016 |
| 2014 | A.G.Leventis  Nig | 0.39% | 1 | 88% | 1 | 0.6 | 7.35 | -0.11 |
| 2015 | A.G.Leventis  Nig | 0.49% | 1 | 88% | 1 | 0.69 | 7.31 | -0.244 |
| 2016 | A.G.Leventis Nig | 0.25% | 1 | 88% | 1 | 0.85 | 7.27 | -0.212 |
| 2017 | A.G.Leventis  Nig | 33.53% | 1 | 27% | 0 | 0.7 | 6.12 | -0.191 |
| 2018 | A.G.Leventis  Nig | 33.91% | 1 | 27% | 0 | 0.69 | 6.17 | -0.099 |
| 2019 | A.G.Leventis  Nig | 33.91% | 0 | 27% | 0 | 0.76 | 6.31 | -0.096 |
| 2009 | Academy | 16.00% | 0 | 27% | 0 | 0.73 | 6.37 | -0.109 |
| 2010 | Academy | 16.00% | 0 | 23% | 0 | 0.76 | 6.45 | -0.107 |
| 2011 | Academy | 16.87% | 0 | 20% | 1 | 0.79 | 6.55 | -0.199 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2012 | Academy | 17.95% | 0 | 20% | 1 | 0.79 | 6.58 | -0.168 |
| 2013 | Academy | 3.44% | 0 | 20% | 1 | 0.81 | 6.57 | -0.189 |
| 2014 | Academy | 4.13% | 0 | 20% | 1 | 0.83 | 6.55 | -0.222 |
| 2015 | Academy | 3.73% | 0 | 34% | 1 | 0.92 | 6.47 | -0.114 |
| 2016 | Academy | 45.28% | 0 | 55% | 0 | 0.6 | 6.52 | -0.035 |
| 2017 | Academy | 50.38% | 1 | 55% | 0 | 0.44 | 6.41 | -0.353 |
| 2018 | Academy | 49.69% | 1 | 73% | 0 | 0.3 | 6.35 | -0.291 |
| 2019 | Academy | 62.30% | 0 | 58% | 0 | 0.3 | 6.41 | 0.008 |
| 2009 | Air & Logistic  Services | 61.85% | 1 | 58% | 0 | 0.27 | 6.48 | -0.1 |
| 2010 | Air & Logistic  Services | 76.60% | 1 | 73% | 0 | 0.38 | 6.54 | -0.11 |
| 2011 | Air & Logistic  Services | 76.31% | 1 | 73% | 0 | 0.46 | 6.63 | -0.101 |
| 2012 | Air & Logistic  Services | 40.34% | 1 | 74% | 1 | 0.55 | 6.66 | -0.242 |
| 2013 | Air & Logistic  Services | 40.34% | 1 | 74% | 1 | 0.5 | 6.81 | -0.066 |
| 2014 | Air & Logistic  Services | 75.12% | 1 | 74% | 1 | 0.29 | 6.7 | -0.159 |
| 2015 | Air & Logistic  Services | 0.06% | 1 | 79% | 0 | 0.76 | 5.81 | -0.422 |
| 2016 | Air & Logistic  Services | 0.06% | 1 | 79% | 0 | 0.66 | 5.84 | -0.024 |
| 2017 | Air & Logistic  Services | 0.06% | 0 | 79% | 0 | 0.65 | 5.93 | -0.053 |
| 2018 | Air & Logistic  Services | 0.06% | 0 | 79% | 0 | 0.5 | 6.09 | 0.041 |
| 2019 | Air & Logistic  Services | 0.02% | 0 | 79% | 0 | 0.41 | 6.21 | -0.03 |
| 2009 | Aluminium Extrusion  Indus | 0.02% | 0 | 79% | 0 | 0.43 | 6.23 | 0.026 |
| 2010 | Aluminium Extrusion Indus | 0.02% | 0 | 85% | 0 | 0.37 | 6.24 | 0.004 |
| 2011 | Aluminium  Extrusion Indus | 0.02% | 0 | 82% | 0 | 0.38 | 6.26 | -0.005 |
| 2012 | Aluminium Extrusion  Indus | 0.02% | 0 | 82% | 0 | 0.19 | 6.58 | 0.017 |
| 2013 | Aluminium Extrusion  Indus | 0.02% | 0 | 82% | 0 | 0.29 | 6.35 | -0.049 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2014 | Aluminium Extrusion Indus | 43.88% | 0 | 19% | 0 | 0.58 | 6.63 | -0.43 |
| 2015 | Aluminium Extrusion  Indus | 46.69% | 0 | 19% | 0 | 0.57 | 6.61 | -0.164 |
| 2016 | Aluminium Extrusion  Indus | 47.29% | 0 | 19% | 0 | 0.53 | 6.57 | -0.345 |
| 2017 | Aluminium  Extrusion Indus | 47.85% | 0 | 21% | 0 | 0.63 | 6.71 | -0.377 |
| 2018 | Aluminium Extrusion  Indus | 45.94% | 1 | 21% | 0 | 0.56 | 6.7 | -0.307 |
| 2019 | Aluminium Extrusion  Indus | 61.53% | 1 | 17% | 0 | 0.6 | 6.75 | -0.098 |
| 2009 | Associated  Bus Company | 62.28% | 1 | 17% | 0 | 0.71 | 6.81 | -0.328 |
| 2010 | Associated  Bus Company | 56.95% | 1 | 17% | 0 | 0.68 | 6.78 | -0.211 |
| 2011 | Associated  Bus Company | 56.95% | 1 | 17% | 0 | 0.67 | 6.64 | -0.431 |
| 2012 | Associated  Bus Company | 56.93% | 1 | 17% | 0 | 0.57 | 6.65 | -0.221 |
| 2013 | Associated  Bus Company | 0.07% | 0 | 60% | 1 | 0.6 | 6.28 | -0.078 |
| 2014 | Associated  Bus Company | 0.07% | 0 | 60% | 1 | 0.55 | 6.31 | -0.064 |
| 2015 | Associated  Bus Company | 0.07% | 0 | 60% | 1 | 0.47 | 6.33 | -0.037 |
| 2016 | Associated  Bus Company | 0.06% | 0 | 72% | 1 | 0.4 | 6.35 | -0.046 |
| 2017 | Associated Bus Company | 0.06% | 0 | 72% | 1 | 0.38 | 6.42 | -0.092 |
| 2018 | Associated  Bus Company | 0.06% | 0 | 72% | 1 | 0.37 | 6.46 | -0.103 |
| 2019 | Associated  Bus Company | 0.06% | 0 | 72% | 1 | 0.41 | 6.53 | -0.123 |
| 2009 | B.O.C Gases  Nig | 0.01% | 0 | 72% | 1 | 0.34 | 6.51 | -0.048 |
| 2010 | B.O.C Gases  Nig | 0.01% | 0 | 72% | 1 | 0.4 | 6.56 | -0.096 |
| 2011 | B.O.C Gases | 1.02% | 0 | 72% | 1 | 0.44 | 6.63 | -0.09 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Nig | | | | | | | | |
| 2012 | B.O.C Gases  Nig | 6.67% | 0 | 11% | 1 | 0.4 | 6.31 | -0.095 |
| 2013 | B.O.C Gases  Nig | 4.76% | 0 | 11% | 1 | 0.41 | 6.36 | -0.083 |
| 2014 | B.O.C Gases  Nig | 4.41% | 0 | 11% | 1 | 0.36 | 6.42 | 0.108 |
| 2015 | B.O.C Gases  Nig | 4.42% | 0 | 11% | 1 | 0.35 | 6.43 | -0.026 |
| 2016 | B.O.C Gases  Nig | 6.70% | 0 | 11% | 1 | 0.39 | 6.46 | -0.022 |
| 2017 | B.O.C Gases Nig | 9.20% | 0 | 11% | 1 | 0.31 | 6.55 | -0.021 |
| 2018 | B.O.C Gases  Nig | 2.09% | 1 | 11% | 1 | 0.32 | 6.56 | 0.173 |
| 2019 | B.O.C Gases  Nig | 2.25% | 1 | 23% | 1 | 0.34 | 6.59 | -0.051 |
| 2009 | Beta Glass  Company | 5.87% | 1 | 23% | 1 | 0.37 | 6.61 | -0.137 |
| 2010 | Beta Glass  Company | 6.35% | 1 | 23% | 1 | 0.39 | 6.63 | -0.019 |
| 2011 | Beta Glass  Company | 2.37% | 1 | 74% | 1 | 0.48 | 7.14 | -0.083 |
| 2012 | Beta Glass  Company | 2.37% | 1 | 74% | 1 | 0.36 | 7.12 | -0.113 |
| 2013 | Beta Glass  Company | 0.25% | 1 | 74% | 1 | 0.39 | 7.21 | -0.109 |
| 2014 | Beta Glass  Company | 0.06% | 1 | 74% | 1 | 0.37 | 7.26 | -0.059 |
| 2015 | Beta Glass  Company | 0.06% | 1 | 74% | 1 | 0.45 | 7.35 | 0.003 |
| 2016 | Beta Glass  Company | 0.05% | 1 | 74% | 1 | 0.49 | 7.43 | -0.065 |
| 2017 | Beta Glass  Company | 0.05% | 1 | 74% | 1 | 0.41 | 7.43 | -0.072 |
| 2018 | Beta Glass  Company | 0.05% | 1 | 74% | 1 | 0.35 | 7.43 | -0.106 |
| 2019 | Beta Glass  Company | 0.01% | 1 | 76% | 1 | 0.35 | 7.52 | -0.041 |
| 2009 | Cadbury Nig | 0.01% | 1 | 70% | 1 | 0.34 | 7.58 | 0.092 |
| 2010 | Cadbury Nig | 0.01% | 1 | 75% | 1 | 1.13 | 7.38 | -0.179 |
| 2011 | Cadbury Nig | 1.62% | 1 | 75% | 1 | 0.5 | 7.4 | -0.234 |
| 2012 | Cadbury Nig | 0.52% | 1 | 75% | 1 | 0.54 | 7.45 | -0.131 |
| 2013 | Cadbury Nig | 0.54% | 1 | 75% | 1 | 0.51 | 7.53 | -0.069 |
| 2014 | Cadbury Nig | 2.98% | 1 | 75% | 1 | 0.5 | 7.6 | -0.111 |

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| 2015 | Cadbury Nig | 2.98% | 1 | 75% | 1 | 0.44 | 7.64 | -0.012 |
| 2016 | Cadbury Nig | 0.48% | 1 | 75% | 1 | 0.6 | 7.46 | 0.002 |
| 2017 | Cadbury Nig | 0.51% | 1 | 75% | 1 | 0.57 | 7.45 | -0.091 |
| 2018 | Cadbury Nig | 0.51% | 1 | 75% | 1 | 0.61 | 7.45 | 0.055 |
| 2019 | Cadbury Nig | 0.03% | 1 | 100% | 1 | 0.59 | 7.45 | 0.062 |
| 2009 | Cement Comy Of Northern  Nig | 0.10% | 1 | 67% | 0 | 0.57 | 6.99 | -0.182 |
| 2010 | Cement Comy  Of Northern Nig | 0.01% | 1 | 67% | 0 | 0.55 | 7.03 | 0.045 |
| 2011 | Cement Comy Of Northern Nig | 0.02% | 1 | 63% | 0 | 0.44 | 7.1 | 0.04 |
| 2012 | Cement Comy Of Northern  Nig | 69.02% | 1 | 63% | 0 | 0.46 | 7.15 | 0.008 |
| 2013 | Cement Comy Of Northern  Nig | 69.00% | 1 | 63% | 0 | 0.4 | 7.18 | -0.046 |
| 2014 | Cement Comy Of Northern  Nig | 70.55% | 1 | 63% | 1 | 0.4 | 7.2 | 0.004 |
| 2015 | Cement Comy  Of Northern Nig | 70.55% | 1 | 67% | 1 | 0.41 | 7.23 | -0.088 |
| 2016 | Cement Comy Of Northern  Nig | 69.94% | 1 | 67% | 1 | 0.43 | 7.3 | -0.09 |
| 2017 | Cement Comy Of Northern  Nig | 71.39% | 1 | 63% | 1 | 0.42 | 7.39 | -0.02 |
| 2018 | Cement Comy  Of Northern Nig | 28.93% | 1 | 0% | 0 | 0.18 | 7.05 | -0.07 |
| 2019 | Cement Comy Of Northern  Nig | 29.94% | 1 | 0% | 0 | 0.25 | 6.98 | -0.025 |
| 2009 | Chams | 14.56% | 1 | 0% | 0 | 0.39 | 6.93 | -0.081 |
| 2010 | Chams | 4.09% | 1 | 10% | 0 | 0.48 | 6.89 | -0.163 |
| 2011 | Chams | 6.67% | 1 | 10% | 0 | 0.48 | 6.94 | 0.043 |
| 2012 | Chams | 7.23% | 1 | 10% | 0 | 0.56 | 7.03 | -0.026 |
| 2013 | Chams | 2.36% | 1 | 10% | 0 | 0.51 | 7.08 | -0.05 |
| 2014 | Chams | 2.36% | 1 | 19% | 1 | 0.61 | 6.93 | -0.297 |

