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Earnings Management: An Investigation of Companies Listed on the Nigerian Stock Exchange

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Abstract:

Earnings management has attracted considerable research efforts by various scholars across the domain of finance, management and governance and investigating various jurisdictions. Studies have shown different characteristics of earnings management by the companies listed on different stock exchanges with some exhibiting income-decreasing (downward earnings management) while some have exhibited income-increasing (upward earnings management) behavior. This study examines the extent and form of earnings management exhibited by companies listed on the Nigerian Stock Exchange. To investigate this, panel data technique is used on a sample of 101 companies across all the sectors of the Nigerian economy, covering the period 2009-2012. The occurrence of earnings management is detected using the Modified Jones Model of detecting discretionary accruals as a proxy for earnings management. The empirical results show that firms listed on the Nigerian Stock Exchange in the aggregate over the four year period exhibit a downward earnings management.

Keywords: *Earnings Management, Discretionary Accruals, Modified Jones Model, Nigerian Stock Exchange.*

1. Introduction

The accounting numbers as disclosed in the annual reports are important, relevant and offers strong motivation for managers to manage earnings for their self interest and benefits (Abdul-Rahman & Ali, 2006). Financial statements offer the users the details of the state of affairs of the firm in the context of the degree of certainty and when the future cash flow of the firm is expected to materialized (Abed, Al-Attar, & Suwaidan, 2012). Recent accounting scandals which at their root were earnings management involving such companies as: WorldCom, Enrons, Parmalat, One-Tel and Cadbury Nigeria PLC, among others, has raised serious concerns about the quality of the contents of the financial information contained in the annual reports (Ebraim, 2007; Kajola, 2008; Imeokparia, 2013; Sukeecheep, Yarram, & AlFarooque, 2013). Once the managers succeed in manipulating the accounting numbers, it becomes difficult for the stakeholders in the firm to be able to evaluate the operating performance of the firm (Fathi, Hashemi, & Firuzhuhi, 2011). The effect of earnings management is that, the window-dressed financial statement will not only give misleading information to the users of the financial statement, but also capable of causing incredible devastating consequences.

The Generally Accepted Accounting Principles (GAAP) give room for the use of accruals to moderate the timing of cash flows since gross earnings comprise of actual cash flows from operating activities and accruals. GAAP requires that revenues and associated expenses are matched to the accounting period in which they are earned and incurred regardless of whether or not cash is received or paid. Researchers argued that the probable major limitation of accrual accounting is that, it gives managers the chance for earnings management (Dechow & Douglas, 2000). The effect is that, managers can bring to bear substantial discretion when making a decision on the size of the accruals and as a consequence make use of accruals to conceal poor performance of the core operating activities or cause a delay in the recognition of income till such periods when income falls short of expectation (Gupta, Mathur, Mishra, & Rangan, 2009).

It appears from the existing literature within the domain of earnings management that managers could choose to exercise discretion as to time and size on accruals either upward or downward. Upwards accruals are otherwise known as income increasing accruals while downwards accruals are otherwise known as income reducing accruals. The pattern of discretion that managers exercise over accruals differs for different sectors and from one jurisdiction to another. In this study, we examine the discretionary accrual patterns of the companies that are listed on the Nigerian Stock Exchange using a Modified Jones Model of

detecting accruals and compare this with the findings of existing literature within the domain of earnings management. In this study, we use discretionary accruals as a proxy for earnings management.

1.1. Research Question

In clear terms, the study is aimed at finding answers to the following research questions:

- What is the pattern of discretionary accruals exhibited in aggregate terms by the companies listed on the Nigerian Stock Exchange between 2009 and 2012?
- How does the discretionary accrual pattern differ from one sector to another and for each of the years 2009 to 2012?

The study contributes to literature within the domain of earnings management by using data from the companies that are listed on the Nigerian Stock Exchange as disclosed in the annual reports and the websites of the companies. Further, from an in-depth review of the existing literature within the domain of earnings management study, this appears to be the first study employing a census survey method for all the non-financial Nigerian listed firms thus examining this subject within the broader scope encompassing all the non regulated sectors.

2. Literature Review

In view of the recent accounting scandals and the global economic status, earnings management has generated considerable attention within the circles of academia, independent external auditors, the shareholders, investors, regulators, financial analysts and professional bodies. Earnings management occurs when managers use their discretion in financial reporting and in transaction structuring with the intent to give false information to some stakeholders of the firm about the true performance of the firm or with the objective to induce contractual effects which rely on the accounting numbers contained in the reported financial statement (Healy & Wahlen, 1999).

2.1. Earnings Management Methods

There are a number of earnings management methods documented in the literature which represent the different means by which the managers do exercise their discretion over the figures that are reported in the published financial statements. In sections 2.1.1 to 2.1.5 below, we examine each of the methods that have been discussed in the literature and the empirical findings by the scholars in this field.

2.1.1. Earnings Management through Managerial Accounting Choices

Watts & Zimmerman (1978) argued that managers exercise discretion and consequently manage earnings through accounting choices. They further argued that managers are inclined to choose accounting methods and policies that maximizes their personal wealth. Hagerman & Zmijewski (1979) argued that managers are inclined to manage earnings through accounting choices when a proportion of their emolument is a function of the performance of the firm. Zmijewski & Hagerman (1981) document that when managers are faced with the dilemma of making a choice between income increasing accounting choice and policies on the one hand and the income-reducing accounting choice and policies, it will likely be resolved in favour of income increasing accounting choices and policies. Skinner (1993) document a relationship between managerial accounting choices and array of investment opportunities available to the firm. On the other hand, Holthausen (1981) document no relationship between managerial choice of depreciation method, accounting switch and managerial compensation. Furthermore, Bowen & Noreen (1981) found no relationship between interest capitalization and managerial compensation contracts.

2.1.2. Earnings Management Through Real Transactions

Some researchers argued that, managers can be involved in income-increasing or income-decreasing accruals through real transaction, and this is known as 'real transactions based earnings management' (Sun & Rath, 2010). This could take the form of increasing the speed of sales through liberal credit terms or discounts (Roychowdhury, 2006), or production of more units of the company's product beyond what the market could absorb (Sun & Rath, 2010). In either case, the objective is to increase sales revenue (Roychowdhury, 2006), or to manage the fixed costs per unit of output and consequently achieve better operating margins (Sun & Rath, 2010). Other avenues of real transaction earnings management are sales of fixed assets to meet shortfall in earnings forecasts (Bartov, 1993), or cutting down R & D to boost earnings (Sun & Rath, 2010; Barber, Farfield, & Haggard, 1991). Some managers are inclined to be involved in the real transaction earnings management because, it is difficult to establish a benchmark to evaluate managerial actions to determine the real extent of the earnings management (Sun & Rath, 2010).

2.1.3. Earnings Management Through Specific Accruals

This form of earnings management occurs in the industries where a single transaction of accruals can be larger and also subjective to a considerable exercise of discretion and judgement. Examples of such industries are banking and insurance industries (McNicholes & Wilson, 1988; Beaver & Engel, 1996; Petroni, 1992). McNicholes & Wilson (1988) and Beaver & Engel, (1996) document that earnings management through specific accruals occur in the banking industry in the area of the bank loan loss provision. Petroni (1992) argued that claim loss reserve in the insurance industry is a window for specific accruals earnings management in the insurance industry.

2.1.4. Earnings Management Through Earnings Distribution Approach

Some scholars investigated the relationship between the desire of the managers to achieve earnings benchmark and the occurrence of earnings management. These scholars found empirical evidence to suggest that managers do manage earnings through earnings

distribution approach to achieve earnings benchmark (Burgstahler & Dichev, 1997). These researchers further argued that since management have greater motivation for achieving earnings benchmark, they will make fewer allocation of earnings than anticipated just below the threshold and more allocation than anticipated just above the threshold. They argued further that, these thresholds are in three forms which are: an analysts' consensus forecast, previous year earnings and positive earnings (Burgstahler & Dichev, 1997; Degeorge, Petel, & Zeckhauser, 1999).the earnings management is evident when the earnings allocation is discontinued.

2.1.5. Earning Management Through Income Smoothing

It is believed that when the earnings of a firm are subject to business cycles which often cause volatility in earnings and ultimately the earnings forecasts, managers do engage in earnings management through income smoothing (Imhoff, 1977). This method of earnings management is detected by juxtaposing firms with similar characteristics, compare their earnings fluctuations and identify the firms that has unusual earnings behaviour as an evidence of earnings smoothing. Furthermore, Wang & Williams (1994) argued that, where a firm has highly unpredictable cash flow in relation to the unpredictable nature of earnings, the consequence is the practice of earnings management by the managers.

2.2. Accruals Models

2.2.1. Healy (1985)

Healy(1985)Healy (1985) is the first scholar to introduce the concept of accruals model of detecting earnings management. On the basis of two assumptions, he argued that the discretionary accruals represent the difference between the total accruals in two consecutive years. These assumptions have to do with the constant nature of non discretionary accruals and the systematic nature of occurrence of earnings management in every period. He statistically expressed the Non Discretionary Accruals using Healy (1985) model is expressed as follows:

The model Healy uses is:

$$NDA\tau = \frac{\sum_t TA_t}{T} \quad (1)$$

Where:

NDA	Estimated non-discretionary accruals;
TA	Total accruals scaled by lagged total assets;
t	1,2,..T is a year subscript for the years included in the estimation period;
τ	A year subscript indicating a year in the event period.

2.2.2. DeAngelo (1986)

DeAngelo (1986) review the work of Healy (1985) on the use of an accruals Model to detect earnings management. She argued that non discretionary accruals share a similar pattern. In addition, the change in total accruals from the previous year to the current year (i.e. year t-1 to year t) gives an indication of the extent of earnings management by the management. This implies that the non discretionary accruals in year t-1 (current year) is the equivalence of the total accruals in year 't'. (Dechow, Sloan, & Sweeney, 1995).

DeAngelo's model is:

$$NDA\tau = TA\tau - 1 \quad (2)$$

Where:

NDA	Estimated non-discretionary accruals;
TA	Last period, total accruals (scaled by lagged total assets);
τ	A year subscript indicating a year in the event period.