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| 2015 | Chams | 2.36% | 1 | 19% | 1 | 0.7 | 6.78 | -0.23 |
| 2016 | Chams | 2.08% | 1 | 26% | 1 | 0.88 | 6.68 | -0.239 |
| 2017 | Chams | 54.07% | 1 | 75% | 0 | 0.64 | 6.87 | 0.44 |
| 2018 | Chams | 58.61% | 0 | 75% | 0 | 0.75 | 6.95 | 0.075 |
| 2019 | Chams | 58.61% | 0 | 82% | 0 | 0.7 | 6.97 | -0.147 |
| 2009 | Chemical &  Allied Product | 0.10% | 0 | 50% | 0 | 0.69 | 6.35 | 0.055 |
| 2010 | Chemical &  Allied Product | 0.07% | 0 | 50% | 0 | 0.65 | 6.33 | 0.019 |
| 2011 | Chemical &  Allied Product | 0.68% | 0 | 50% | 0 | 0.57 | 6.37 | 0.036 |
| 2012 | Chemical & Allied Product | 0.73% | 0 | 50% | 0 | 0.52 | 6.49 | 0.049 |
| 2013 | Chemical &  Allied Product | 0.73% | 0 | 50% | 0 | 0.61 | 6.46 | 0.066 |
| 2014 | Chemical &  Allied Product | 0.62% | 0 | 50% | 0 | 0.58 | 6.48 | -0.011 |
| 2015 | Chemical &  Allied Product | 0.62% | 0 | 50% | 0 | 0.62 | 6.49 | 0.106 |
| 2016 | Chemical &  Allied Product | 0.81% | 0 | 50% | 0 | 0.55 | 6.53 | 0.48 |
| 2017 | Chemical &  Allied Product | 0.62% | 1 | 50% | 0 | 0.54 | 6.69 | 0.431 |
| 2018 | Chemical &  Allied Product | 0.62% | 0 | 50% | 0 | 0.55 | 6.7 | -0.062 |
| 2019 | Chemical &  Allied Product | 42.30% | 0 | 27% | 1 | 0.73 | 6.83 | -0.192 |
| 2009 | Cutix | 46.86% | 0 | 5% | 0 | 0.49 | 5.88 | -0.102 |
| 2010 | Cutix | 28.10% | 0 | 5% | 0 | 0.49 | 5.89 | -0.101 |
| 2011 | Cutix | 32.69% | 0 | 5% | 0 | 0.55 | 6.03 | 0.13 |
| 2012 | Cutix | 11.50% | 0 | 5% | 0 | 0.47 | 5.97 | -0.137 |
| 2013 | Cutix | 6.76% | 0 | 11% | 0 | 0.46 | 5.97 | 0.043 |
| 2014 | Cutix | 26.07% | 0 | 11% | 0 | 0.44 | 6.03 | -0.045 |
| 2015 | Cutix | 26.53% | 0 | 17% | 0 | 0.6 | 6.24 | 0.075 |
| 2016 | Cutix | 44.73% | 0 | 17% | 0 | 0.62 | 6.29 | -0.042 |
| 2017 | Cutix | 44.73% | 0 | 17% | 0 | 0.54 | 6.28 | -0.231 |
| 2018 | Cutix | 5.22% | 0 | 18% | 0 | 0.56 | 6.37 | 0.036 |
| 2019 | Cutix | 3.72% | 0 | 69% | 0 | 0.44 | 7.76 | 0.161 |
| 2009 | Dangote  Sugar | 3.79% | 0 | 69% | 0 | 0.46 | 7.89 | 0.087 |
| 2010 | Dangote  Sugar | 3.80% | 0 | 69% | 0 | 0.34 | 7.79 | 0.216 |
| 2011 | Dangote  Sugar | 3.82% | 0 | 69% | 0 | 0.46 | 7.86 | -0.109 |

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| 2012 | Dangote Sugar | 5.54% | 0 | 69% | 0 | 0.44 | 7.92 | -0.196 |
| 2013 | Dangote  Sugar | 5.51% | 0 | 69% | 0 | 0.44 | 7.92 | 0.279 |
| 2014 | Dangote  Sugar | 5.53% | 0 | 69% | 0 | 0.45 | 7.97 | -0.046 |
| 2015 | Dangote  Sugar | 5.53% | 0 | 69% | 0 | 0.43 | 8.01 | -0.044 |
| 2016 | Dangote  Sugar | 5.55% | 1 | 69% | 0 | 0.63 | 8.25 | -0.214 |
| 2017 | Dangote  Sugar | 5.55% | 1 | 68% | 0 | 0.52 | 8.29 | 0.078 |
| 2018 | Dangote  Sugar | 9.74% | 1 | 40% | 1 | 0.55 | 6.51 | -0.339 |
| 2019 | Dangote  Sugar | 9.73% | 1 | 40% | 1 | 0.69 | 6.42 | -0.21 |
| 2014 | Dn Meyer | 8.42% | 1 | 31% | 1 | 0.78 | 6.43 | -0.386 |
| 2015 | Dn Meyer | 9.39% | 1 | 31% | 1 | 0.75 | 6.44 | -0.137 |
| 2016 | Dn Meyer | 9.33% | 1 | 31% | 1 | 0.75 | 6.41 | 0.003 |
| 2017 | Dn Meyer | 9.33% | 1 | 43% | 1 | 0.74 | 6.42 | -0.077 |
| 2018 | Dn Meyer | 9.33% | 1 | 43% | 1 | 0.74 | 6.39 | -0.067 |
| 2019 | Dn Meyer | 9.33% | 1 | 43% | 1 | 0.71 | 6.37 | 0.017 |
| 2009 | Eternaoil | 9.33% | 0 | 39% | 1 | 0.79 | 6.34 | -0.079 |
| 2010 | Eternaoil | 13.53% | 0 | 56% | 0 | 0.82 | 6.28 | -0.112 |
| 2011 | Eternaoil | 4.44% | 0 | 52% | 1 | 0.92 | 6.98 | -0.302 |
| 2012 | Eternaoil | 2.85% | 0 | 52% | 1 | 0.62 | 7.01 | -0.104 |
| 2013 | Eternaoil | 1.97% | 0 | 52% | 1 | 0.5 | 6.97 | -0.179 |
| 2014 | Eternaoil | 1.97% | 0 | 52% | 1 | 0.6 | 7.17 | 0.371 |
| 2015 | Eternaoil | 2.04% | 0 | 52% | 1 | 0.81 | 7.52 | 0.082 |
| 2016 | Eternaoil | 2.04% | 0 | 52% | 1 | 0.61 | 7.26 | -0.122 |
| 2017 | Eternaoil | 23.73% | 0 | 52% | 1 | 0.78 | 7.11 | -0.175 |
| 2018 | Eternaoil | 23.73% | 0 | 43% | 1 | 0.66 | 7.46 | 0.266 |
| 2019 | Eternaoil | 36.56% | 0 | 44% | 1 | 0.66 | 7.5 | -0.219 |
| 2009 | Fidson  Healthcare | 36.58% | 0 | 44% | 1 | 0.74 | 7.68 | 0.052 |
| 2010 | Fidson  Healthcare | 47.04% | 0 | 0% | 0 | 0.29 | 6.84 | 0.764 |
| 2011 | Fidson  Healthcare | 47.04% | 0 | 7% | 0 | 0.29 | 6.86 | -0.11 |
| 2012 | Fidson  Healthcare | 43.84% | 0 | 7% | 0 | 0.34 | 6.9 | -0.097 |
| 2013 | Fidson  Healthcare | 39.06% | 0 | 7% | 0 | 0.45 | 6.97 | 0.032 |
| 2014 | Fidson | 39.06% | 0 | 7% | 0 | 0.52 | 7.03 | -0.072 |

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| Healthcare | | | | | | | | |
| 2015 | Fidson  Healthcare | 45.05% | 0 | 13% | 0 | 0.57 | 7.09 | -0.15 |
| 2016 | Fidson  Healthcare | 45.05% | 0 | 13% | 0 | 0.63 | 7.2 | -0.194 |
| 2017 | Fidson  Healthcare | 45.05% | 0 | 13% | 0 | 0.62 | 7.22 | -0.094 |
| 2018 | Fidson  Healthcare | 44.59% | 1 | 25% | 0 | 0.6 | 7.22 | -0.105 |
| 2019 | Fidson  Healthcare | 44.99% | 1 | 28% | 0 | 0.56 | 7.24 | -0.039 |
| 2009 | First Alumminium Nig | 1.61% | 1 | 75% | 1 | 0.74 | 6.94 | -0.13 |
| 2010 | First Alumminium  Nig | 0.98% | 1 | 75% | 1 | 0.38 | 7.03 | -0.16 |
| 2011 | First Alumminium  Nig | 0.98% | 1 | 75% | 1 | 0.4 | 7.02 | -0.084 |
| 2012 | First  Alumminium Nig | 0.98% | 1 | 75% | 1 | 0.4 | 7 | -0.101 |
| 2013 | First  Alumminium Nig | 1.05% | 1 | 75% | 1 | 0.49 | 6.95 | -0.127 |
| 2014 | First  Alumminium Nig | 1.05% | 1 | 75% | 1 | 0.46 | 6.93 | -0.087 |
| 2015 | First  Alumminium Nig | 0.96% | 1 | 75% | 1 | 0.45 | 6.93 | -0.086 |
| 2016 | First Alumminium  Nig | 0.96% | 1 | 75% | 1 | 0.42 | 6.92 | -0.071 |
| 2017 | First Alumminium  Nig | 0.96% | 1 | 75% | 1 | 0.47 | 6.97 | -0.093 |
| 2018 | First Alumminium  Nig | 0.00% | 1 | 75% | 1 | 0.48 | 6.99 | -0.129 |
| 2019 | First Alumminium  Nig | 0.51% | 1 | 52% | 1 | 0.68 | 8.04 | -0.006 |
| 2009 | Flour Mills Of | 0.56% | 1 | 52% | 1 | 0.73 | 8.14 | -0.025 |