2.2.3. Jones (1991)

Some researchers believed that both the Healy (1985) and DeAngelo (1986) Accrual Models have shortcomings. Jones (1991) initiates the use of linear regression method to address the shortcomings of the previous accruals models. She argued that both the current assets and current liabilities have non discretionary accruals components. She identified sales and depreciation expenses as items in the financial statements that can be manipulated upwards or downwards by the managers as earnings management tools. Thus, she used change in sales revenue and changes in the gross values of plant, property and equipment as variables for detecting earnings management. Using the discretionary accruals as a proxy for earnings management, she calculated the remainder of the regression (regression coefficients) as the determinants of accruals Jones (1991). The Jones model as illustrated by Ronen & Yaari (2008) as follows:

$$NDA_t = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 (\Delta REV_t) + \alpha_3 (PPE_t) \quad (3)$$

Where:

NDA_t	Non-discretionary accruals in year t;
A_{t-1}	Total assets in year t-1;
ΔREV_t	Changes in revenue in year t;
PPE_t	Property, Plant and Equipment in year t;
$\alpha_1, \alpha_2, \alpha_3$	Firm specific parameters.

The coefficients α_i are industry specific parameters. They estimate the effect of capital intensity on different industries. The firm specific parameters $\alpha_1, \alpha_2, \alpha_3$ are generated in the estimation period using the model below:

$$TA_t = a_1 \left(\frac{1}{A_{t-1}} \right) + a_2 (\Delta REV_t) + a_3 (PPE_t) + \varepsilon_t \dots\dots\dots(4)$$

Where:

- TA_t Total Accruals in year t;
- a₁, a₂, a₃ OLS estimates of $\alpha_1, \alpha_2, \alpha_3$.

The weakness of Jones Model is that, the Jones Model did not address the power of the managers to manipulate sales through the account receivables. That, according to Peasnell, Pope, & Young (2000), is the greatest known weakness of the Jones(1991) Model.

2.2.4. Dechow, Sloan, & Sweeney (1995)

Dechow, Sloan, & Sweeney (1995) reviewed all the accruals methods of earnings management detection of previous scholars, especially, Healy (1985), DeAngelo (1986) and Jones (1991). They argued that the outcome empirical results generated by these models showed a low test power for earnings management of a reasonable economic scale. Dechow, Sloan, & Sweeney (1995) tested this argument through a simulation of an artificially manipulated samples and applied a time-series version of the Jones Model to the sample to evaluate the test power of the Jones model. The found that, the level of simulated manipulation exceeded 50% for the Jones model to achieve close to 100% level of earnings management detection. When they subjected the simulated manipulation at 5 percent of total assets and test for earnings management, the result detected only 30 percent of the manipulation(Dechow, Sloan, & Sweeney, 1995). Dechow, Sloan, & Sweeney (1995) addressed this limitation with an extension of the original Jones (1991) model with the introduction of account receivables into the regression model of the original Jones version. This is expressed as follows:

$$NDA_t = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 (\Delta REV_t - \Delta AR_t) + \alpha_3 (PPE_t) \dots\dots\dots5$$

Where:

- NDA_t Non-Discretionary Accruals in year t;
- A_{t-1} Assets in year t-1;
- ΔREV_t Changes in revenue in year t;
- ΔAR_t Changes in accounts receivables in year t;
- PPE_t Property, Plant and Equipment in year t;
- ROAM Return on Assets in the Previous Year
- $\alpha_{1i}, \alpha_{2i}, \alpha_{3i}$ Firm specific parameters.

The similarity between the Modified Jones Model and the Jones Model is that the estimated accruals are defined and in estimating NDA, the equation (3) reproduced below will be used by both the original Jones Model and the Modified Jones Model (Jones , 1991; Bergstresser & Philippon, 2006).

$$NDA_t = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 (\Delta REV_t) + \alpha_3 (PPE_t)$$

This is because, Dechow, Sloan, & Sweeney (1995) adopted this equation from Jones (1991) Model. In determining the actual NDA, however, the equation (5) reproduced below will be used:

$$NDA_t = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 (\Delta REV_t - \Delta AR_t) + \alpha_3 (PPE_t)$$

Peasnell, Pope, & Young, 2000 argued that the Modified Jones Model appears to be the most powerful in detecting discretionary accruals compared to other models.

2.2.5. The Industry Model

The last accruals model which is discussed in the literature is the Industry Model developed and used by Dechow & Sloan (1991). The industry model is based on the assumption that non-discretionary accruals are variable over time. Dechow & Sloan (1991) further assumed that firms in the same industry have common differences in the determinants of non-discretionary accruals. The Industry Model for calculating non-discretionary accruals by Dechow & Sloan (1991) is as follows:

$$NDA_t = \gamma_1 + \gamma_2 \text{median}_i(TA_t) \dots\dots\dots(6)$$

Where:

- NDA_t Non-Discretionary Accruals in year t;
- γ_1, γ_2 Firm specific parameters;
- Median_i(TA_t) Median value of total accruals scaled by lagged assets for all non-sample firms in the same two-digit SIC code.

The Industry Model has two disadvantages. First, the Model takes into consideration the changes as it relates to the entire industry without consideration to the specific conditions of the firm. Thus, the Industry Model could not capture the specific non-

discretionary accruals and as a result, the Model can not differentiate between discretionary and non-discretionary accruals in the proper way. Second, the Industry Model assumes an existence of a connection in non-discretionary accruals from different companies operating within the same industry and ignores the connected discretionary accruals (Dechow & Sloan, 1991).

3. Methodology

3.1. Research Design

This study makes use of secondary data extracted from the audited annual reports of the companies that are listed on the Nigerian Stock Exchange between 2009 and 2012. There are 198 companies listed on the Nigerian Stock Exchange as at December 31, 2012. Consistent with the previous studies of Peasnell, Pope, & Young (2005), Firth, Fung, & Rui (2007), Kajola (2008) and Dabor & Adeyemi (2009), we excluded banks and insurance companies from the samples because these companies, according to Klein (2002) and Vafeas (2000) are specialized industries, under regulation of statutory bodies and have different structures of assets and liabilities. In addition, we deleted companies with incomplete data for the four years. This left us with 101 companies for the years 2009 to 2012 given a total of 404 firm years.

3.2. Model Specification

This study employs the use of Discretionary Accrual as a proxy for detecting the degree of Earnings Management in companies listed on the Nigeria Stock Exchange. The Jones (1991) Model as modified by Dechow, Sloan, & Sweeney (1995) and further expanded by Kothari, Leone, & Wasley (2005) will be the model of discretionary accruals estimation. Earnings management scholars argued that the inclusion of ROAM in the Modified Jones Model is to reduce the problems of heteroskedasticity and the problems of mis-specification that characterized the Jones and modified Jones models of estimating discretionary accruals (Kothari, Andrew, & Wasley, 2005).

The model is expressed statistically and represented by the Ordinary Least Square (OLS) equation as:

$$TACC_t = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 (\Delta REV_t - \Delta AR_t) + \alpha_3 (PPE_t) + \alpha_4 ROAM_t - 1 + \epsilon_{it}$$

Where:

- $TACC_{it}$ Total Accruals for firm *i* in year *t*;
- TA_{it-1} Total Assets for firm *i* in year *t-1*;
- ΔREV_{it} Changes in revenue for firm *i* in year *t*;
- ΔREC_{it} Changes in accounts Receivables for firm *i* in year *t*;
- PPE_{it} Property, Plant and Equipment for firm *i* in year *t*;
- ROAM Lagged return on assets.
- ϵ_{it} Error term for firm *i* in year *t*;
- $\alpha_1 \alpha_2 \alpha_3 \alpha_4$ Regression Coefficients for firm *i*

As indicated above, the model established the total accruals by subtracting cash flow from operations from the net income before extraordinary items. This is expressed as follows:

$$TACC_t = NIBEI - CFO \dots\dots\dots(1)$$

Once the TACC is determined as outlined above, we have to partition the TACC into the two component parts of the non discretionary accruals (NDA) and the discretionary accruals (EDA). In order to achieve this, the TACC is statistically expressed as:

$$TACC_t = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 (\Delta REV_t - \Delta AR_t) + \alpha_3 (PPE_t) + ROAM_t - 1 + \epsilon_{it} \dots\dots\dots(2)$$

The non-discretionary component of the total accruals as expressed above is modeled as a statistical function of the change in revenue, change in the account receivables, plant, property and equipment, and the return on assets managed in the previous accounting period as follows:

$$NDA_t = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 (\Delta REV_t - \Delta AR_t) + \alpha_3 (PPE_t) + ROAM_t - 1 \dots\dots\dots(3)$$

The difference between the equation (1) and equation (2) above is the residual ‘e’ and this is the discretionary accruals (EDA). This residual ‘e’ which represents the discretionary accruals is statistically expressed as follows in equation (4):

$$EDA_t = TACC - [\alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 (\Delta REV_t - \Delta AR_t) + \alpha_3 (PPE_t) + \alpha_4 ROAM_t - 1] \dots\dots\dots(4)$$

The error term (ϵ_{it}) represents the discretionary accruals under the Modified Jones Model while the calculation of the coefficients (α_{1i} , α_{2i} , α_{3i}) was determined through a linear regression model with the aid of SPSS research software.

4. Data Analysis, Empirical Results and Discussions

We use the OLS regression equation for EDA as detailed under the section 3.2 above and arrived at the following earnings management models for 2009, 2010, 2011 and 2012 using the variables in Appendix B, C, D and E.

YEAR	EDA MODEL	RESEARCH VARIABLES
2009	$EDA_t 2009 = TACC - [0.283 \left(\frac{1}{A_{t-1}} \right) + 0.072(\Delta REV_t - \Delta AR_t) + 0.439(PPE_t) + (-0.223ROAM_t - 1)]$	Research Variables in Appendix B
2010	$EDA_t 2010 = TACC - [0.068 \left(\frac{1}{A_{t-1}} \right) + 0.079(\Delta REV_t - \Delta AR_t) + (-0.302)(PPE_t) + 0.279ROAM_t - 1]$	Research Variables in Appendix C
2011	$EDA_t 2011 = TACC - [(-0.033) \left(\frac{1}{A_{t-1}} \right) + 0.275(\Delta REV_t - \Delta AR_t) + 0.082(PPE_t) + 0.134ROAM_t - 1]$	Research Variables in Appendix D
2012	$EDA_t 2012 = TACC - [0.024 \left(\frac{1}{A_{t-1}} \right) + (-0.275)(\Delta REV_t - \Delta AR_t) + 0.393(PPE_t) + 0.048ROAM_t - 1]$	Research Variables in Appendix E

Table 1: ESTIMATING THE EDA FOR 2009, 2010, 2011, 2012

Source: Akinteye, York & Henderson (2014)

4.1. Sectoral Presentation of Earnings Management 2009-2012

In sections 4.2-4.11 below, we present the estimated discretionary accruals (EDA) as a proxy for earnings management as computed from the EDA models presented in Table 4.2 for each of the years 2009, 2010, 2011 and 2012 along the sectoral classification of the listed companies by the Nigerian Stock Exchange.

4.2. Earnings Management of Companies in Agriculture Sector

In Appendix A, Table 4.2, we presents the degree of earnings management in the Agriculture Sector in 2009-2012. There are 13 observations in the Agriculture Sector with negative EDA. This is an indication that the companies were involved in downward earnings management to conceal profits through manipulation of discretionary accruals. The maximum limit is -1.07. There are another 3 observations indicating positive EDA. This means that the sample companies increased the discretionary accruals thereby resulting in an income-increasing earnings management and the maximum level is 0.064. During the observation period, the average discretionary accrual of the sample companies in the Agric Sector is -0.24 which indicate that the whole sector carried out a downward earnings management between the year 2009 and 2012.

4.3. Earnings Management of Listed Conglomerates Sector

In Appendix A, Table 4.3, we present the estimation of earnings management of companies in the conglomerates sector. There are 16 observations with negative EDA indicating that these firms were involved in income-reducing accruals to conceal their profits during the 2009-2012 and the maximum limit is -0.77. The table also presents 8 observations with positive EDA indicating that the sample firms were involved in income-increasing accruals to boost corporate profitability and the maximum level is 0.18. The firm with the highest level of income-increasing accrual is UAC NIG. PLC and the company with the highest level of income-reducing accruals is JOHN HOLT PLC. During the observation period, the average discretionary accruals of sample companies is -0.11 suggesting that the whole sector exhibited downward earnings management in this period.

4.4. Earnings Management of Firms in the Construction and Real Estate Sector

In Appendix A, Table 4.4, we provide the estimated discretionary accruals for the companies operating in the construction and real estate sector during the observation period of 2009-2012. There are 12 observations with negative EDA indicating an income-reducing earnings management to conceal the profit of the firms. There are another 4 observations with positive EDA indicating that the firms carried out income increasing accrual to boost profitability. The average earnings management of sample firms is -0.15 which suggests that the whole sector executed income-reducing or downward earnings management.

4.5. Earnings Management of Listed Companies in Consumer Goods Sector

In Appendix A, Table 4.5, we present the estimation of earnings management of companies in the Consumer Goods Sector. There is a total of 88 observations in the Consumer Goods Sector, out of which 74 observations show negative EDA, suggesting that these firms were involved in income-reducing earnings management to conceal their profits during the 2009-2012 and the maximum limit is -0.83. The table also presents 14 observations showing positive EDA, indicating that the sample firms were involved in income-increasing accruals to boost corporate profitability and the maximum level is 0.32. The firm with the highest level of income-reducing accrual is MCNICHOLS CONSOLIDATED PLC and the company with the highest level of income increasing accrual is VITAFoam NIGERIA PLC. During the observation period, the average discretionary accruals of sample companies is -0.16 indicating that the whole sector executed income reducing accruals. When the Consumer Good Sector is compared with the Conglomerates, Agric and Construction and Real Estate Sectors, it could be observed that even though all these sectors executed income-reducing earnings management, the degree of earnings management in the Consumer Goods Sector

is next to Agriculture Sector (-0.24) and slightly higher than conglomerates (-0.15) and higher than the Construction and Real Estate Sector (-0.11).

4.6. Earnings Management in the listed firms in the Healthcare Sector

In Appendix A, Table 4.6, we provide the estimated discretionary accruals for the companies operating in the healthcare sector during the observation period of 2009-2012. There are 27 observations with negative EDA indicating an income-reducing earnings management to conceal the profit of the firms. There are another 5 observations with positive EDA suggesting that the firms carried out income increasing accrual to boost profitability. The average earnings management of sample firms is -0.17 which indicates that the whole sector executed income-reducing or downward earnings management during the observation period of 2009-2012.

4.7. Earnings Management in Companies Listed in the ICT Sector

In Appendix A, Table 4.7, we provide the estimated discretionary accruals for the companies operating in the ICT sector during the observation period of 2009-2012. There are 23 observations with negative EDA indicating an income-reducing earnings management to conceal the profit of the firms. There are another 9 observations with positive EDA indicating that the firms carried out income increasing accrual to boost profitability. The average earnings management of sample firms is -0.11 which indicates that the whole sector executed income-reducing or downward earnings management during the observation period of 2009-2012.

4.8. Earnings Management of Listed Companies in Industrial Goods Sector

In Appendix A, Table 4.8, we present the estimation of earnings management of companies in the Industrial Goods Sector. There is a total of 72 observations in the Industrial Goods Sector. Out of these observations, 67 observations indicate negative EDA, which suggests that these firms were involved in income-reducing earnings management to conceal their profits during the 2009-2012. The table also presents 5 other observations with positive EDA, indicating that the sample firms were involved in income-increasing accruals to boost corporate profitability and the maximum level is 0.13. The firm with the highest level of income-reducing earnings management is NIGERIAN ROPES PLC and the firm with the highest level of income increasing accrual is PAINTS AND COATING MANUFACTURING PLC. During the observation period, the average discretionary accruals of sample companies is -0.25 suggesting that the whole sector executed income reducing earnings management. When the Industrial Good Sector is compared with the Consumer Goods Sectors, the Conglomerates, Healthcare and ICT Sectors, it could be observed that even though all the sectors executed income-decreasing earnings management, the degree of earnings management in the Industrial Sector is higher than the degree of earnings management in the Consumer Goods Sector (-0.16), Healthcare Sector (-0.17) and ICT Sector (-0.107) in the observation period.

4.9. Earnings Management of Listed Companies in Oil and Gas Sector

In Appendix A, Table 4.9, we provide the estimated discretionary accruals for the companies operating in the Oil and Gas Sector during the observation period of 2009-2012. There are 24 observations showing negative EDA which indicates an income-reducing earnings management to conceal the profit of the firms. There are another 12 observations with positive EDA suggesting that the firms carried out income increasing accrual to boost profitability. The average earnings management of sample firms is -0.086 which suggests that the whole sector executed income-reducing or downward earnings management during the observation period of 2009-2012.

4.10. Earnings Management of Companies in the Natural Resources Sector

In Appendix A, Table 4.10, we provide the estimated discretionary accruals for the companies operating in the Natural Resources Sector during the observation period of 2009-2012. There are 13 observations with negative EDA indicating an income-reducing earnings management to conceal the profit of the firms. There are another 3 observations with positive EDA suggesting that the firms carried out income increasing accrual to boost profitability. The average earnings management of sample firms is -0.28 which indicates that the whole sector executed income-decreasing or downward earnings management during the observation period of 2009-2012.

4.11. Earnings Management of Listed Companies in the Services Sector

In Appendix A, Table 4.11, we present the estimation of earnings management of companies in the Services Sector. There is a total of 72 observations in the Services Sector. Out of these observations, 17 observations indicate positive EDA, which suggests that these firms were involved in income-increasing earnings management to boost their profits during the 2009-2012 and the maximum extent is 0.29. The table also presents 55 other observations with negative EDA, indicating that the sample firms were involved in income-reducing accruals to conceal corporate profitability and the maximum level is -0.89. The firm with the highest level of income-reducing earnings management is ASSOCIATED BUS COMPANY PLC and the firm with the highest level of income increasing accrual is INTERLINKED TECHNOLOGIES PLC. During the observation period, the average discretionary accruals of sample companies are -0.15 indicating that the whole sector executed income reducing earnings management.

4.12. Summary of Sectoral Earnings Management of Nigerian Listed Companies

In summary, the sectoral earnings management occurrence in the companies listed on the Nigeria Stock Exchange for the observation year 2009-2012 and its interpretation is as presented in Table 2 below:

SECTOR	EDA	INTERPRETATION
AGRICULTURE	-0.23973	Income reducing earnings management
CONGLOMERATES	-0.10756	Income reducing earnings management
CONSTRUCTION AND REAL ESTATE	-0.14967	Income reducing earnings management
CONSUMER GOODS	-0.16481	Income reducing earnings management
HEALTHCARE	-0.17359	Income reducing earnings management
INDUSTRIAL GOODS	-0.24961	Income reducing earnings management
ICT	-0.10715	Income reducing earnings management
OIL AND GAS	-0.08566	Income reducing earnings management
NATURAL RESOURCES	-0.28005	Income reducing earnings management
SERVICES	-0.14976	Income reducing earnings management

Table 2: Summary of Earnings Management of Nigerian Listed Firms (2009-2012)

Source: Akinteye, York & Henderson (2014)

5. Conclusion

This paper examines the pattern of discretionary accruals exhibited in aggregate terms by the companies listed on the Nigerian Stock Exchange between 2009 and 2012. It further examines how the discretionary accrual pattern differs from one sector to another sector and for each of the years 2009 to 2012?

The analysis of this paper finds that Nigerian listed firms have earnings management characteristics similar to what is documented in the literature that, managers are capable of earnings management either upward (income-increasing) or downward (income-reducing) with the objective of meeting analysts forecasts (Burgstahler & Dichev, 1997; Degeorge, Petel, & Zeckhauser, 1999), for the purpose of managing tax obligations (Jones, 1991) or for income smoothing (Imhoff, 1977), or to achieve other specific objectives (McNicholes & Wilson, 1988; Beaver & Engel, 1996; Petroni, 1992). The analysis of the paper further shows that managers of Nigerian listed firms also do exercise discretionary accounting choices which could either reflect in upward or downward accruals (Hagerman & Zmijewski, 1979; Watts & Zimmerman, 1978; Skinner, 1993)

This paper, argues that, at firm level, some companies exhibit income-increasing earnings management while some companies exhibit income-reducing earnings management. However, at sectoral and exchange levels, the non-financial listed firms on the Nigerian Stock Exchange exhibit income-reducing accruals for each of the year in our study. However, we suggest that future research should investigate the tax regimes for non-financial listed firms on the Nigerian Stock Exchange for each of the years 2009, 2010, 2011 and 2012 to be able to provide empirical explanation to the earnings management pattern at the sectoral and exchange levels for the non-financial listed firms on the Nigerian Stock Exchange.