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| Nigeria | | | | | | | | |
| 2010 | Flour Mills Of  Nigeria | 0.33% | 1 | 52% | 1 | 0.63 | 8.16 | -0.188 |
| 2011 | Flour Mills Of  Nigeria | 0.00% | 1 | 52% | 1 | 0.69 | 8.21 | -0.064 |
| 2012 | Flour Mills Of  Nigeria | 0.93% | 0 | 52% | 1 | 0.65 | 8.37 | 0.028 |
| 2013 | Flour Mills Of  Nigeria | 0.40% | 0 | 52% | 1 | 0.7 | 8.45 | -0.047 |
| 2014 | Flour Mills Of  Nigeria | 0.42% | 0 | 66% | 1 | 0.72 | 8.47 | -0.071 |
| 2015 | Flour Mills Of Nigeria | 0.51% | 0 | 62% | 1 | 0.75 | 8.54 | -0.055 |
| 2016 | Flour Mills Of  Nigeria | 0.48% | 0 | 62% | 1 | 0.72 | 8.54 | -0.098 |
| 2017 | Flour Mills Of  Nigeria | 0.49% | 0 | 52% | 1 | 0.79 | 8.68 | 0.066 |
| 2018 | Flour Mills Of  Nigeria | 39.38% | 1 | 46% | 0 | 0.9 | 7.86 | 0.882 |
| 2019 | Flour Mills Of  Nigeria | 40.61% | 1 | 46% | 0 | 0.62 | 7.94 | -0.258 |
| 2009 | Forte Oil (Ap) | 34.53% | 1 | 62% | 0 | 0.63 | 7.84 | -0.177 |
| 2010 | Forte Oil (Ap) | 45.66% | 1 | 56% | 0 | 0.87 | 7.66 | -0.241 |
| 2011 | Forte Oil (Ap) | 40.33% | 1 | 56% | 0 | 0.82 | 7.63 | -0.02 |
| 2012 | Forte Oil (Ap) | 53.12% | 1 | 56% | 0 | 0.6 | 8.02 | 0.116 |
| 2013 | Forte Oil (Ap) | 42.47% | 1 | 64% | 0 | 0.68 | 8.14 | 0.022 |
| 2014 | Forte Oil (Ap) | 41.33% | 0 | 63% | 0 | 0.89 | 8.09 | -0.05 |
| 2015 | Forte Oil (Ap) | 41.33% | 0 | 63% | 0 | 0.69 | 8.15 | -0.094 |
| 2016 | Forte Oil (Ap) | 14.22% | 0 | 64% | 0 | 0.62 | 8.17 | 0.057 |
| 2017 | Forte Oil (Ap) | 47.30% | 0 | 0% | 0 | 0.22 | 6.5 | 0.07 |
| 2018 | Forte Oil (Ap) | 44.00% | 0 | 0% | 0 | 0.31 | 6.54 | 0.116 |
| 2019 | Forte Oil (Ap) | 46.82% | 0 | 0% | 0 | 0.48 | 6.64 | -0.074 |
| 2009 | Glaxosmithkli  ne Nig | 1.39% | 0 | 46% | 1 | 0.43 | 6.98 | -0.087 |
| 2010 | Glaxosmithkli  ne Nig | 1.27% | 0 | 46% | 1 | 0.45 | 7.08 | -0.05 |
| 2011 | Glaxosmithkli  ne Nig | 1.27% | 0 | 56% | 1 | 0.47 | 7.17 | -0.026 |
| 2012 | Glaxosmithkli  ne Nig | 1.27% | 0 | 56% | 1 | 0.5 | 7.25 | -0.097 |
| 2013 | Glaxosmithkli  ne Nig | 1.27% | 0 | 56% | 1 | 0.51 | 7.34 | -0.126 |
| 2014 | Glaxosmithkli  ne Nig | 1.07% | 0 | 55% | 1 | 0.53 | 7.42 | -0.088 |

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| 2015 | Glaxosmithkli ne Nig | 0.03% | 0 | 56% | 1 | 0.54 | 7.45 | 0.019 |
| 2016 | Glaxosmithkli  ne Nig | 0.04% | 0 | 56% | 1 | 0.58 | 7.5 | -0.149 |
| 2017 | Glaxosmithkli  ne Nig | 0.04% | 0 | 56% | 1 | 0.4 | 7.45 | 0.044 |
| 2018 | Glaxosmithkli  ne Nig | 0.03% | 0 | 56% | 1 | 0.35 | 7.42 | 0.094 |
| 2019 | Glaxosmithkli  ne Nig | 0.48% | 0 | 74% | 1 | 0.55 | 5.84 | -0.078 |
| 2009 | Greif Nig | 0.48% | 0 | 74% | 1 | 0.59 | 5.86 | -0.083 |
| 2010 | Greif Nig | 0.48% | 0 | 74% | 1 | 0.49 | 5.83 | -0.018 |
| 2011 | Greif Nig | 0.49% | 0 | 74% | 1 | 0.41 | 5.79 | -0.081 |
| 2012 | Greif Nig | 0.44% | 0 | 74% | 1 | 0.45 | 5.85 | -0.047 |
| 2013 | Greif Nig | 0.44% | 0 | 74% | 1 | 0.53 | 5.83 | -0.029 |
| 2014 | Greif Nig | 0.44% | 0 | 74% | 1 | 0.49 | 5.82 | -0.003 |
| 2015 | Greif Nig | 0.44% | 0 | 74% | 1 | 0.53 | 5.85 | -0.125 |
| 2016 | Greif Nig | 0.44% | 0 | 74% | 1 | 0.53 | 5.86 | 0.227 |
| 2017 | Greif Nig | 0.44% | 0 | 74% | 1 | 0.54 | 5.9 | -0.107 |
| 2018 | Greif Nig | 0.11% | 0 | 54% | 1 | 0.5 | 7.86 | -0.038 |
| 2019 | Greif Nig | 0.09% | 0 | 54% | 1 | 0.57 | 7.87 | 0.031 |
| 2009 | Guinness Nig | 0.09% | 0 | 54% | 1 | 0.56 | 7.89 | -0.202 |
| 2010 | Guinness Nig | 0.08% | 0 | 54% | 1 | 0.56 | 7.96 | -0.02 |
| 2011 | Guinness Nig | 0.08% | 0 | 54% | 1 | 0.64 | 8.03 | -0.101 |
| 2012 | Guinness Nig | 0.07% | 0 | 54% | 1 | 0.62 | 8.08 | -0.117 |
| 2013 | Guinness Nig | 0.07% | 0 | 54% | 1 | 0.66 | 8.12 | -0.079 |
| 2014 | Guinness Nig | 0.07% | 1 | 54% | 1 | 0.6 | 8.09 | -0.187 |
| 2015 | Guinness Nig | 0.07% | 1 | 54% | 1 | 0.7 | 8.14 | -0.006 |
| 2016 | Guinness Nig | 0.09% | 1 | 54% | 1 | 0.71 | 8.16 | -0.118 |
| 2017 | Guinness Nig | 0.04% | 1 | 86% | 0 | 0.77 | 7.37 | -0.065 |
| 2018 | Guinness Nig | 0.03% | 1 | 86% | 0 | 0.55 | 7.48 | -0.042 |
| 2019 | Guinness Nig | 22.91% | 1 | 86% | 0 | 0.48 | 7.46 | -0.005 |
| 2010 | Interlinked Technologies | 32.95% | 1 | 63% | 1 | 0.99 | 5.38 | 0.252 |
| 2011 | Interlinked  Technologies | 61.65% | 1 | 63% | 1 | 1.08 | 5.52 | 0.526 |
| 2012 | Interlinked  Technologies | 0.09% | 1 | 63% | 1 | 0.17 | 5.73 | 0.058 |
| 2013 | Interlinked  Technologies | 0.09% | 1 | 63% | 1 | 0.42 | 5.68 | -0.479 |
| 2014 | Interlinked  Technologies | 0.08% | 1 | 63% | 1 | 0.39 | 5.64 | 0.191 |
| 2015 | Interlinked | 0.08% | 1 | 63% | 1 | 0.4 | 5.65 | 0.021 |

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| Technologies | | | | | | | | |
| 2016 | Interlinked  Technologies | 0.09% | 1 | 63% | 1 | 0.43 | 5.68 | -0.069 |
| 2017 | Interlinked  Technologies | 0.09% | 1 | 63% | 1 | 0.35 | 5.63 | 0.058 |
| 2018 | Interlinked  Technologies | 0.09% | 1 | 63% | 1 | 0.41 | 5.67 | 0.01 |
| 2019 | Interlinked  Technologies | 0.08% | 1 | 63% | 1 | 0.47 | 5.7 | -0.03 |
| 2009 | International  Breweries | 4.89% | 1 | 71% | 1 | 1 | 6.22 | 0.819 |
| 2010 | International Breweries | 5.14% | 1 | 71% | 1 | 1.06 | 6.71 | -1.471 |
| 2011 | International  Breweries | 0.47% | 1 | 71% | 1 | 1.01 | 7 | -0.722 |
| 2012 | International  Breweries | 5.50% | 1 | 71% | 1 | 0.91 | 7.16 | -0.197 |
| 2013 | International  Breweries | 5.50% | 1 | 71% | 1 | 0.91 | 7.16 | -0.135 |
| 2014 | International  Breweries | 3.89% | 1 | 77% | 1 | 0.59 | 7.36 | 0.453 |
| 2015 | International  Breweries | 3.89% | 1 | 77% | 1 | 0.54 | 7.39 | -0.18 |
| 2016 | International  Breweries | 3.54% | 1 | 77% | 1 | 0.6 | 7.48 | -0.049 |
| 2017 | International  Breweries | 3.54% | 1 | 72% | 1 | 0.58 | 7.52 | -0.174 |
| 2018 | International  Breweries | 3.32% | 1 | 77% | 1 | 0.69 | 7.65 | -0.195 |
| 2019 | International  Breweries | 0.54% | 1 | 0% | 0 | 0.82 | 7.32 | -4.125 |
| 2009 | Japaul Oil &  Maritime Serv | 1.27% | 1 | 0% | 0 | 0.76 | 7.33 | 0.036 |
| 2010 | Japaul Oil &  Maritime Serv | 7.08% | 1 | 0% | 0 | 0.86 | 7.4 | -0.03 |
| 2011 | Japaul Oil &  Maritime Serv | 0.00% | 0 | 0% | 0 | 0.83 | 7.44 | -0.072 |
| 2012 | Japaul Oil &  Maritime Serv | 0.00% | 0 | 0% | 0 | 0.54 | 7.51 | -0.46 |
| 2013 | Japaul Oil &  Maritime Serv | 0.00% | 0 | 0% | 0 | 0.61 | 7.59 | -0.027 |
| 2014 | Japaul Oil &  Maritime Serv | 7.11% | 0 | 0% | 0 | 0.68 | 7.59 | -0.101 |
| 2015 | Japaul Oil &  Maritime Serv | 7.11% | 1 | 0% | 0 | 0.9 | 7.53 | -0.221 |

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| 2016 | Japaul Oil & Maritime Serv | 7.11% | 1 | 0% | 0 | 0.61 | 7.48 | -0.71 |
| 2017 | Japaul Oil &  Maritime Serv | 5.85% | 1 | 0% | 0 | 2.01 | 7.45 | -0.283 |
| 2018 | Japaul Oil &  Maritime Serv | 1.63% | 1 | 51% | 1 | 0.71 | 7.13 | 0.017 |
| 2019 | Japaul Oil &  Maritime Serv | 1.63% | 1 | 51% | 1 | 0.8 | 7.17 | -0.199 |
| 2009 | Julius Berger | 0.28% | 1 | 61% | 1 | 0.95 | 8.14 | -0.217 |
| 2010 | Julius Berger | 1.59% | 1 | 61% | 1 | 0.95 | 8.19 | -0.074 |
| 2011 | Julius Berger | 1.59% | 1 | 61% | 1 | 0.95 | 8.18 | -0.077 |
| 2012 | Julius Berger | 0.21% | 1 | 61% | 1 | 0.94 | 8.24 | -0.103 |
| 2013 | Julius Berger | 12.80% | 1 | 61% | 1 | 0.92 | 8.25 | -0.137 |
| 2014 | Julius Berger | 12.95% | 1 | 61% | 1 | 0.91 | 8.36 | -0.045 |
| 2015 | Julius Berger | 12.46% | 0 | 43% | 1 | 0.9 | 8.41 | -0.019 |
| 2016 | Julius Berger | 12.85% | 1 | 53% | 1 | 0.9 | 8.39 | -0.026 |
| 2017 | Julius Berger | 12.78% | 1 | 53% | 1 | 0.9 | 8.41 | 0.01 |
| 2018 | Julius Berger | 34.65% | 1 | 53% | 1 | 0.89 | 8.44 | -0.108 |
| 2019 | Julius Berger | 0.07% | 1 | 39% | 1 | 0.35 | 7.79 | -0.05 |
| 2017 | Lafarge  Cement Wapco Nig | 0.08% | 1 | 39% | 1 | 0.45 | 7.9 | -0.071 |
| 2018 | Lafarge Cement  Wapco Nig | 0.08% | 1 | 39% | 1 | 0.63 | 8.07 | -0.097 |
| 2019 | Lafarge  Cement Wapco Nig | 0.08% | 1 | 39% | 1 | 0.63 | 8.18 | -0.192 |
| 2009 | Lafarge  Cement Wapco Nig | 0.08% | 1 | 39% | 1 | 0.55 | 8.18 | -0.067 |
| 2010 | Lafarge Cement  Wapco Nig | 0.08% | 1 | 39% | 1 | 0.42 | 8.21 | -0.057 |
| 2011 | Lafarge Cement  Wapco Nig | 0.06% | 1 | 39% | 1 | 0.44 | 8.49 | -0.087 |
| 2012 | Lafarge  Cement Wapco Nig | 0.05% | 1 | 77% | 1 | 0.61 | 8.66 | -0.101 |
| 2013 | Lafarge  Cement Wapco Nig | 0.05% | 1 | 77% | 1 | 0.5 | 8.7 | 0.014 |
| 2014 | Lafarge  Cement | 0.06% | 1 | 77% | 1 | 0.73 | 8.76 | -0.055 |