This paper contributes to the existing accounting literature in the domain of earnings management. Furthermore, this paper presents the earnings management characteristics of non-financial firms on the Nigerian Stock Exchange, which may mirror the earnings characteristics of firms listed on other Stock Exchanges in the African Continent. This paper provides further insights into the quality of financial reporting to the global investor community, the regulators of the stock market and the academic community.

APPENDIX A

Corporate Name	Year	EDA	Corporate Name	Year	EDA
FTN COCOA PROCESSORS PLC	2009	-0.25938	LIVESTOCK FEEDS PLC	2009	-0.17234
	2010	-0.228		2010	-0.18633
	2011	0.00401		2011	-0.02968
	2012	-0.43685		2012	0.06458
PRESCO PLC	2009	0.02038	THE OKOMU OIL PALM COMPANY PLC	2009	-0.55504
	2010	-0.24282		2010	-0.13535
	2011	-0.06832		2011	-0.0871
	2012	-0.4502		2012	-1.07317

Table 3: Earnings management of companies in agriculture sector

Source: Akinteye, York & Henderson (2014)

Corporate Name	Year	EDA	Corporate Name	Year	EDA
A.G. LEVENTIS (NIGERIA) PLC	2009	-0.10973	CHELLARAMS PLC	2009	-0.14377
	2010	-0.14399		2010	-0.06014
	2011	-0.00067		2011	-0.02414
	2012	-0.09145		2012	0.10938

JOHN HOLT PLC	2009	0.09546	SCOA NIGERIA PLC	2009	-0.50419
	2010	-0.23428		2010	-0.09043
	2011	-0.12206		2011	0.0122
	2012	-0.77486		2012	0.00768
TRANSNATIONAL CORPORATION	2009	-0.20223	UAC PLC	2009	-0.41804
	2010	0.0077		2010	-0.19826
	2011	0.00471		2011	0.18141
	2012	-0.0015		2012	0.11988
<i>Table 4: Earnings management of companies in conglomerates sector</i> <i>Source: Akinteye, York & Henderson (2014)</i>					

Corporate Name	Year	EDA	Corporate Name	Year	EDA
COSTAIN WEST AFRICA PLC	2009	-0.31958	JULIUS BERGER NIGERIA PLC	2009	-0.39707
	2010	-0.12096		2010	-0.16058
	2011	0.03084		2011	0.00156
	2012	-0.19074		2012	-0.38261
ROADS NIGERIA PLC	2009	-0.24206	UACN PROPERTY DEVELOPMENT COMPANY PLC	2009	0.18992
	2010	-0.1775		2010	0.02786
	2011	0.07636		2011	-0.0033
	2012	-0.28779		2012	-0.05918

Table 5: Earnings management in the construction and real estate sector
Source: Akinteye, York & Henderson (2014)

Corporate Name	Year	EDA	Corporate Name	Year	EDA
NORTHERN NIGERIAN FLOUR MILLS PLC	2009	-0.16775	POLY PRODUCTS NIGERIA PLC	2009	-0.34484
	2010	-0.02658		2010	-0.24403
	2011	-0.21044		2011	0.03243
	2012	0.23042		2012	-0.47333
PZ CUSSONS NIGEIA PLC	2009	-0.23563	SEVEN UP BOTTLING COMPANY PLC	2009	-0.48694
	2010	-0.1926		2010	-0.21666
	2011	0.0372		2011	-0.07453
	2012	-0.2621		2012	-0.57493
UNILEVER NIGERIA PLC	2009	-0.37592	UTC NIGERIA PLC	2009	-0.52365
	2010	-0.14226		2010	0.21202
	2011	-0.11308		2011	-0.01067
	2012	-0.34065		2012	-0.44557
VITAFOAM NIGERIA PLC	2009	0.32274	VONO PRODUCTS PLC	2009	0.04022
	2010	-0.12415		2010	-0.23708
	2011	0.00319		2011	-0.07092
	2012	-0.22411		2012	0.09848
CADBURY NIGERIA PLC	2009	-0.04611	DANGOTE SUGAR REFINERY PLC	2009	0.08406
	2010	-0.18211		2010	-0.05547
	2011	-0.02705		2011	-0.06443
	2012	-0.23882		2012	-0.29301
DANGOTE FLOUR MILLS PLC	2009	-0.06108	DN TYRE AND RUBBER PLC	2009	0.09252
	2010	-0.12778		2010	-0.21691
	2011	0.10305		2011	-0.05812
	2012	-0.22455		2012	-0.52654
FLOUR MILLS OF NIGERIA PLC	2009	-0.02323	GUINNESS NIGERIA PLC	2009	-0.24925
	2010	-0.10028		2010	-0.15457
	2011	0.03331		2011	-0.00131
	2012	-0.14499		2012	-0.40926
HONEYWELL FLOUR MILLS PLC	2009	-0.18856	INTERNATIONAL BREWERIES PLC	2009	-0.14941
	2010	-0.13693		2010	-0.27428
	2011	-0.07924		2011	-0.10807
	2012	0.37694		2012	-0.44226

MCNICHOLS CONSOLIDATED PLC	2009	-0.26005	MULTI-TREK INTEGRATED FOODS PLC	2009	0.34187
	2010	-0.16245		2010	-0.35722
	2011	-0.04676		2011	0.03300
	2012	-0.83465		2012	-0.26412
NATIONAL SALT COMPANY OF NIGERIA PLC	2009	-0.02136	NESTLE NIGERIA PLC	2009	-0.47171
	2010	-0.08376		2010	-0.15072
	2011	-0.07914		2011	-0.08012
	2012	-0.12841		2012	-0.27415
NIGERIA BREWERIES PLC	2009	-0.47232	NIGERIAN ENAMELWARE PLC	2009	0.01393
	2010	-0.19805		2010	-0.01748
	2011	-0.09951		2011	-0.1051
	2012	-0.45774		2012	-0.13563
<i>Table 6: Earnings management of companies in consumer goods sector</i> <i>Source: Akinteye, York & Henderson (2014)</i>					

Corporate Name	Year	EDA	Corporate Name	Year	EDA
EVANS MEDICAL PLC	2009	-0.02712	FIDSON HEALTHCARE PLC	2009	-0.13573
	2010	-0.18983		2010	-0.10283
	2011	-0.01459		2011	0.05986
	2012	-0.60763		2012	-0.28768
GLAXOSMITHKLINE CONSUMER NIGERIA PLC	2009	-0.39295	MAY AND BAKER NIGERIA PLC	2009	-0.28893
	2010	-0.10283		2010	-0.19836
	2011	0.05986		2011	-0.0233
	2012	-0.28768		2012	-0.31498
MORISON INDUSTRIES PLC	2009	-0.33332	NEIMETH INTERNATIONAL PHARMACEUTICALS PLC	2009	0.01144
	2010	-0.20334		2010	-0.08287
	2011	0.02064		2011	0.03206
	2012	-0.3133		2012	-0.12478
NIGERIAN GERMAN CHEMICALS PLC	2009	-0.04088	PHARMA DEKO PLC	2009	-0.16408
	2010	-0.19072		2010	-0.23256
	2011	0.01936		2011	-0.00773
	2012	-0.42944		2012	-0.53012
<i>Table 7: Earnings management in healthcare sector</i> <i>Source: Akinteye, York & Henderson (2014)</i>					

Corporate Name	Year	EDA	Corporate Name	Year	EDA
ADSWITCH PLC	2009	-0.15303	CHAMS PLC	2009	0.08459
	2010	-0.0551		2010	-0.10108
	2011	0.10804		2011	0.0085
	2012	-0.35602		2012	-0.02508
COURTEVILLE INVESTMENTS PLC	2009	-0.17398	E-TRANZACT INTERNATIONAL PLC	2009	0.20723
	2010	-0.03839		2010	-0.10066
	2011	0.02714		2011	0.02012
	2012	-0.14183		2012	-0.10146
I.H.S NIGERIA PLC	2009	0.52623	NCR NIGERIA PLC	2009	0.50694
	2010	-0.10836		2010	-0.01463
	2011	-0.16155		2011	-0.14685
	2012	-0.66866		2012	-0.10145
SMART PRODUCTS NIGERIA PLC	2009	-0.58274	TRIPPLE GEE & COMPANY PLC	2009	-0.58656
	2010	-0.24022		2010	-0.23009
	2011	0.08208		2011	-0.01052
	2012	-0.28075		2012	-0.62063
<i>Table 8: Earnings Management in Ict Sector</i> <i>Source: Akinteye, York & Henderson (2014)</i>					

Corporate Name	Year	EDA	Corporate Name	Year	EDA
ASHAKA CEMENT PLC	2009	-0.29751	AVON CROWNCAPS & CONTAINER PLC	2009	-0.35196
	2010	-0.20444		2010	-0.09572
	2011	-0.06788		2011	-0.12407
	2012	-0.60798		2012	-0.15964
BERGER PAINTS PLC	2009	-0.43262	BETA GLASS PLC	2009	-0.47455
	2010	-0.16011		2010	-0.2686
	2011	0.01858		2011	-0.07615
	2012	-0.28571		2012	-0.49719
CAP PLC	2009	0.0345	CEMENT COMPANY OF NORTHERN NIGERIA PLC	2009	-0.2399
	2010	-0.03516		2010	-0.17646
	2011	-0.04667		2011	-0.00665
	2012	0.14873		2012	0.27125
CUTIX PLC	2009	-0.40182	DANGOTE CEMENT COMPANY PLC	2009	-0.43967
	2010	-0.16982		2010	-0.43929
	2011	-0.07189		2011	-0.08872
	2012	-0.24237		2012	-0.32564
DN MEYER PLC	2009	-0.22231	FIRST ALUMINIUM NIGERIA PLC	2009	-0.30157
	2010	-0.25312		2010	-0.2005
	2011	-0.03073		2011	-0.01595
	2012	-0.33854		2012	-0.62221
GREIF NIGERIA PLC	2009	-0.48244	IPWA PLC	2009	-0.53338
	2010	-0.22071		2010	-0.15975
	2011	-0.00901		2011	-0.02094
	2012	-0.48976		2012	-0.40076
LAFARGE WAPCO NIGERIA PLC	2009	-0.7763	NIGERIAN BAG MANUFACTURING COMPANY PLC	2009	-0.13274
	2010	-0.26972		2010	-0.17002
	2011	-0.08026		2011	-0.00037
	2012	-0.51013		2012	-0.31115
NIGERIAN ROPES PLC	2009	-1.98165	PAINTS & COATINGS MANUFACTURING PLC	2009	-0.19133
	2010	-0.18591		2010	-0.02979
	2011	0.01507		2011	0.10231
	2012	-0.4234		2012	0.13157
PORTLAND PAINTS AND PRODUCTS NIG. PLC	2009	-0.02982	PREMIER PAINTS PLC	2009	-0.52954
	2010	-0.06644		2010	-0.23953
	2011	-0.0297		2011	0.07544
	2012	-0.44948		2012	-0.72522

Table 9: Earnings Management of Companies in Industrial Goods Sector

Source: Akinteye, York & Henderson (2014)

Corporate Name	Year	EDA	Corporate Name	Year	EDA
CONOIL PLC	2009	0.35765	ETERNA OIL AND GAS PLC	2009	0.05607
	2010	-0.14051		2010	-0.03558
	2011	-0.12842		2011	-0.00173
	2012	0.20392		2012	0.32203
FORTE OIL PLC	2009	0.03391	JAPPAUL OIL AND MARITIME SERVICES PLC	2009	-0.25091
	2010	-0.10072		2010	-0.16249
	2011	-0.01241		2011	0.0222

	2012	-0.27127		2012	-0.25554
MOBIL OIL NIGERIA PLC	2009	-0.68201	MRS OIL NIGERIA PLC	2009	-0.57182
	2010	-0.18752		2010	-0.28338
	2011	-0.06043		2011	0.01327
	2012	-0.16503		2012	-0.31599
OANDO PLC	2009	-0.13506	TOTAL NIGERIA PLC	2009	-0.33532
	2010	0.01945		2010	-0.15264
	2011	0.02166		2011	-0.07551
	2012	-0.14272		2012	0.10736
UNION VENTURES AND PETROLEUM PLC	2009	0.36015		2009	
	2010	-0.2183		2010	
	2011	0.29634		2011	
	2012	-0.21233		2012	
<i>Table 10: Earnings Management of Oil and Gas Sector Source: Akinteye, York & Henderson (2014)</i>					

Corporate Name	Year	EDA	Corporate Name	Year	EDA
ALUMINIUM EXTRUSION INDUSTRIES PLC	2009	-0.50253	BOC GASES PLC	2009	-0.46127
	2010	-0.21823		2010	-0.0396
	2011	0.02438		2011	0.00034
	2012	-0.57018		2012	-0.4834
MULTIVERSE RESOURCES PLC	2009	-0.62725	THOMAS WYATT NIGERIA PLC	2009	-0.3258
	2010	-0.22517		2010	-0.22666
	2011	-0.00593		2011	-0.02178
	2012	-0.45032		2012	0.39100
<i>Table 11: Earnings Management In The Natural Resources Sector Source: Akinteye, York & Henderson (2014)</i>					

Corporate Name	Year	EDA	Corporate Name	Year	EDA
TANTALIZERS PLC	2009	-0.48213	THE TOURIST COMPANY OF NIGERIA PLC	2009	-0.40896
	2010	-0.2655		2010	-0.15627
	2011	0.05366		2011	-0.02272
	2012	-0.60393		2012	-0.5185
TRANS- NATIONWIDE EXPRESS	2009	-0.3029	UNIVERSITY PRESS PLC	2009	-0.04534
	2010	-0.14961		2010	-0.10765
	2011	0.08035		2011	-0.00692
	2012	-0.08551		2012	-0.25439
ACADEMY PRESS PLC	2009	-0.17741	AFROMEDIA PLC	2009	-0.11068
	2010	-0.23613		2010	-0.14611
	2011	-0.04926		2011	0.0334
	2012	-0.46224		2012	-0.15404
AIRLINE SERVICES AND LOGISTICS LIMITED	2009	-0.34289	ASSOCIATED BUS COMPANY PLC	2009	-0.13325
	2010	-0.18428		2010	-0.15106
	2011	0.01713		2011	-0.19834
	2012	-0.33721		2012	-0.89877
CAPITAL HOTELS PLC	2009	-0.55362	DAAR COMMUNICATIONS PLC	2009	-0.47078
	2010	-0.19913		2010	-0.23892
	2011	0.01693		2011	-0.04836
	2012	-0.25929		2012	0.64326
IKEJA HOTELS PLC	2009	-0.10237	INTERLINKED TECHNOLOGY PLC	2009	0.28952
	2010	-0.00828		2010	-0.01818
	2011	0.00909		2011	-0.25257
	2012	-0.10612		2012	0.05243
LEARN AFRICA PLC	2009	0.18707	NIGERIAN AVIATION HANDLING COMPANY PLC	2009	-0.38023
	2010	-0.03485		2010	-0.21432
	2011	0.06197		2011	0.01917
	2012	-0.068		2012	0.64613
R.T. BRISCOE NIGERIA PLC	2009	0.07441	RED STAR EXPRESS	2009	-0.26833
	2010	-0.0692		2010	-0.13786
	2011	0.15774		2011	0.02377
	2012	-0.19608		2012	-0.428
SECURE ELECTRONIC TECHNOLOGY PLC	2009	0.0334	STUDIO PRESS NIGERIA PLC	2009	-0.42336
	2010	0.07669		2010	-0.18001
	2011	0.0019		2011	-0.02916
	2012	-0.04791		2012	-0.25743

Table 12: Earnings Management of Companies in Services Sector
Source: Akinteye, York & Henderson (2014)

APPENDIX B: RESEARCH VARIABLES FOR ESTIMATING DISCRETIONARY ACCRUALS FOR 2009

S/ N			1/At2008	ChRev_ChRe c	PPE	ROAM
1	A.G.LEVENTIS (NIGERIA) PLC	CONGLOMERATE S	9.88927E-08	0.128405295	0.667272879	0.119911997
2	ACADEMY PRESS PLC	SERVICES	9.19978E-07	-0.210330796	0.686566395	0.0615833
3	ADSWITCH PLC	ICT	1.46761E-05	0.168804485	0.591006487	0.140773137
4	AFROMEDIA PLC	SERVICES	1.7792E-07	-0.294002805	0.458255982	0.060215703
5	AIRLINE SERVICES AND LOGISTICS LIMITED	SERVICES	4.1673E-07	0.054370375	0.666734594	0.076897143
6	ALUMINIUM EXTRUSION INDUSTRIES PLC	NATURAL RESOURCES	1.53839E-06	0.234403845	1.05596186	0.193587393
7	ASHAKACEM PLC	INDUSTRIAL GOODS	4.00065E-08	-0.165326229	0.378931882	0.094646417
8	ASSOCIATED BUS COMPANY PLC	SERVICES	3.02955E-07	0.035189741	0.679936804	0.048742434
9	AVON CROWNCAPS & CONTAINERS (NIG) PLC	INDUSTRIAL GOODS	2.3687E-07	0.279190521	0.622982285	0.060174383
10	BERGER PAINTS PLC	INDUSTRIAL GOODS	4.92674E-07	0.072419163	0.773961578	0.154123264
11	BETA GLASS PLC	INDUSTRIAL GOODS	4.92674E-07	0.140011755	1.144306371	0.130421455
12	BOC GASES PLC	NATURAL RESOURCES	4.92674E-07	0.0000013	0.901789886	0.211170121
13	CADBURY NIGERIA PLC	CONSUMER GOODS	4.92674E-07	0.100207831	0.561014202	-0.091717589
14	CAP PLC	INDUSTRIAL GOODS	4.92674E-07	0.153121257	0.257984388	0.278783162
15	CAPITAL HOTELS PLC	SERVICES	4.92674E-07	0.158115642	1.141243726	0.315377228
16	CEMENT COMPANY OF NORTHERN NIGERIA PLC	INDUSTRIAL GOODS	4.92674E-07	0.193898059	0.795301902	0.263466338
17	CHAMS PLC	ICT	4.92674E-07	-0.04422328	0.260642382	-0.054027581
18	CHELLARAMS PLC	CONGLOMERATE S	4.92674E-07	0.202424452	0.270083545	-0.08010025
19	CONOIL PLC	OIL AND GAS	4.92674E-07	-0.06659111	0.0000051	0.066641924
20	COSTAIN WEST AFRICA PLC	CONSTRUCTION & REAL ESTATE	4.92674E-07	0.755789372	0.901192857	-0.123739169
21	COURTEVILLE INVESTMENT PLC	ICT	4.92674E-07	0.292377343	0.168820996	0.105275754
22	CUTIX PLC	INDUSTRIAL GOODS	4.92674E-07	0.044290199	0.715673811	0.176699727
23	DAAR COMMUNICATIONS PLC	SERVICES	4.92674E-07	0.00000001	1.006544153	0.073169348
24	DANGOTE CEMENT COMPANY PLC	INDUSTRIAL GOODS	4.92674E-07	0.345534346	1.106347163	0.344119968
25	DANGOTE FLOUR MILLS PLC	CONSUMER GOODS	4.92674E-07	0.227388145	0.517799403	0.117130663
26	DANGOTE SUGAR REFINERY PLC	CONSUMER GOODS	4.92674E-07	0.006801499	0.364406747	0.34183644
27	DN MEYER PLC	INDUSTRIAL GOODS	4.92674E-07	-0.016364191	0.702502631	-0.146983898
28	DN TYRE AND RUBBER PLC	CONSUMER GOODS	4.92674E-07	0.073762049	0.13522608	-0.262781836