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| Wapco Nig | | | | | | | | |
| 2015 | Lafarge Cement  Wapco Nig | 3.27% | 1 | 51% | 1 | 0.36 | 6.7 | -0.382 |
| 2016 | Lafarge Cement  Wapco Nig | 2.21% | 1 | 51% | 1 | 0.34 | 6.73 | 0.123 |
| 2017 | Lafarge Cement  Wapco Nig | 1.17% | 1 | 51% | 1 | 0.35 | 6.72 | 0.075 |
| 2018 | Lafarge  Cement Wapco Nig | 3.99% | 1 | 51% | 1 | 0.28 | 6.7 | 0.02 |
| 2019 | Lafarge  Cement Wapco Nig | 6.21% | 1 | 51% | 1 | 0.22 | 6.66 | 0 |
| 2009 | Livestock  Feeds | 10.31% | 1 | 51% | 1 | 0.24 | 6.67 | 0.038 |
| 2010 | Livestock  Feeds | 11.84% | 1 | 51% | 1 | 0.14 | 6.61 | 0.058 |
| 2011 | Livestock  Feeds | 15.06% | 1 | 20% | 1 | 0.23 | 6.55 | -0.182 |
| 2012 | Livestock  Feeds | 0.21% | 1 | 36% | 0 | 0.64 | 6 | -0.107 |
| 2013 | Livestock  Feeds | 0.37% | 1 | 36% | 0 | 0.55 | 5.94 | -0.092 |
| 2014 | Livestock  Feeds | 0.20% | 0 | 34% | 0 | 0.61 | 6.03 | 0.093 |
| 2015 | Livestock  Feeds | 21.01% | 0 | 34% | 0 | 0.68 | 6.19 | 0.071 |
| 2016 | Livestock  Feeds | 0.12% | 0 | 24% | 0 | 0.69 | 6.32 | 0.121 |
| 2017 | Livestock  Feeds | 0.12% | 0 | 64% | 0 | 0.53 | 6.56 | 0.187 |
| 2018 | Livestock Feeds | 13.25% | 0 | 64% | 0 | 0.66 | 6.76 | 0.295 |
| 2019 | Livestock  Feeds | 63.56% | 0 | 62% | 0 | 0.57 | 6.66 | -0.326 |
| 2009 | May & Baker  Nig | 63.56% | 0 | 62% | 0 | 0.72 | 6.87 | 0.247 |
| 2010 | May & Baker  Nig | 73.30% | 0 | 62% | 0 | 0.6 | 6.72 | -0.173 |
| 2011 | May & Baker  Nig | 27.95% | 1 | 0% | 0 | 0.52 | 6.76 | 0.04 |
| 2012 | May & Baker | 25.58% | 1 | 0% | 0 | 0.56 | 6.79 | -0.1 |

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| Nig | | | | | | | | |
| 2013 | May & Baker  Nig | 33.36% | 1 | 0% | 0 | 0.58 | 6.83 | -0.063 |
| 2014 | May & Baker  Nig | 38.20% | 1 | 0% | 0 | 0.55 | 6.85 | -0.11 |
| 2015 | May & Baker  Nig | 32.59% | 1 | 0% | 0 | 0.61 | 6.91 | 0.053 |
| 2016 | May & Baker  Nig | 38.47% | 1 | 0% | 0 | 0.63 | 6.91 | -0.174 |
| 2017 | May & Baker  Nig | 38.00% | 1 | 24% | 0 | 0.62 | 6.91 | -0.086 |
| 2018 | May & Baker Nig | 38.52% | 1 | 30% | 0 | 0.62 | 6.92 | -0.188 |
| 2019 | May & Baker  Nig | 38.52% | 1 | 30% | 0 | 0.65 | 6.94 | -0.187 |
| 2009 | Mobil Nig | 0.03% | 1 | 60% | 1 | 0.86 | 7.3 | 0.033 |
| 2010 | Mobil Nig | 0.02% | 1 | 60% | 1 | 0.81 | 7.34 | -0.136 |
| 2011 | Mobil Nig | 0.03% | 1 | 60% | 1 | 1.3 | 7.17 | -0.114 |
| 2012 | Mobil Nig | 0.03% | 1 | 60% | 1 | 0.83 | 7.43 | -0.191 |
| 2013 | Mobil Nig | 0.03% | 0 | 60% | 1 | 0.8 | 7.53 | -0.078 |
| 2014 | Mobil Nig | 0.04% | 0 | 60% | 1 | 0.77 | 7.61 | -0.24 |
| 2015 | Mobil Nig | 0.04% | 0 | 60% | 1 | 0.72 | 7.69 | 0.02 |
| 2016 | Mobil Nig | 0.03% | 0 | 60% | 1 | 0.72 | 7.73 | -0.128 |
| 2017 | Mobil Nig | 0.03% | 0 | 60% | 1 | 0.65 | 7.79 | -0.053 |
| 2018 | Mobil Nig | 0.01% | 0 | 74% | 1 | 0.63 | 7.87 | 0.131 |
| 2019 | Mobil Nig | 7.90% | 0 | 40% | 1 | 0.19 | 5.76 | 0.003 |
| 2009 | Morison  Industries | 11.77% | 0 | 40% | 1 | 0.25 | 5.76 | -0.081 |
| 2010 | Morison  Industries | 10.89% | 0 | 40% | 1 | 0.27 | 5.74 | -0.067 |
| 2011 | Morison  Industries | 9.98% | 0 | 40% | 1 | 0.25 | 5.76 | -0.059 |
| 2012 | Morison  Industries | 4.65% | 0 | 40% | 1 | 0.26 | 5.77 | -0.016 |
| 2013 | Morison  Industries | 4.67% | 0 | 40% | 1 | 0.22 | 5.72 | 0.025 |
| 2014 | Morison  Industries | 4.66% | 0 | 40% | 1 | 0.26 | 5.65 | -0.157 |
| 2015 | Morison  Industries | 4.66% | 0 | 40% | 1 | 0.47 | 5.63 | -0.237 |
| 2016 | Morison  Industries | 4.66% | 0 | 40% | 1 | 0.65 | 5.62 | -0.199 |
| 2017 | Morison  Industries | 4.66% | 0 | 40% | 1 | 1.07 | 5.74 | -0.167 |

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| 2018 | Morison Industries | 0.02% | 0 | 60% | 1 | 0.83 | 7.05 | 0.178 |
| 2019 | Morison  Industries | 0.02% | 0 | 60% | 1 | 0.99 | 7.14 | 0.029 |
| 2009 | Multiverse | 27.22% | 0 | 0% | 0 | 0 | 6.61 | 0.03 |
| 2010 | Multiverse | 8.15% |  | 0% | 0 | 0.13 | 6.63 | 0.01 |
| 2011 | Multiverse | 7.13% | 1 | 0% | 0 | 0.17 | 6.65 | -0.017 |
| 2012 | Multiverse | 9.41% | 1 | 0% | 0 | 0.26 | 6.7 | -0.072 |
| 2013 | Multiverse | 28.32% | 1 | 0% | 0 | 0.31 | 6.74 | -0.078 |
| 2014 | Multiverse | 28.32% | 1 | 0% | 0 | 0.52 | 6.72 | -0.059 |
| 2015 | Multiverse | 28.32% | 1 | 0% | 0 | 0.66 | 6.68 | -0.108 |
| 2016 | Multiverse | 28.32% | 1 | 5% | 0 | 0.73 | 6.68 | -0.082 |
| 2017 | Multiverse | 28.32% | 1 | 5% | 0 | 0.87 | 6.66 | -0.108 |
| 2018 | Multiverse | 28.32% | 1 | 5% | 0 | 0.74 | 6.66 | 0.107 |
| 2019 | Multiverse | 3.15% | 1 | 62% | 0 | 0.49 | 6.87 | -0.059 |
| 2009 | Nascon Allied | 3.46% | 1 | 62% | 0 | 0.43 | 6.91 | 0.047 |
| 2010 | Nascon Allied | 3.44% | 1 | 62% | 0 | 0.34 | 6.88 | 0.054 |
| 2011 | Nascon Allied | 3.44% | 1 | 62% | 0 | 0.44 | 7 | -0.192 |
| 2012 | Nascon Allied | 3.42% | 1 | 62% | 0 | 0.38 | 7.03 | -0.047 |
| 2013 | Nascon Allied | 4.83% | 1 | 62% | 0 | 0.4 | 7.06 | 0.076 |
| 2014 | Nascon Allied | 4.83% | 1 | 62% | 0 | 0.5 | 7.1 | -0.205 |
| 2015 | Nascon Allied | 0.34% | 1 | 62% | 0 | 0.57 | 7.21 | -0.151 |
| 2016 | Nascon Allied | 0.35% | 1 | 67% | 0 | 0.67 | 7.39 | 0.011 |
| 2017 | Nascon Allied | 0.30% | 1 | 68% | 0 | 0.62 | 7.48 | -0.345 |
| 2018 | Nascon Allied | 11.95% | 1 | 33% | 1 | 0.3 | 6.78 | 0.21 |
| 2019 | Nascon Allied | 9.26% | 1 | 33% | 1 | 0.31 | 6.83 | -0.201 |
| 2009 | Ncr Nigeria | 1.04% | 1 | 62% | 1 | 1.11 | 6.45 | 0.08 |
| 2010 | Ncr Nigeria | 1.04% | 1 | 62% | 1 | 0.83 | 6.42 | 0.356 |
| 2011 | Ncr Nigeria | 0.05% | 1 | 62% | 1 | 0.49 | 6.36 | 0.043 |
| 2012 | Ncr Nigeria | 0.05% | 1 | 62% | 1 | 0.6 | 6.58 | -0.247 |
| 2013 | Ncr Nigeria | 0.05% | 1 | 62% | 1 | 0.97 | 6.73 | -0.588 |
| 2014 | Ncr Nigeria | 0.05% | 1 | 62% | 1 | 0.98 | 6.74 | 0.145 |
| 2015 | Ncr Nigeria | 0.05% | 1 | 62% | 1 | 0.96 | 6.83 | -0.046 |
| 2016 | Ncr Nigeria | 0.05% | 1 | 62% | 1 | 0.97 | 6.9 | -0.073 |
| 2017 | Ncr Nigeria | 1.08% | 1 | 62% | 1 | 0.97 | 7.07 | -0.053 |
| 2018 | Ncr Nigeria | 1.03% | 1 | 62% | 1 | Infin  ity | NaN | 0.037 |
| 2019 | Ncr Nigeria | 32.75% | 1 | 18% | 0 | 0.5 | 6.52 | 0.135 |
| 2009 | Nestle Nig | 0.06% | 1 | 60% | 1 | 0.69 | 7.46 | 0.13 |
| 2010 | Nestle Nig | 0.06% | 1 | 60% | 1 | 0.76 | 7.65 | -0.073 |
| 2011 | Nestle Nig | 0.06% | 0 | 60% | 1 | 0.75 | 7.78 | -0.062 |
| 2012 | Nestle Nig | 0.05% | 0 | 60% | 1 | 0.7 | 7.89 | -0.058 |

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| 2013 | Nestle Nig | 0.05% | 0 | 60% | 1 | 0.62 | 7.95 | -0.117 |
| 2014 | Nestle Nig | 0.02% | 0 | 60% | 1 | 0.62 | 8.03 | -0.157 |
| 2015 | Nestle Nig | 0.01% | 0 | 60% | 1 | 0.66 | 8.03 | -0.012 |
| 2016 | Nestle Nig | 0.01% | 0 | 63% | 1 | 0.68 | 8.08 | -0.152 |
| 2017 | Nestle Nig | 0.01% | 0 | 73% | 1 | 0.82 | 8.23 | -0.449 |
| 2018 | Nestle Nig | 0.01% | 0 | 76% | 1 | 0.69 | 8.17 | 0.085 |
| 2019 | Nestle Nig | 0.00% | 0 | 61% | 1 | 0.69 | 8.02 | -0.136 |
| 2009 | Nigeria  Breweries | 0.00% | 0 | 61% | 1 | 0.56 | 8.03 | -0.085 |
| 2010 | Nigeria  Breweries | 0.21% | 1 | 61% | 1 | 0.56 | 8.06 | -0.077 |
| 2011 | Nigeria  Breweries | 0.21% | 1 | 68% | 1 | 0.67 | 8.37 | -0.069 |
| 2012 | Nigeria  Breweries | 0.19% | 1 | 68% | 1 | 0.63 | 8.4 | -0.07 |
| 2013 | Nigeria  Breweries | 0.17% | 1 | 68% | 1 | 0.56 | 8.4 | -0.206 |
| 2014 | Nigeria  Breweries | 0.01% | 1 | 68% | 1 | 0.51 | 8.54 | -0.053 |
| 2015 | Nigeria  Breweries | 0.02% | 1 | 65% | 1 | 0.52 | 8.55 | -0.097 |
| 2016 | Nigeria  Breweries | 0.01% | 1 | 66% | 1 | 0.55 | 8.56 | -0.114 |
| 2017 | Nigeria  Breweries | 0.02% | 1 | 56% | 1 | 0.53 | 8.58 | -0.188 |
| 2018 | Nigeria  Breweries | 0.98% | 1 | 60% | 1 | 0.9 | 6.16 | -0.075 |
| 2019 | Nigeria  Breweries | 0.44% | 1 | 60% | 1 | 1.09 | 6.01 | -0.56 |
| 2009 | Nigerian  Northen Flour Mill | 11.70% | 0 | 72% | 0 | 0.72 | 6.37 | -0.211 |
| 2010 | Nigerian  Northen Flour Mill | 11.70% | 0 | 72% | 0 | 0.72 | 6.37 | -0.173 |
| 2011 | Nigerian Northen Flour  Mill | 11.62% | 0 | 72% | 0 | 0.53 | 6.41 | 0.255 |
| 2012 | Nigerian  Northen Flour Mill | 12.45% | 0 | 72% | 0 | 0.62 | 6.62 | -0.332 |
| 2013 | Nigerian  Northen Flour Mill | 8.37% | 0 | 72% | 0 | 0.59 | 6.53 | 0.22 |
| 2014 | Nigerian | 8.87% | 0 | 72% | 0 | 0.56 | 6.56 | -0.268 |

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| Northen Flour Mill | | | | | | | | |
| 2015 | Nigerian  Northen Flour Mill | 7.89% | 0 | 72% | 0 | 0.46 | 6.51 | 0.08 |
| 2016 | Nigerian Northen Flour  Mill | 6.90% | 0 | 72% | 0 | 1 | 6.61 | -0.231 |
| 2017 | Nigerian Northen Flour  Mill | 6.90% | 0 | 72% | 0 | 0.12 | 6.59 | 0.08 |
| 2018 | Nigerian  Northen Flour Mill | 6.71% | 0 | 66% | 0 | 0.71 | 6.64 | 0.217 |
| 2019 | Nigerian  Northen Flour Mill | 0.04% | 0 | 19% | 0 | 0.84 | 8.46 | 0.136 |
| 2009 | Oando | 0.07% | 0 | 19% | 0 | 0.83 | 8.5 | -0.167 |
| 2010 | Oando | 2.68% | 0 | 19% | 0 | 0.71 | 8.51 | 0.012 |
| 2011 | Oando | 2.05% | 0 | 19% | 0 | 0.77 | 8.61 | 0.007 |
| 2012 | Oando | 0.00% | 0 | 19% | 0 | 0.8 | 8.71 | -0.046 |
| 2013 | Oando | 0.00% | 0 | 19% | 0 | 0.73 | 8.77 | -0.073 |
| 2014 | Oando | 2.47% | 0 | 19% | 0 | 0.95 | 8.95 | -0.226 |
| 2015 | Oando | 1.82% | 0 | 56% | 0 | 0.95 | 8.98 | -0.044 |
| 2016 | Oando | 0.17% | 0 | 56% | 0 | 0.81 | 9 | -0.103 |
| 2017 | Oando | 0.19% | 0 | 70% |  | 0.75 | 9.02 | -0.036 |
| 2018 | Oando | 0.96% | 0 | 59% | 1 | 0.45 | 6.89 | 0.001 |
| 2019 | Oando | 0.96% | 0 | 59% | 1 | 0.45 | 6.9 | -0.069 |
| 2009 | Pharma-Deko | 28.98% | 0 | 36% | 0 | 1.12 | 6.17 | -0.185 |
| 2010 | Pharma-Deko | 9.43% | 0 | 36% | 0 | 1.52 | 6.1 | -0.192 |
| 2011 | Pharma-Deko | 37.07% | 0 | 36% | 0 | 1.68 | 6.21 | -0.386 |
| 2012 | Pharma-Deko | 36.11% | 0 | 36% | 0 | 1.42 | 6.41 | -0.078 |
| 2013 | Pharma-Deko | 41.71% | 0 | 36% | 0 | 0.66 | 6.44 | 0.032 |
| 2014 | Pharma-Deko | 84.32% | 0 | 36% | 0 | 0.67 | 6.4 | -0.092 |
| 2015 | Pharma-Deko | 84.44% | 0 | 36% | 0 | 0.67 | 6.45 | -0.137 |
| 2016 | Pharma-Deko | 84.44% | 0 | 36% | 0 | 0.31 | 6.41 | 0.537 |
| 2017 | Pharma-Deko | 71.84% | 0 | 36% | 0 | 0.25 | 6.37 | 0.05 |
| 2018 | Pharma-Deko | 63.77% | 0 | 36% | 0 | 0.23 | 6.36 | -0.032 |
| 2019 | Pharma-Deko | 28.90% | 1 | 51% | 0 | 0.46 | 5.35 | -0.037 |
| 2009 | Premier  Paints | 24.13% | 0 | 51% | 0 | 0.61 | 5.27 | -0.001 |
| 2010 | Premier  Paints | 24.06% | 0 | 51% | 0 | 1.12 | 5.09 | -0.495 |

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| 2011 | Premier Paints | 24.15% | 0 | 51% | 0 | 1 | 5.44 | -0.094 |
| 2012 | Premier  Paints | 13.24% | 0 | 51% | 0 | 0.96 | 5.46 | -0.029 |
| 2013 | Premier  Paints | 12.88% | 0 | 51% | 0 | 1.04 | 5.4 | -0.109 |
| 2014 | Premier  Paints | 13.86% | 0 | 51% | 0 | 1 | 5.46 | -0.019 |
| 2015 | Premier  Paints | 13.86% | 0 | 51% | 0 | 0.92 | 5.53 | -0.191 |
| 2016 | Premier  Paints | 13.86% | 0 | 51% | 0 | 1.12 | 5.5 | -0.2 |
| 2017 | Premier  Paints | 65.08% | 0 | 51% | 0 | 0.78 | 5.45 | -0.155 |
| 2018 | Premier  Paints | 0.31% | 0 | 68% | 1 | 0.55 | 6.75 | 0.118 |
| 2019 | Premier  Paints | 1.66% | 0 | 68% | 1 | 0.65 | 6.88 | -0.101 |
| 2009 | Pz Cussons | 0.13% | 1 | 67% | 1 | 0.35 | 7.7 | -0.077 |
| 2010 | Pz Cussons | 0.13% | 0 | 67% | 1 | 0.35 | 7.74 | -0.063 |
| 2011 | Pz Cussons | 0.16% | 0 | 67% | 1 | 0.34 | 7.77 | -0.155 |
| 2012 | Pz Cussons | 0.13% | 0 | 67% | 1 | 0.4 | 7.84 | 0.104 |
| 2013 | Pz Cussons | 0.17% | 0 | 67% | 1 | 0.33 | 7.81 | -0.013 |
| 2014 | Pz Cussons | 0.17% | 0 | 67% | 1 | 0.36 | 7.86 | -0.069 |
| 2015 | Pz Cussons | 0.17% | 0 | 67% | 1 | 0.36 | 7.85 | -0.033 |
| 2016 | Pz Cussons | 0.12% | 0 | 67% | 1 | 0.39 | 7.83 | 0.004 |
| 2017 | Pz Cussons | 0.12% | 0 | 73% | 1 | 0.42 | 7.87 | -0.217 |
| 2018 | Pz Cussons | 0.12% | 0 | 73% | 1 | 0.5 | 7.95 | 0.019 |
| 2019 | Pz Cussons | 39.08% | 0 | 32% | 0 | 0.4 | 6.29 | -0.106 |
| 2009 | Scoa Nig | 0.02% | 1 | 5% | 1 | 0.6 | 6.62 | 0.053 |
| 2010 | Scoa Nig | 0.03% | 1 | 5% | 1 | 0.51 | 6.67 | 0.207 |
| 2011 | Scoa Nig | 0.03% | 1 | 5% | 1 | 0.51 | 6.67 | -0.017 |
| 2012 | Scoa Nig | 0.03% | 1 | 5% | 1 | 0.57 | 6.78 | 0.056 |
| 2013 | Scoa Nig | 0.02% | 1 | 68% | 1 | 0.54 | 6.85 | 0.019 |
| 2014 | Scoa Nig | 0.03% | 1 | 68% | 1 | 0.63 | 6.91 | -0.086 |
| 2015 | Scoa Nig | 0.02% | 0 | 68% | 1 | 0.69 | 6.99 | -0.063 |
| 2016 | Scoa Nig | 0.02% | 0 | 0% | 1 | 0.82 | 7.02 | 0.046 |
| 2017 | Scoa Nig | 0.02% | 0 | 0% | 1 | 0.68 | 7.15 | -0.164 |
| 2018 | Scoa Nig | 0.00% | 0 | 68% | 1 | 0.79 | 7.11 | -0.161 |
| 2019 | Scoa Nig | 0.00% | 0 | 91% | 0 | 0.79 | 6.83 | -0.165 |
| 2009 | Thomas  Wyatt | 6.31% | 1 | 37% | 0 | 0.65 | 5.78 | 0.135 |
| 2010 | Thomas | 7.97% | 1 | 37% | 0 | 0.67 | 5.77 | 0.116 |