29	ETERNA OIL AND GAS PLC	OIL AND GAS	4.92674E-07	-0.286097559	0.11407974	-0.237634231
30	E-TRANZACT INTERNATIONAL PLC	ICT	4.92674E-07	-2.157230708	0.256613591	-0.053251021
31	EVANS MEDICAL PLC	HEALTHCARE	4.92674E-07	0.012122632	0.615917684	-0.142350916
32	FIDSON HEALTHCARE PLC	HEALTHCARE	4.92674E-07	0.308614934	0.32038318	0.089474051
33	FIRST ALUMINIUM NIGERIA PLC	INDUSTRIAL GOODS	4.92674E-07	0.160676961	0.947839644	0.002949573
34	FLOUR MILLS OF NIGERIA PLC	CONSUMER GOODS	4.92674E-07	0.512331831	0.373323985	0.042508562
35	FORTE OIL PLC	OIL AND GAS	4.92674E-07	0.657577011	0.217330784	-0.132904347
36	FTN COCOA PROCESSORS PLC	AGRICULTURE	4.92674E-07	0.129359993	0.737661598	0.08128524
37	GLAXOSMITHKLINE CONSUMER NIG PLC	HEALTHCARE	4.92674E-07	0.00000134	0.589672437	0.215523508
38	GREIF NIGERIA PLC	INDUSTRIAL GOODS	4.92674E-07	0.245929068	0.955437476	0.001138321
39	GUINNESS NIGERIA PLC	CONSUMER GOODS	4.92674E-07	0.35772794	0.719949338	0.254391432
40	HONEYWELL FLOUR MILLS PLC	CONSUMER GOODS	4.92674E-07	0.00000011	0.604854959	0.075440071
41	I.H.S. NIGERIA PLC	ICT	4.92674E-07	-0.49505424	0.977973017	0.146979735
42	IKEJA HOTELS PLC	SERVICES	4.92674E-07	0.004465932	0.095144324	0.109187162
43	INTERLINKED TECHNOLOGIES PLC	SERVICES	4.92674E-07	-0.258130052	0.080470845	0.037950784
44	INTERNATIONAL BREWERIES PLC	CONSUMER GOODS	4.92674E-07	0.401835746	2.30057244	-0.172533054
45	IPWA PLC	INDUSTRIAL GOODS	4.92674E-07	-0.192746419	0.681379791	0.016828494
46	JAPPAUL OIL AND MARITIME SERVICES PLC	OIL AND GAS	4.92674E-07	-0.042148298	0.463960334	0.045716995
47	JOHN HOLT PLC	CONGLOMERATE S	4.92674E-07	-0.277424406	0.33789999	-0.278990116
48	JULIUS BERGER NIGERIA PLC	CONSTRUCTION & REAL ESTATE	4.92674E-07	0.259838191	0.635142632	0.067913524
49	LAFARGE-WAPCO NIGERIA PLC	INDUSTRIAL GOODS	4.92674E-07	0.037181413	1.328778967	0.149547756
50	LEARN AFRICA PLC	SERVICES	4.92674E-07	-0.387958667	0.125752211	0.21947747
51	LIVESTOCK FEEDS PLC	AGRICULTURE	4.92674E-07	-0.190691174	0.458548514	0.038851275
52	MAY AND BAKER NIGERIA PLC	HEALTHCARE	4.92674E-07	-0.052246476	0.694200058	0.060062034
53	MCNICHOLS CONSOLIDATED PLC	CONSUMER GOODS	4.92674E-07	0.601644872	0.729082388	-0.063080154
54	MOBIL OIL NIGERIA PLC	OIL AND GAS	4.92674E-07	-0.25744343	1.61484328	0.219559472
55	MORISON INDUSTRIES PLC	HEALTHCARE	4.92674E-07	-0.198014645	0.773022789	-0.034698753
56	MRS OIL NIGERIA PLC	OIL AND GAS	4.92674E-07	2.626173012	0.687761431	0.151916668
57	MULTI TREK INTEGRATED FOODS PLC	CONSUMER GOODS	4.92674E-07	0.285714286	0.045541448	-0.104024636
58	MULTIVERSE RESOURCES PLC	NATURAL RESOURCES	4.92674E-07	0.037584842	0.974826931	0.0203462
59	NATIONAL SALT COMPANY OF NIG PLC	CONSUMER GOODS	4.92674E-07	0.108759511	0.475499082	0.362440575
60	NCR (NIGERIA) PLC	ICT	4.92674E-07	-0.444181384	0.031134404	0.406106885

61	NEIMETH INTERNATIONAL PHARMACEUTICALS PLC	HEALTHCARE	4.92674E-07	0.067111482	0.124404364	-0.084080657
62	NESTLE NIGERIA PLC	CONSUMER GOODS	4.92674E-07	0.721517498	1.121002682	0.472683668
63	NIGERIAN AVIATION HANDLING COMPANY PLC	SERVICES	4.92674E-07	0.354069931	1.007296295	0.316873573
64	NIGERIAN BAG MANUFACTURING COMPANY	INDUSTRIAL GOODS	4.92674E-07	-0.092113329	0.691899117	0.025453874
65	NIGERIAN BREWERIES PLC	CONSUMER GOODS	4.92674E-07	0.196592721	1.081013113	0.396501765
66	NIGERIAN ENAMELWARE PLC	CONSUMER GOODS	4.92674E-07	0.498169603	0.119874345	0.072415039
67	NIGERIAN GERMAN CHEMICALS PLC	HEALTHCARE	4.92674E-07	-0.958338035	0.147101182	-0.052386964
68	NIGERIAN ROPES	INDUSTRIAL GOODS	4.92674E-07	3.000165032	7.041004643	0.169638762
69	NORTHERN NIGERIAN FLOUR MILLS	CONSUMER GOODS	4.92674E-07	1.180595561	0.017217992	0.131242349
70	OANDO PLC	OIL AND GAS	4.92674E-07	0.650652704	0.053172916	0.026419918
71	PAINTS & COATINGS MANUFACTURING PLC	INDUSTRIAL GOODS	4.92674E-07	-0.129563334	0.421217486	0.027928938
72	PHARMA DEKO PLC	HEALTHCARE	4.92674E-07	-0.224776076	0.607732415	-0.309537927
73	POLY PRODUCTS NIGERIA PLC	CONSUMER GOODS	4.92674E-07	0.644861092	0.969197988	0.090160407
74	PORTLAND PAINTS AND PRODUCTS NIG PLC	INDUSTRIAL GOODS	4.92674E-07	0.063535959	0.326858174	0.186244866
75	PREMIER PAINTS PLC	INDUSTRIAL GOODS	4.92674E-07	-0.067908742	0.92594427	0.029403831
76	PRESKO PLC	AGRICULTURE	4.92674E-07	-0.002158882	0.00000022	0.05957415
77	PZ CUSSONS NIGERIA PLC	CONSUMER GOODS	4.92674E-07	0.356741152	0.590789194	0.102466205
78	R.T. BRISCOE (NIGERIA) PLC	SERVICES	4.92674E-07	-0.402443918	0.145382174	0.016285978
79	RED STAR EXPRESS	SERVICES	4.92674E-07	-0.134016811	0.548539562	0.122354577
80	ROADS NIGERIA PLC	CONSTRUCTION & REAL ESTATE	4.92674E-07	0.459457376	0.736352576	0.036561812
81	SCOA NIGERIA PLC	CONGLOMERATE S	4.92674E-07	0.602798715	0.962260171	0.153864561
82	SECURE ELECTRONIC TECHNOLOGY PLC	SERVICES	4.92674E-07	0.049970489	0.000000011	0.003934487
83	SEVEN-UP BOTTLING COMPANY PLC	CONSUMER GOODS	4.92674E-07	0.302741782	1.189670301	0.092711889
84	SMART PRODUCTS NIGERIA PLC	ICT	4.92674E-07	0.051670134	1.114984578	0.053965521
85	STUDIO PRESS NIGERIA PLC	SERVICES	4.92674E-07	0.273903679	0.848752511	0.00500738
86	TANTALIZERS PLC	SERVICES	4.92674E-07	0.416715285	1.216637794	0.034547823
87	THE OKOMU OIL PALM COMPANY PLC	AGRICULTURE	4.92674E-07	0.01849667	1.103578454	0.104839109
88	THE TOURIST COMPANY OF NIGERIA PLC	SERVICES	4.92674E-07	-0.112456567	0.929809256	-0.069738262
89	THOMAS WYATT NIGERIA PLC	NATURAL RESOURCES	4.92674E-07	0.055838807	0.890795996	0.008560602

90	TOTAL NIGERIA PLC	OIL AND GAS	4.92674E-07	0.266710698	0.472500057	0.147552321
91	TRANSNATIONAL CORPORATION PLC	CONGLOMERATE S	4.92674E-07	-0.004195971	0.139622539	0.013375791
92	TRANS-NATIONA WIDE EXPRESS	SERVICES	4.92674E-07	-0.031373595	1.22028174	0.244574797
93	TRIPPLE GEE & COMPANY PLC	ICT	4.92674E-07	0.124422933	1.120375269	0.118522707
94	UAC PLC	CONGLOMERATE S	4.92674E-07	0.324808921	0.835138772	0.124401092
95	UACN PROPERTY DEVELOPMENT COMPANY PLC	CONSTRUCTION & REAL ESTATE	4.92674E-07	0.19190581	0.012622738	0.050482253
96	UNILEVER	CONSUMER GOODS	4.92674E-07	0.315127204	0.604566338	0.240971136
97	UNION VENTURES AND PETROLEUM PLC	OIL AND GAS	4.92674E-07	-1.123213882	0.000000001	0.368081625
98	UNIVERSITY PRESS PLC	SERVICES	4.92674E-07	0.397115442	0.536457258	0.237904629
99	UTC NIGERIA PLC	CONSUMER GOODS	4.92674E-07	0.174152309	0.896121978	0.028625984
100	VITAFOAM NIGERIA PLC	CONSUMER GOODS	4.92674E-07	0.342202163	0.541406824	0.172532919
101	VONO PRODUCTS PLC	CONSUMER GOODS	4.92674E-07	2.97437994	-0.126286446	0.097426722

Table 13: Research Variables for Estimating Eda for 2009

Source: Akinteye, York & Henderson (2014)