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| Wyatt | | | | | | | | |
| 2011 | Thomas  Wyatt | 7.97% | 1 | 37% | 0 | 0.71 | 5.8 | 0.033 |
| 2012 | Thomas  Wyatt | 8.25% | 1 | 37% | 0 | 0.76 | 5.81 | -0.063 |
| 2013 | Thomas  Wyatt | 6.25% | 1 | 37% | 0 | 0.81 | 5.83 | -0.046 |
| 2014 | Thomas  Wyatt | 6.25% | 1 | 37% | 0 | 1.06 | 5.81 | -0.09 |
| 2015 | Thomas  Wyatt | 6.25% | 1 | 37% | 0 | 1.1 | 5.81 | -0.011 |
| 2016 | Thomas Wyatt | 6.25% | 1 | 37% | 0 | 0.85 | 5.91 | -0.073 |
| 2017 | Thomas  Wyatt | 6.25% | 1 | 37% | 0 | 1.28 | 5.72 | -0.097 |
| 2018 | Thomas  Wyatt | 6.25% | 1 | 37% | 0 | 1.38 | 5.69 | -0.128 |
| 2019 | Thomas  Wyatt | 0.67% | 1 | 73% | 0 | 0.64 | 7.84 | -Infinity |
| 2009 | Tiger Branded | 0.00% | 1 | 73% | 0 | 0.55 | 7.8 | -0.167 |
| 2010 | Tiger Branded | 0.00% | 0 | 73% | 0 | 0.61 | 7.85 | -0.158 |
| 2011 | Tiger Branded | 0.00% | 0 | 73% | 0 | 0.65 | 7.94 | -0.069 |
| 2012 | Tiger Branded | 0.00% | 0 | 76% | 1 | 0.67 | 7.89 | 0.02 |
| 2013 | Tiger Branded | 0.00% | 0 | 76% | 1 | 0.73 | 7.82 | -0.102 |
| 2014 | Tiger Branded | 0.00% | 0 | 76% | 1 | 0.82 | 7.74 | -0.035 |
| 2015 | Tiger Branded | 0.00% | 0 | 76% | 1 | 1.06 | 7.69 | -0.166 |
| 2016 | Tiger Branded | 0.00% | 0 | 76% | 1 | 0.69 | 7.9 | 0.097 |
| 2017 | Tiger Branded | 0.00% | 0 | 76% | 1 | 0.71 | 8.11 | 0.15 |
| 2018 | Tiger Branded | 0.02% | 0 | 61% | 1 | 0.83 | 7.62 | 0.042 |
| 2019 | Tiger Branded | 0.02% | 1 | 61% | 1 | 0.86 | 7.7 | -0.072 |
| 2009 | Total Nigeria | 0.02% | 1 | 61% | 1 | 0.84 | 7.74 | -0.043 |
| 2010 | Total Nigeria | 0.02% | 1 | 61% | 1 | 0.83 | 7.77 | -0.161 |
| 2011 | Total Nigeria | 0.30% | 1 | 62% | 1 | 0.85 | 7.88 | 0.223 |
| 2012 | Total Nigeria | 0.30% | 1 | 62% | 1 | 0.83 | 7.9 | -0.109 |
| 2013 | Total Nigeria | 0.28% | 1 | 62% | 1 | 0.85 | 7.98 | -0.141 |
| 2014 | Total Nigeria | 0.28% | 1 | 62% | 1 | 0.81 | 7.92 | -0.069 |
| 2015 | Total Nigeria | 0.29% | 1 | 62% | 1 | 0.83 | 8.14 | -0.026 |
| 2016 | Total Nigeria | 0.29% | 0 | 62% | 1 | 0.74 | 8.03 | 0.003 |
| 2017 | Total Nigeria | 0.28% | 0 | 0% | 0 | 0.47 | 6.17 | 0.002 |
| 2018 | Total Nigeria | 0.28% | 0 | 0% | 0 | 0.49 | 6.23 | 0.006 |
| 2019 | Total Nigeria | 0.29% | 0 | 0% | 0 | 0.42 | 6.15 | -0.065 |
| 2009 | Uac Of Nig | 0.67% | 0 | 17% | 0 | 0.52 | 7.98 | -0.118 |
| 2010 | Uac Of Nig | 0.70% | 0 | 17% | 0 | 0.52 | 7.97 | -0.069 |

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| 2011 | Uac Of Nig | 0.81% | 0 | 17% | 0 | 0.55 | 8.01 | -0.02 |
| 2012 | Uac Of Nig | 0.25% | 0 | 17% | 0 | 0.53 | 8.08 | 0.086 |
| 2013 | Uac Of Nig | 0.78% | 0 | 17% | 0 | 0.51 | 8.09 | -0.019 |
| 2014 | Uac Of Nig | 0.82% | 0 | 15% | 0 | 0.42 | 8.09 | 0.02 |
| 2015 | Uac Of Nig | 1.42% | 0 | 15% | 0 | 0.43 | 8.12 | 0.068 |
| 2016 | Uac Of Nig | 1.42% | 0 | 8% | 0 | 0.42 | 8.11 | -0.025 |
| 2017 | Uac Of Nig | 1.42% | 0 | 8% | 0 | 0.45 | 8.14 | 0.076 |
| 2018 | Uac Of Nig | 4.02% | 1 | 8% | 0 | 0.44 | 8.12 | -0.043 |
| 2019 | Uac Of Nig | 26.99% | 1 | 50% | 1 | 0.72 | 7.37 | -0.108 |
| 2009 | Unilever Nig | 2.35% | 1 | 50% | 1 | 0.65 | 7.37 | -0.046 |
| 2010 | Unilever Nig | 16.41% | 0 | 50% | 1 | 0.68 | 7.41 | -0.195 |
| 2011 | Unilever Nig | 12.39% | 0 | 50% | 1 | 0.7 | 7.51 | -0.197 |
| 2012 | Unilever Nig | 21.10% | 0 | 50% | 1 | 0.72 | 7.56 | -0.049 |
| 2013 | Unilever Nig | 0.19% | 0 | 50% | 1 | 0.78 | 7.64 | -0.188 |
| 2014 | Unilever Nig | 0.19% | 0 | 50% | 1 | 0.84 | 7.66 | 0.097 |
| 2015 | Unilever Nig | 0.19% | 0 | 63% | 1 | 0.84 | 7.7 | -0.319 |
| 2016 | Unilever Nig | 0.03% | 0 | 70% | 1 | 0.84 | 7.86 | -0.058 |
| 2017 | Unilever Nig | 0.06% | 0 | 79% | 1 | 0.37 | 8.08 | 0.021 |
| 2018 | Unilever Nig | 12.40% | 1 | 7% | 1 | 0.32 | 6.15 | -0.229 |
| 2019 | Unilever Nig | 12.79% | 1 | 7% | 1 | 0.37 | 6.24 | 0.137 |
| 2009 | Vitafoam Nig | 19.36% | 1 | 21% | 0 | 0.59 | 6.66 | -0.021 |
| 2010 | Vitafoam Nig | 16.40% | 1 | 21% | 0 | 0.6 | 6.73 | -0.046 |
| 2011 | Vitafoam Nig | 16.40% | 1 | 21% | 0 | 0.59 | 6.77 | -0.021 |
| 2012 | Vitafoam Nig | 16.54% | 1 | 21% | 0 | 0.7 | 6.97 | -0.11 |
| 2013 | Vitafoam Nig | 16.91% | 1 | 21% | 0 | 0.7 | 7.02 | -0.068 |
| 2014 | Vitafoam Nig | 16.91% | 1 | 21% | 0 | 0.69 | 7 | -0.108 |
| 2015 | Vitafoam Nig | 0.38% | 1 | 21% | 0 | 0.75 | 7.08 | -0.164 |
| 2016 | Vitafoam Nig | 0.33% | 1 | 27% | 0 | 0.68 | 7.16 | -0.198 |
| 2017 | Vitafoam Nig | 0.33% | 1 | 27% | 0 | 0.74 | 7.13 | 0.133 |
| 2018 | Vitafoam Nig | 0.06% | 0 | 27% | 0 | 0.75 | 7.13 | -0.186 |
| 2019 | Vitafoam Nig | 0.0028 | 0 | 0 | 0 | 0.49 | 6.23 | 0.006 |

APPENDIX

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: ACCRUAL | | | | |
| Method: Panel EGLS (Cross-section weights) | | | | |
| Date: 10/29/20 Time: 12:41 | | | | |
| Sample (adjusted): 2009 2019 | | | | |
| Periods included: 11 | | | | |
| Cross-sections included: 63 | | | | |
| Total panel (unbalanced) observations: 693 | | | | |
| Iterate coefficients after one-step weighting matrix | | | | |
| White cross-section standard errors & covariance (d.f. corrected) | | | | |
| Convergence achieved after 12 total coef iterations | | | | |
| Variable | Coefficien  t | Std. Error | t-Statistic | Prob. |
| C | 0.046952 | 0.022760 | 2.062891 | 0.0395 |
| BDOWN | -0.061760 | 0.014148 | -4.365207 | 0.0000 |
| FOROWN | -0.029858 | 0.014564 | -2.050156 | 0.0408 |
| INSTOWN | 0.041516 | 0.011212 | 3.702973 | 0.0002 |
| CONOWN | -0.075098 | 0.007938 | -9.461196 | 0.0000 |
| LEV | -0.155174 | 0.017607 | -8.813347 | 0.0000 |
| FSIZE | 0.004032 | 0.002231 | 1.807790 | 0.0711 |
| AR(1) | 0.078348 | 0.018704 | 4.188819 | 0.0000 |
| Weighted Statistics | | | | |
| R-squared | 0.241266 | Mean dependent var | | - 0.13609  4 |
| Adjusted R- squared | 0.232942 | S.D. dependent var | | 0.23623  5 |
| S.E. of regression | 0.201001 | Sum squared resid | | 25.7761  8 |
| F-statistic | 28.98211 | Durbin-Watson stat | | 1.93672  8 |
| Prob(F-statistic) | 0.000000 |  |  |  |
| Unweighted Statistics | | | | |
| R-squared | 0.076218 | Mean dependent var | | - 0.07027  2 |
| Sum squared resid | 28.62524 | Durbin-Watson stat | | 1.46791  0 |
| Inverted AR Roots | .08 |  | |  |

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| --- | --- | --- | --- | --- |
| Dependent Variable: ACCRUAL | | | | |
| Method: Panel EGLS (Cross-section random effects) | | | | |
| Date: 10/29/20 Time: 12:43 | | | | |
| Sample (adjusted): 2009 2019 | | | | |
| Periods included: 11 | | | | |
| Cross-sections included: 63 | | | | |
| Total panel (unbalanced) observations: 693 | | | | |
| Swamy and Arora estimator of component variances | | | | |
| White cross-section standard errors & covariance (d.f. corrected) | | | | |
| Variable | Coefficien  t | Std. Error | t-Statistic | Prob. |
| C | 0.039581 | 0.033358 | 1.186561 | 0.2358 |
| BDOWN | 0.018380 | 0.062022 | 0.296351 | 0.7670 |
| FOROWN | 0.008220 | 0.035214 | 0.233420 | 0.8155 |
| INSTOWN | 0.133785 | 0.076393 | 1.751283 | 0.0803 |
| CONOWN | -0.101283 | 0.016179 | -6.259992 | 0.0000 |
| LEV | -0.194545 | 0.015408 | -12.62620 | 0.0000 |
| FSIZE | -0.000997 | 0.008788 | -0.113498 | 0.9097 |
| Effects Specification | | | | |
|  |  |  | S.D. | Rho |
| Cross-section random | |  | 0.065332 | 0.0962 |
| Idiosyncratic random | |  | 0.200252 | 0.9038 |
| Weighted Statistics | | | | |
| R-squared | 0.084623 | Mean dependent var | | - 0.04815  2 |
| Adjusted R- squared | 0.076952 | S.D. dependent var | | 0.21141  7 |
| S.E. of regression | 0.203126 | Sum squared resid | | 29.5423  4 |
| F-statistic | 11.03189 | Durbin-Watson stat | | 1.46223  6 |
| Prob(F-statistic) | 0.000000 |  |  |  |
| Unweighted Statistics | | | | |
| R-squared | 0.085343 | Mean dependent var | | - 0.06906  8 |
| Sum squared resid | 32.72685 | Durbin-Watson stat | | 1.31995  2 |