APPENDIX C: RESEARCH VARIABLES FOR ESTIMATING DISCRETIONARY ACCRUALS FOR 2010

			1/At2009	ChRev_ChRec	PPE	ROAM
1	A.G.LEVENTIS (NIGERIA) PLC	CONGLOMERATES	9.19E-08	0.1568592	0.619758	0.111425
2	ACADEMY PRESS PLC	SERVICES	8.82E-07	0.1743298	1.152974	0.059073
3	ADSWITCH PLC	ICT	9.45E-06	0.8992855	0.467707	0.09065
4	AFROMEDIA PLC	SERVICES	4.04E-07	1.126665	1.131876	0.136696
5	AIRLINE SERVICES AND LOGISTICS LIMITED	SERVICES	3.9E-07	-0.052084	0.722932	0.071893
6	ALUMINIUM EXTRUSION INDUSTRIES PLC	NATURAL RESOURCES	1.46E-06	0.2224214	1.146009	0.183129
7	ASHAKACEM PLC	INDUSTRIAL GOODS	3.9E-08	0.0785394	0.923249	0.092346
8	ASSOCIATED BUS COMPANY PLC	SERVICES	2.46E-07	0.101761	0.585261	0.039619
9	AVON CROWNCAPS & CONTAINERS (NIG) PLC	INDUSTRIAL GOODS	1.81E-07	0.3805325	0.431396	0.045947
10	BERGER PAINTS PLC	INDUSTRIAL GOODS	4.41E-07	0.1512329	0.721331	0.137807
11	BETA GLASS PLC	INDUSTRIAL GOODS	7.55E-08	0.0002761	1.359833	0.136927
12	BOC GASES PLC	NATURAL RESOURCES	8.32E-08	0.0187366	0.147943	0.03574
13	CADBURY NIGERIA PLC	CONSUMER GOODS	3.93E-08	0.1132647	0.66511	-0.0862
14	CAP PLC	INDUSTRIAL GOODS	4.62E-07	0.3745299	0.293012	0.286286
15	CAPITAL HOTELS PLC	SERVICES	2.03E-07	0.0454172	0.977829	0.249207
16	CEMENT COMPANY OF NORTHERN NIGERIA PLC	INDUSTRIAL GOODS	1.02E-07	-0.011551	0.794355	0.236358

17	CHAMS PLC	ICT	9.32E-08	0.0256453	0.296982	-0.05975
18	CHELLARAMS PLC	CONGLOMERATES	1.25E-07	0.5095747	0.283168	-0.06423
19	CONOIL PLC	OIL AND GAS	2.51E-08	0.0109991	0.5373	0.095163
20	COSTAIN WEST AFRICA PLC	CONSTRUCTION & REAL ESTATE	7.25E-08	0.2371662	0.454162	-0.04168
21	COURTEVILLE INVESTMENT PLC	ICT	3.62E-07	-0.001657	0.143796	0.078225
22	CUTIX PLC	INDUSTRIAL GOODS	1.28E-06	0.0329371	0.74149	0.171174
23	DAAR COMMUNICATIONS PLC	SERVICES	3.83E-08	-0.131362	1.012558	0.073169
24	DANGOTE CEMENT COMPANY PLC	INDUSTRIAL GOODS	1.97E-08	2.8991019	6.45741	0.283784
25	DANGOTE FLOUR MILLS PLC	CONSUMER GOODS	1.82E-08	-0.01577	0.458714	0.093839
26	DANGOTE SUGAR REFINERY PLC	CONSUMER GOODS	1.29E-08	0.1075739	0.276525	0.251957
27	DN MEYER PLC	INDUSTRIAL GOODS	3.79E-07	-0.233131	0.851097	-0.17946
28	DN TYRE AND RUBBER PLC	CONSUMER GOODS	2.98E-07	-0.658824	0.603544	-1.39631
29	ETERNA OIL AND GAS PLC	OIL AND GAS	1.11E-07	0.5315407	0.147022	-0.22293
30	E-TRANZACT INTERNATIONAL PLC	ICT	3.62E-07	0.1518748	0.327874	-0.06053
31	EVANS MEDICAL PLC	HEALTHCARE	2.63E-07	0.2265272	0.711994	-0.16395
32	FIDSON HEALTHCARE PLC	HEALTHCARE	1.39E-07	-0.010777	0.354873	0.086753
33	FIRST ALUMINIUM NIGERIA PLC	INDUSTRIAL GOODS	9.84E-08	0.0789218	0.831533	0.002455
34	FLOUR MILLS OF NIGERIA PLC	CONSUMER GOODS	9.46E-09	0.0874365	0.351264	0.034018
35	FORTE OIL PLC	OIL AND GAS	1.16E-08	-0.425417	0.156616	-0.10804
36	FTN COCOA PROCESSORS PLC	AGRICULTURE	2.87E-07	-0.029321	0.990539	0.074599
37	GLAXOSMITHKLINE CONSUMER NIG PLC	HEALTHCARE	8.91E-08	0.2204888	0.81542	0.21552
38	GREIF NIGERIA PLC	INDUSTRIAL GOODS	1.37E-06	0.1257527	0.981752	0.001113
39	GUINNESS NIGERIA PLC	CONSUMER GOODS	1.35E-08	0.2691303	0.811476	0.257101
40	HONEYWELL FLOUR MILLS PLC	CONSUMER GOODS	6.19E-08	0.3161579	0.626121	0.07544
41	I.H.S. NIGERIA PLC	ICT	4.66E-08	0.2223593	0.441521	0.037138
42	IKEJA HOTELS PLC	SERVICES	5.69E-08	0.0404199	0.088286	0.095736
43	INTERLINKED TECHNOLOGIES PLC	SERVICES	3.03E-06	0.1026564	0.111529	0.047235
44	INTERNATIONAL BREWERIES PLC	CONSUMER GOODS	1.96E-07	0.5863484	1.575352	-0.05609
45	IPWA PLC	INDUSTRIAL GOODS	1.45E-06	0.1418648	0.640354	0.015745
46	JAPPAUL OIL AND MARITIME SERVICES PLC	OIL AND GAS	4.49E-08	0.07199	0.642263	0.048129
47	JOHN HOLT PLC	CONGLOMERATES	9.67E-08	-0.99855	0.376414	-0.27559
48	JULIUS BERGER NIGERIA PLC	CONSTRUCTION & REAL ESTATE	6.48E-09	0.2450552	0.719931	0.060719
49	LAFARGE-WAPCO NIGERIA PLC	INDUSTRIAL GOODS	1.15E-08	-0.024469	1.314109	0.105978

50	LEARN AFRICA PLC	SERVICES	1.87E-07	-0.171092	0.133857	0.207641
51	LIVESTOCK FEEDS PLC	AGRICULTURE	1.15E-06	-0.272971	0.624374	0.04442
52	MAY AND BAKER NIGERIA PLC	HEALTHCARE	1.62E-07	-0.04129	0.788994	0.055926
53	MCNICHOLS CONSOLIDATED PLC	CONSUMER GOODS	4.14E-06	0.2466491	0.663281	-0.04892
54	MOBIL OIL NIGERIA PLC	OIL AND GAS	4.49E-08	-0.002342	0.848982	0.196206
55	MORISON INDUSTRIES PLC	HEALTHCARE	1.69E-06	-0.002704	0.767739	-0.03448
56	MRS OIL NIGERIA PLC	OIL AND GAS	6.02E-08	-0.036097	1.414602	0.103641
57	MULTI TREK INTEGRATED FOODS PLC	CONSUMER GOODS	2.58E-07	0.7900124	2.400309	-0.14762
58	MULTIVERSE RESOURCES PLC	NATURAL RESOURCES	2.34E-07	-0.000426	0.964929	0.019374
59	NATIONAL SALT COMPANY OF NIG PLC	CONSUMER GOODS	1.23E-07	0.1416467	0.428006	0.332611
60	NCR (NIGERIA) PLC	ICT	3.8E-07	-0.773755	0.046311	0.433524
61	NEIMETH INTERNATIONAL PHARMACEUTICALS PLC	HEALTHCARE	3.33E-07	-0.011036	0.208491	-0.0904
62	NESTLE NIGERIA PLC	CONSUMER GOODS	1.44E-08	0.1635168	0.707059	0.197879
63	NIGERIAN AVIATION HANDLING COMPANY PLC	SERVICES	1.48E-07	0.0941181	1.124702	0.28057
64	NIGERIAN BAG MANUFACTURING COMPANY	INDUSTRIAL GOODS	5.7E-08	0.0119209	0.640915	0.022625
65	NIGERIAN BREWERIES PLC	CONSUMER GOODS	9.35E-09	0.1891156	1.130679	0.386958
66	NIGERIAN ENAMELWARE PLC	CONSUMER GOODS	8.05E-07	0.1510206	0.124491	0.075204
67	NIGERIAN GERMAN CHEMICALS PLC	HEALTHCARE	1.49E-06	-0.091642	0.559481	-0.19259
68	NIGERIAN ROPES	INDUSTRIAL GOODS	1.34E-07	0.0000011	0.726315	0.017499
69	NORTHERN NIGERIAN FLOUR MILLS	CONSUMER GOODS	3.62E-07	0.2718416	0.181008	0.112157
70	OANDO PLC	OIL AND GAS	2.47E-09	0.0003556	0.028702	0.011892
71	PAINTS & COATINGS MANUFACTURING PLC	INDUSTRIAL GOODS	9.43E-07	0.5988107	0.238209	0.014122
72	PHARMA DEKO PLC	HEALTHCARE	8.03E-07	-0.040595	0.639849	-0.36972
73	POLY PRODUCTS NIGERIA PLC	CONSUMER GOODS	9.16E-07	-0.075115	1.084625	0.071223
74	PORTLAND PAINTS AND PRODUCTS NIG PLC	INDUSTRIAL GOODS	6.07E-07	0.2267713	0.327691	0.165418
75	PREMIER PAINTS PLC	INDUSTRIAL GOODS	4.67E-06	-0.221871	0.942721	0.031077
76	PRESCO PLC	AGRICULTURE	1.32E-07	0.2025044	1.214494	0.044556
77	PZ CUSSENS NIGERIA PLC	CONSUMER GOODS	2.17E-08	-0.421289	0.628746	0.094853
78	R.T. BRISCOE (NIGERIA) PLC	SERVICES	1.3E-07	-0.087711	0.191235	0.020592
79	RED STAR EXPRESS	SERVICES	4.73E-07	-0.029001	0.512875	0.112641
80	ROADS NIGERIA PLC	CONSTRUCTION & REAL ESTATE	3.91E-07	0.0299879	0.693356	0.033724
81	SCOA NIGERIA PLC	CONGLOMERATES	2.16E-07	-0.203541	0.249716	0.062007