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| --- | --- | --- | --- | --- |
| Correlated Random Effects - Hausman Test | | | | |
| Equation: Untitled | | | | |
| Test cross-section random effects | | | | |
| Test Summary |  | Chi-Sq. Statistic | Chi-Sq.  d.f. | Prob. |
| Cross-section random | | 26.949130 | 6 | 0.0001 |
| Cross-section random effects test comparisons: | | | | |
| Variable | Fixed | Random | Var(Diff.) | Prob. |
| BDOWN | 0.028438 | 0.018380 | 0.001928 | 0.8188 |
| FOROWN | 0.091969 | 0.008220 | 0.000664 | 0.0011 |
| INSTOWN | 0.308592 | 0.133785 | 0.003197 | 0.0020 |
| CONOWN | -0.099795 | -0.101283 | 0.000044 | 0.8227 |
| LEV | -0.183291 | -0.194545 | 0.000673 | 0.6644 |
| FSIZE | 0.022245 | -0.000997 | 0.000428 | 0.2614 |
| Cross-section random effects test equation: | | | | |
| Dependent Variable: ACCRUAL | | | | |
| Method: Panel Least Squares | | | | |
| Date: 10/29/20 Time: 12:43 | | | | |
| Sample: 2008 2017 | | | | |
| Periods included: 10 | | | | |
| Cross-sections included: 73 | | | | |
| Total panel (unbalanced) observations: 723 | | | | |
| Variable | Coefficien  t | Std. Error | t-Statistic | Prob. |
| C | -0.262458 | 0.177067 | -1.482250 | 0.1388 |
| BDOWN | 0.028438 | 0.065733 | 0.432633 | 0.6654 |
| FOROWN | 0.091969 | 0.033505 | 2.744939 | 0.0062 |
| INSTOWN | 0.308592 | 0.069458 | 4.442863 | 0.0000 |
| CONOWN | -0.099795 | 0.017560 | -5.683074 | 0.0000 |
| LEV | -0.183291 | 0.045958 | -3.988204 | 0.0001 |
| FSIZE | 0.022245 | 0.024758 | 0.898487 | 0.3693 |
| Effects Specification | | | | |
| Cross-section fixed (dummy variables) | | | | |
| R-squared | 0.278235 | Mean dependent var | | - 0.06906  8 |
| Adjusted R- squared | 0.190817 | S.D. dependent var | | 0.22261  5 |

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| S.E. of regression | 0.200252 | Akaike info criterion | - 0.27565  2 |
| Sum squared resid | 25.82508 | Schwarz criterion | 0.22516  3 |
| Log likelihood | 178.6482 | Hannan-Quinn criter. | - 0.08234  7 |
| F-statistic | 3.182791 | Durbin-Watson stat | 1.61756  8 |
| Prob(F-statistic) | 0.000000 |  |  |

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| Dependent Variable: ACCRUAL | | | | |
| Method: Panel EGLS (Cross-section weights) | | | | |
| Date: 10/29/20 Time: 16:18 | | | | |
| Sample (adjusted): 2009 2019 | | | | |
| Periods included: 11 | | | | |
| Cross-sections included: 63 | | | | |
| Total panel (unbalanced) observations: 693 | | | | |
| Iterate coefficients after one-step weighting matrix | | | | |
| White cross-section standard errors & covariance (d.f. corrected) | | | | |
| Convergence achieved after 12 total coef iterations | | | | |
| Variable | Coefficien  t | Std. Error | t-Statistic | Prob. |
| C | -0.110788 | 0.054360 | -2.038043 | 0.0421 |
| INSTOWN | 0.084910 | 0.171709 | 0.494499 | 0.6212 |
| INSTOWN^2 | 0.030331 | 0.312887 | 0.096938 | 0.9228 |
| INSTOWN^3 | -0.058102 | 0.181385 | -0.320323 | 0.7489 |
| CONOWN | -0.083212 | 0.010337 | -8.050152 | 0.0000 |
| LEV | -0.121001 | 0.027385 | -4.418586 | 0.0000 |
| FSIZE | 0.017063 | 0.006190 | 2.756605 | 0.0061 |
| AR(2) | -0.053955 | 0.033812 | -1.595735 | 0.1112 |
| Effects Specification | | | | |
| Cross-section fixed (dummy variables) | | | | |
| Weighted Statistics | | | | |
| R-squared | 0.426009 | Mean dependent var | | - 0.14894  1 |
| Adjusted R- squared | 0.334771 | S.D. dependent var | | 0.26946  2 |
| S.E. of regression | 0.196172 | Sum squared resid | | 19.1262 |

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|  |  |  | 0 |
| F-statistic | 4.669200 | Durbin-Watson stat | 2.26292  2 |
| Prob(F-statistic) | 0.000000 |  |  |
| Unweighted Statistics | | | |
| R-squared | 0.225182 | Mean dependent var | - 0.07033  3 |
| Sum squared resid | 22.84912 | Durbin-Watson stat | 1.57943  4 |
| Inverted AR Roots | -.00+.23i | -.00-.23i |  |

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| Dependent Variable: ACCRUAL | | | | |
| Method: Panel Least Squares | | | | |
| Date: 10/29/20 Time: 16:26 | | | | |
| Sample (adjusted): 2009 2019 | | | | |
| Periods included: 11 | | | | |
| Cross-sections included: 63 | | | | |
| Total panel (unbalanced) observations: 693 | | | | |
| Convergence achieved after 6 iterations | | | | |
| Variable | Coefficien  t | Std. Error | t-Statistic | Prob. |
| C | -0.498613 | 0.218345 | -2.283595 | 0.0228 |
| BDOWN | 0.998281 | 0.431218 | 2.315026 | 0.0210 |
| BDOWN^2 | -3.455995 | 1.513440 | -2.283536 | 0.0228 |
| BDOWN^3 | 2.838637 | 1.341482 | 2.116046 | 0.0348 |
| CONOWN | -0.094823 | 0.019198 | -4.939329 | 0.0000 |
| INSTOWN | 1.001358 | 0.410285 | 2.440642 | 0.0150 |
| INSTOWN^2 | -1.391411 | 1.058081 | -1.315033 | 0.1890 |
| INSTOWN^3 | 0.791268 | 0.765266 | 1.033977 | 0.3016 |
| FOROWN | 0.100473 | 0.035234 | 2.851583 | 0.0045 |
| FSIZE | 0.041336 | 0.029460 | 1.403125 | 0.1611 |
| LEV | -0.194009 | 0.051855 | -3.741347 | 0.0002 |
| AR(1) | -0.015457 | 0.057787 | -0.267481 | 0.7892 |
| Effects Specification | | | | |
| Cross-section fixed (dummy variables) | | | | |
| R-squared | 0.275546 | Mean dependent var | | - 0.07027  2 |
| Adjusted R- squared | 0.168554 | S.D. dependent var | | 0.21918  5 |
| S.E. of regression | 0.199861 | Akaike info criterion | | - 0.26163  0 |
| Sum squared resid | 22.44866 | Schwarz criterion | | 0.31971  3 |
| Log likelihood | 168.5064 | Hannan-Quinn criter. | | - 0.03607  8 |
| F-statistic | 2.575382 | Durbin-Watson stat | | 1.63878  2 |
| Prob(F-statistic) | 0.000000 |  | |  |
| Inverted AR Roots | -.02 |  | |  |

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| Dependent Variable: ACCRUAL | | | | |
| Method: Panel EGLS (Cross-section random effects) | | | | |
| Date: 10/29/20 Time: 16:26 | | | | |
| Sample: 2009 2019 | | | | |
| Periods included: 11 | | | | |
| Cross-sections included: 63 | | | | |
| Total panel (unbalanced) observations: 693 | | | | |
| Swamy and Arora estimator of component variances | | | | |
| Variable | Coefficien  t | Std. Error | t-Statistic | Prob. |
| C | -0.063911 | 0.105389 | -0.606434 | 0.5444 |
| BDOWN | 0.472264 | 0.327335 | 1.442756 | 0.1495 |
| BDOWN^2 | -1.471706 | 1.157635 | -1.271304 | 0.2040 |
| BDOWN^3 | 1.141938 | 1.049910 | 1.087654 | 0.2771 |
| CONOWN | -0.105620 | 0.016354 | -6.458525 | 0.0000 |
| INSTOWN | 0.688031 | 0.287511 | 2.393063 | 0.0170 |
| INSTOWN^2 | -1.007599 | 0.731929 | -1.376636 | 0.1691 |
| INSTOWN^3 | 0.493562 | 0.522071 | 0.945392 | 0.3448 |
| FOROWN | 0.003304 | 0.022123 | 0.149335 | 0.8813 |
| FSIZE | 0.004532 | 0.014001 | 0.323668 | 0.7463 |
| LEV | -0.207219 | 0.038710 | -5.353139 | 0.0000 |
| Effects Specification | | | | |
|  |  |  | S.D. | Rho |
| Cross-section random | |  | 0.066863 | 0.1008 |
| Idiosyncratic random | |  | 0.199753 | 0.8992 |
| Weighted Statistics | | | | |
| R-squared | 0.095329 | Mean dependent var | | - 0.04751  4 |
| Adjusted R- squared | 0.082623 | S.D. dependent var | | 0.21113  1 |
| S.E. of regression | 0.202228 | Sum squared resid | | 29.1179  8 |
| F-statistic | 7.502645 | Durbin-Watson stat | | 1.46965  1 |
| Prob(F-statistic) | 0.000000 |  |  |  |
| Unweighted Statistics | | | | |
| R-squared | 0.096074 | Mean dependent var | | - 0.06906  8 |
| Sum squared resid | 32.34291 | Durbin-Watson stat | | 1.32311  1 |

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| Dependent Variable: ACCRUAL | | | | |
| Method: Panel EGLS (Cross-section random effects) | | | | |
| Date: 10/29/20 Time: 16:27 | | | | |
| Sample: 2009 2019 | | | | |
| Periods included: 11 | | | | |
| Cross-sections included: 63 | | | | |
| Total panel (unbalanced) observations: 693 | | | | |
| Swamy and Arora estimator of component variances | | | | |
| Variable | Coefficien  t | Std. Error | t-Statistic | Prob. |
| C | -0.063911 | 0.105389 | -0.606434 | 0.5444 |
| BDOWN | 0.472264 | 0.327335 | 1.442756 | 0.1495 |
| BDOWN^2 | -1.471706 | 1.157635 | -1.271304 | 0.2040 |
| BDOWN^3 | 1.141938 | 1.049910 | 1.087654 | 0.2771 |
| CONOWN | -0.105620 | 0.016354 | -6.458525 | 0.0000 |
| INSTOWN | 0.688031 | 0.287511 | 2.393063 | 0.0170 |
| INSTOWN^2 | -1.007599 | 0.731929 | -1.376636 | 0.1691 |
| INSTOWN^3 | 0.493562 | 0.522071 | 0.945392 | 0.3448 |
| FOROWN | 0.003304 | 0.022123 | 0.149335 | 0.8813 |
| FSIZE | 0.004532 | 0.014001 | 0.323668 | 0.7463 |
| LEV | -0.207219 | 0.038710 | -5.353139 | 0.0000 |
| Effects Specification | | | | |
|  |  |  | S.D. | Rho |
| Cross-section random | |  | 0.066863 | 0.1008 |
| Idiosyncratic random | |  | 0.199753 | 0.8992 |
| Weighted Statistics | | | | |
| R-squared | 0.095329 | Mean dependent var | | - 0.04751  4 |
| Adjusted R- squared | 0.082623 | S.D. dependent var | | 0.21113  1 |
| S.E. of regression | 0.202228 | Sum squared resid | | 29.1179  8 |
| F-statistic | 7.502645 | Durbin-Watson stat | | 1.46965  1 |
| Prob(F-statistic) | 0.000000 |  |  |  |
| Unweighted Statistics | | | | |
| R-squared | 0.096074 | Mean dependent var | | - 0.06906  8 |
| Sum squared resid | 32.34291 | Durbin-Watson stat | | 1.32311  1 |

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| Dependent Variable: ACCRUAL | | | | |
| Method: Robust Least Squares | | | | |
| Date: 10/30/20 Time: 02:46 | | | | |
| Sample: 2009 2019 | | | | |
| Periods included: 11 | | | | |
| Cross-sections included: 63 | | | | |
| Total panel (unbalanced) observations: 693 | | | | |
| Huber Type I Standard Errors & Covariance | | | | |
| Variable | Coefficien  t | Std. Error | z-Statistic | Prob. |
| C | 0.091095 | 0.040171 | 2.267683 | 0.0233 |
| BDOWN | -0.099972 | 0.069256 | -1.443517 | 0.1489 |
| BDOWN^2 | 0.032406 | 0.108850 | 0.297711 | 0.7659 |
| CONOWN | -0.070174 | 0.007829 | -8.963316 | 0.0000 |
| INSTOWN | -0.047770 | 0.120604 | -0.396088 | 0.6920 |
| INSTOWN^2 | 0.231530 | 0.303955 | 0.761724 | 0.4462 |
| INSTOWN^3 | -0.195707 | 0.215378 | -0.908669 | 0.3635 |
| FOROWN | -0.027121 | 0.009021 | -3.006363 | 0.0026 |
| FSIZE | -0.000277 | 0.005372 | -0.051606 | 0.9588 |
| LEV | -0.155379 | 0.017286 | -8.988840 | 0.0000 |
| Robust Statistics | | | | |
| R-squared | 0.129821 | Adjusted R-squared | | 0.11883  7 |
| Rw-squared | 0.235369 | Adjust Rw-squared | | 0.23536  9 |
| Akaike info criterion | 891.4282 | Schwarz criterion | | 940.925  8 |
| Deviance | 7.638276 | Scale |  | 0.09342  7 |
| Rn-squared statistic | 168.9641 | Prob(Rn-squared stat.) | | 0.00000  0 |
| Non-robust Statistics | | | | |
| Mean dependent var | -0.069068 | S.D. dependent var | | 0.22261  5 |
| S.E. of regression | 0.215913 | Sum squared resid | | 33.2390  4 |

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| Dependent Variable: ACCRUAL | | | | |
| Method: Robust Least Squares | | | | |
| Date: 10/31/20 Time: 05:32 | | | | |
| Sample: 2009 2019 | | | | |
| Periods included: 11 | | | | |
| Cross-sections included: 63 | | | | |
| Total panel (unbalanced) observations: 693 | | | | |
| refine=2, compare=5 | | | | |
| Random number generator: rng=kn, seed=1528273173 | | | | |
| Huber Type I Standard Errors & Covariance | | | | |
| Variable | Coefficien  t | Std. Error | z-Statistic | Prob. |
| C | 0.058702 | 0.050779 | 1.156043 | 0.2477 |
| BDOWN | -0.060678 | 0.087544 | -0.693121 | 0.4882 |
| BDOWN^2 | 0.014224 | 0.137594 | 0.103380 | 0.9177 |
| CONOWN | -0.058642 | 0.009896 | -5.925584 | 0.0000 |
| INSTOWN | 0.147362 | 0.152452 | 0.966618 | 0.3337 |
| INSTOWN^2 | -0.042334 | 0.384219 | -0.110181 | 0.9123 |
| INSTOWN^3 | -0.089714 | 0.272251 | -0.329527 | 0.7418 |
| FOROWN | -0.037732 | 0.011403 | -3.308804 | 0.0009 |
| FSIZE | -0.000535 | 0.006790 | -0.078776 | 0.9372 |
| LEV | -0.162583 | 0.021850 | -7.440753 | 0.0000 |
| Robust Statistics | | | | |
| R-squared | 0.123155 | Adjusted R-squared | | 0.11208  7 |
| Scale | 0.095067 | Deviance |  | 0.00903  8 |
| Rn-squared statistic | 97.27385 | Prob(Rn-squared stat.) | | 0.00000  0 |
| Non-robust Statistics | | | | |
| Mean dependent var | -0.069068 | S.D. dependent var | | 0.22261  5 |
| S.E. of regression | 0.215103 | Sum squared resid | | 32.9898  6 |

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| Dependent Variable: ACCRUAL | | | | |
| Method: Robust Least Squares | | | | |
| Date: 10/31/20 Time: 05:32 | | | | |
| Sample: 2009 2019 | | | | |
| Included observations: 693 | | | | |
| Method: MM-estimation | | | | |
| S settings: tuning=1.547645, breakdown=0.5, trials=200, subsmpl=10, | | | | |
| refine=2, compare=5 | | | | |
| M settings: weight=Bisquare, tuning=4.684 | | | | |
| Random number generator: rng=kn, seed=1528273173 | | | | |
| Huber Type I Standard Errors & Covariance | | | | |
| Variable | Coefficien  t | Std. Error | z-Statistic | Prob. |
| C | 0.091299 | 0.040230 | 2.269423 | 0.0232 |
| BDOWN | -0.100076 | 0.069357 | -1.442907 | 0.1490 |
| BDOWN^2 | 0.032390 | 0.109010 | 0.297132 | 0.7664 |
| CONOWN | -0.070602 | 0.007841 | -9.004672 | 0.0000 |
| INSTOWN | -0.050907 | 0.120781 | -0.421480 | 0.6734 |
| INSTOWN^2 | 0.240509 | 0.304401 | 0.790106 | 0.4295 |
| INSTOWN^3 | -0.202039 | 0.215694 | -0.936695 | 0.3489 |
| FOROWN | -0.027011 | 0.009035 | -2.989711 | 0.0028 |
| FSIZE | -0.000263 | 0.005380 | -0.048875 | 0.9610 |
| LEV | -0.155368 | 0.017311 | -8.975047 | 0.0000 |
| Robust Statistics | | | | |
| R-squared | 0.130152 | Adjusted R-squared | | 0.11917  2 |
| Rw-squared | 0.233823 | Adjust Rw-squared | | 0.23382  3 |
| Akaike info criterion | 871.6372 | Schwarz criterion | | 921.499  2 |
| Deviance | 7.733257 | Scale |  | 0.09506  7 |
| Rn-squared statistic | 169.4407 | Prob(Rn-squared stat.) | | 0.00000  0 |
| Non-robust Statistics | | | | |
| Mean dependent var | -0.069068 | S.D. dependent var | | 0.22261  5 |
| S.E. of regression | 0.215902 | Sum squared resid | | 33.2356  3 |

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| Dependent Variable: ACCRUAL | | | | |
| Method: Robust Least Squares | | | | |
| Date: 10/31/20 Time: 05:33 | | | | |
| Sample: 2009 2019 | | | | |
| Included observations: 693 | | | | |
| Method: MM-estimation | | | | |
| S settings: tuning=1.547645, breakdown=0.5, trials=200, subsmpl=7, | | | | |
| refine=2, compare=5 | | | | |
| M settings: weight=Bisquare, tuning=4.684 | | | | |
| Random number generator: rng=kn, seed=1528273173 | | | | |
| Huber Type I Standard Errors & Covariance | | | | |
| Variable | Coefficien  t | Std. Error | z-Statistic | Prob. |
| C | 0.081837 | 0.037903 | 2.159111 | 0.0308 |
| BDOWN | -0.081351 | 0.020818 | -3.907756 | 0.0001 |
| CONOWN | -0.070538 | 0.007781 | -9.065064 | 0.0000 |
| INSTOWN | 0.015635 | 0.015912 | 0.982645 | 0.3258 |
| FOROWN | -0.024254 | 0.008705 | -2.786174 | 0.0053 |
| FSIZE | 0.000792 | 0.005307 | 0.149288 | 0.8813 |
| LEV | -0.157731 | 0.016931 | -9.316372 | 0.0000 |
| Robust Statistics | | | | |
| R-squared | 0.129020 | Adjusted R-squared | | 0.12172  1 |
| Rw-squared | 0.230946 | Adjust Rw-squared | | 0.23094  6 |
| Akaike info criterion | 866.1698 | Schwarz criterion | | 901.088  2 |
| Deviance | 7.752688 | Scale |  | 0.09522  3 |
| Rn-squared statistic | 167.4687 | Prob(Rn-squared stat.) | | 0.00000  0 |
| Non-robust Statistics | | | | |
| Mean dependent var | -0.069068 | S.D. dependent var | | 0.22261  5 |
| S.E. of regression | 0.215472 | Sum squared resid | | 33.2425  8 |

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| --- | --- | --- | --- | --- |
| Dependent Variable: ACCRUAL | | | | |
| Method: Robust Least Squares | | | | |
| Date: 10/31/20 Time: 05:34 | | | | |
| Sample: 2009 2019 | | | | |
| Included observations: 693 | | | | |
| Method: S-estimation | | | | |
| S settings: tuning=1.547645, breakdown=0.5, trials=200, subsmpl=7, | | | | |
| refine=2, compare=5 | | | | |
| Random number generator: rng=kn, seed=1528273173 | | | | |
| Huber Type I Standard Errors & Covariance | | | | |
| Variable | Coefficien  t | Std. Error | z-Statistic | Prob. |
| C | 0.083261 | 0.047915 | 1.737688 | 0.0823 |
| BDOWN | -0.065448 | 0.026316 | -2.486992 | 0.0129 |
| CONOWN | -0.060751 | 0.009837 | -6.176010 | 0.0000 |
| INSTOWN | 0.045899 | 0.020114 | 2.281876 | 0.0225 |
| FOROWN | -0.033471 | 0.011004 | -3.041614 | 0.0024 |
| FSIZE | -0.000850 | 0.006709 | -0.126660 | 0.8992 |
| LEV | -0.168130 | 0.021402 | -7.855673 | 0.0000 |
| Robust Statistics | | | | |
| R-squared | 0.118028 | Adjusted R-squared | | 0.11063  7 |
| Scale | 0.095223 | Deviance |  | 0.00906  7 |
| Rn-squared statistic | 101.9202 | Prob(Rn-squared stat.) | | 0.00000  0 |
| Non-robust Statistics | | | | |
| Mean dependent var | -0.069068 | S.D. dependent var | | 0.22261  5 |
| S.E. of regression | 0.215238 | Sum squared resid | | 33.1704  3 |

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| Dependent Variable: ACCRUAL | | | | |
| Method: Robust Least Squares | | | | |
| Date: 10/31/20 Time: 05:34 | | | | |
| Sample: 2009 2019 | | | | |
| Included observations: 693 | | | | |
| Method: M-estimation | | | | |
| M settings: weight=Bisquare, tuning=4.685, scale=MAD (median centered) | | | | |
| Huber Type I Standard Errors & Covariance | | | | |
| Variable | Coefficien  t | Std. Error | z-Statistic | Prob. |
| C | 0.082162 | 0.037787 | 2.174351 | 0.0297 |
| BDOWN | -0.081075 | 0.020754 | -3.906489 | 0.0001 |
| CONOWN | -0.069711 | 0.007757 | -8.986244 | 0.0000 |
| INSTOWN | 0.015182 | 0.015863 | 0.957096 | 0.3385 |
| FOROWN | -0.024487 | 0.008678 | -2.821647 | 0.0048 |
| FSIZE | 0.000722 | 0.005291 | 0.136408 | 0.8915 |
| LEV | -0.157730 | 0.016879 | -9.344907 | 0.0000 |
| Robust Statistics | | | | |
| R-squared | 0.128443 | Adjusted R-squared | | 0.12114  0 |
| Rw-squared | 0.234049 | Adjust Rw-squared | | 0.23404  9 |
| Akaike info criterion | 903.2561 | Schwarz criterion | | 937.693  6 |
| Deviance | 7.572437 | Scale |  | 0.09215  7 |
| Rn-squared statistic | 166.8962 | Prob(Rn-squared stat.) | | 0.00000  0 |
| Non-robust Statistics | | | | |
| Mean dependent var | -0.069068 | S.D. dependent var | | 0.22261  5 |
| S.E. of regression | 0.215509 | Sum squared resid | | 33.2538  9 |