82	SECURE ELECTRONIC TECHNOLOGY PLC	SERVICES	8.21E-08	0.1129402	0.002111	0.003713
83	SEVEN-UP BOTTLING COMPANY PLC	CONSUMER GOODS	3.14E-08	0.194412	1.033097	0.069744
84	SMART PRODUCTS NIGERIA PLC	ICT	1.15E-05	0.0795224	1.131666	0.051971
85	STUDIO PRESS NIGERIA PLC	SERVICES	1.23E-07	0.1144181	0.724572	0.004184
86	TANTALIZERS PLC	SERVICES	1.74E-07	-0.090153	1.191234	0.030837
87	THE OKOMU OIL PALM COMPANY PLC	AGRICULTURE	1.25E-07	0.1927082	0.581647	0.102354
88	THE TOURIST COMPANY OF NIGERIA PLC	SERVICES	7.56E-08	0.2860725	0.647333	-0.04855
89	THOMAS WYATT NIGERIA PLC	NATURAL RESOURCES	1.71E-06	-0.059975	0.925375	0.008893
90	TOTAL NIGERIA PLC	OIL AND GAS	2.01E-08	-0.365079	0.462795	0.124009
91	TRANSNATIONAL CORPORATION PLC	CONGLOMERATES	6.1E-08	0.0064633	0.051047	0.082486
92	TRANS-NATIONA WIDE EXPRESS	SERVICES	1.96E-06	0.2785575	0.702553	0.129248
93	TRIPPLE GEE & COMPANY PLC	ICT	5.9E-07	-0.132496	0.971613	0.103424
94	UAC PLC	CONGLOMERATES	4.68E-08	-0.025849	0.846018	0.122338
95	UACN PROPERTY DEVELOPMENT COMPANY PLC	CONSTRUCTION & REAL ESTATE	1.61E-08	-0.11964	0.013917	0.050866
96	UNILEVER	CONSUMER GOODS	4.22E-08	0.2665204	0.720609	0.239047
97	UNION VENTURES AND PETROLEUM PLC	OIL AND GAS	4.59E-05	0.2117663	1.342197	0.489253
98	UNIVERSITY PRESS PLC	SERVICES	5.72E-07	0.1717458	0.483474	0.192341
99	UTC NIGERIA PLC	CONSUMER GOODS	3.59E-07	0.0906409	0.913451	0.027564
100	VITAFOAM NIGERIA PLC	CONSUMER GOODS	1.83E-07	0.0710354	0.497173	0.146504
101	VONO PRODUCTS PLC	CONSUMER GOODS	4.92E-07	0.0198305	0.922339	-0.12209

Table 14: Research Variables For Estimating Eda For 2010

Source: Akinteye, York & Henderson (2014)

APPENDIX D: RESEARCH VARIABLES FOR ESTIMATING DISCRETIONARY ACCRUALS FOR 2011

			1/At2010	ChRev_ChRec	PPE	ROAM
1	A.G.LEVENTIS (NIGERIA) PLC	CONGLOMERATES	7.683E-08	0.2398436	0.095334	0.0760939
2	ACADEMY PRESS PLC	SERVICES	5.993E-07	0.203637	0.0972718	0.0862345
3	ADSWITCH PLC	ICT	8.255E-06	-0.8095262	- 0.1571488	0.1239558
4	AFROMEDIA PLC	SERVICES	1.097E-07	-0.1265437	- 0.0449668	0.0680101
5	AIRLINE SERVICES AND LOGISTICS LIMITED	SERVICES	3.82E-07	-0.0233048	0.0837474	0.0918853
6	ALUMINIUM EXTRUSION INDUSTRIES PLC	NATURAL RESOURCES	1.172E-06	0.1410843	0.0946311	0.1078628
7	ASHAKACEM PLC	INDUSTRIAL GOODS	3.556E-08	0.0579483	0.1693753	0.1560586
8	ASSOCIATED BUS COMPANY PLC	SERVICES	2.663E-07	0.3212678	0.0194311	0.0520016
9	AVON CROWNCAPS & CONTAINERS (NIG) PLC	INDUSTRIAL GOODS	1.453E-07	0.0258279	0.0152734	0.0151583
10	BERGER PAINTS PLC	INDUSTRIAL GOODS	3.845E-07	-0.0369125	0.1553007	0.1970705
11	BETA GLASS PLC	INDUSTRIAL GOODS	6.266E-08	0.1161011	0.1288349	0.1148182
12	BOC GASES PLC	NATURAL RESOURCES	4.719E-07	0.0096895	0.2462895	0.2446417
13	CADBURY NIGERIA PLC	CONSUMER GOODS	3.482E-08	0.1343901	0.1859006	0.0786874
14	CAP PLC	INDUSTRIAL GOODS	4.219E-07	0.3015389	0.5485907	0.4805356
15	CAPITAL HOTELS PLC	SERVICES	1.773E-07	-0.0765851	0.2339035	0.18946
16	CEMENT COMPANY OF NORTHERN NIGERIA PLC	INDUSTRIAL GOODS	1.84E-07	0.4678363	0.6060474	0.3223388
17	CHAMS PLC	ICT	9.893E-08	0.0503084	-0.059025	- 0.1193114
18	CHELLARAMS PLC	CONGLOMERATES	1.145E-07	0.3789719	0.0355778	0.0426005
19	CONOIL PLC	OIL AND GAS	2.416E-08	1.300495	0.1060412	0.0971539
20	COSTAIN WEST AFRICA PLC	CONSTRUCTION & REAL ESTATE	7.024E-08	0.00012	0.008275	0.008275
21	COURTEVILLE INVESTMENT PLC	ICT	5.537E-07	-0.0527634	0.1681162	0.128031
22	CUTIX PLC	INDUSTRIAL GOODS	9.426E-07	0.0718101	0.1180675	0.1999438
23	DAAR COMMUNICATIONS PLC	SERVICES	3.809E-08	0.0588267	- 0.1754384	- 0.0726978
24	DANGOTE CEMENT COMPANY PLC	INDUSTRIAL GOODS	2.487E-09	0.1384034	0.2931123	0.1586305
25	DANGOTE FLOUR MILLS PLC	CONSUMER GOODS	1.668E-08	-0.1017146	0.0174973	0.0914071
26	DANGOTE SUGAR REFINERY PLC	CONSUMER GOODS	1.605E-08	0.0291735	0.1188493	0.2592053
27	DN MEYER PLC	INDUSTRIAL GOODS	3.682E-07	0.0755073	- 0.0345135	- 0.0853965
28	DN TYRE AND RUBBER PLC	CONSUMER GOODS	3.394E-07	0.000233	- 0.1753165	- 0.1753165
29	ETERNA OIL AND GAS	OIL AND GAS	1.129E-	2.8935029	0.1986804	0.1232783

	PLC		07			
30	E-TRANZACT INTERNATIONAL PLC	ICT	4.025E-07	0.5044435	0.0507282	-0.0805912
31	EVANS MEDICAL PLC	HEALTHCARE	2.602E-07	0.0337108	0.012407	0.02776
32	FIDSON HEALTHCARE PLC	HEALTHCARE	1.265E-07	0.2464301	0.0597859	0.081265
33	FIRST ALUMINIUM NIGERIA PLC	INDUSTRIAL GOODS	9.735E-08	0.0141418	-	-
34	FLOUR MILLS OF NIGERIA PLC	CONSUMER GOODS	9.905E-09	0.0277243	0.1412942	0.1911789
35	FORTE OIL PLC	OIL AND GAS	1.5E-08	-0.251626	-0.2708679	-0.0473142
36	FTN COCOA PROCESSORS PLC	AGRICULTURE	2.313E-07	-0.0717202	-0.0511165	0.0147192
37	GLAXOSMITHKLINE CONSUMER NIG PLC	HEALTHCARE	7.065E-08	0.3372848	0.2690632	0.2260573
38	GREIF NIGERIA PLC	INDUSTRIAL GOODS	1.481E-06	0.0611331	0.1060312	0.1082739
39	GUINNESS NIGERIA PLC	CONSUMER GOODS	1.276E-08	0.1269103	0.3339032	0.2549685
40	HONEYWELL FLOUR MILLS PLC	CONSUMER GOODS	3.917E-08	0.0361983	0.1346053	0.1215445
41	I.H.S. NIGERIA PLC	ICT	4.326E-08	0.0301933	-0.1044438	0.0037494
42	IKEJA HOTELS PLC	SERVICES	5.085E-08	-0.0281649	0.081143	0.1475306
43	INTERLINKED TECHNOLOGIES PLC	SERVICES	1.853E-06	0.0716642	0.0047523	-0.0246863
44	INTERNATIONAL BREWERIES PLC	CONSUMER GOODS	1.009E-07	0.491942	0.0192036	0.0200907
45	IPWA PLC	INDUSTRIAL GOODS	1.717E-06	-0.1378985	-0.2690442	-0.1334979
46	JAPPAUL OIL AND MARITIME SERVICES PLC	OIL AND GAS	4.164E-08	0.000114	0.0450334	0.0450334
47	JOHN HOLT PLC	CONGLOMERATES	1.094E-07	-0.0943004	-0.1661744	0.001094
48	JULIUS BERGER NIGERIA PLC	CONSTRUCTION & REAL ESTATE	6.672E-09	-0.0902641	0.0658751	0.0531223
49	LAFARGE-WAPCO NIGERIA PLC	INDUSTRIAL GOODS	8.44E-09	0.1544385	0.0863816	0.0714407
50	LEARN AFRICA PLC	SERVICES	1.924E-07	-0.0194077	0.0736685	0.0632727
51	LIVESTOCK FEEDS PLC	AGRICULTURE	9.288E-07	1.4183306	0.1401504	0.0490815
52	MAY AND BAKER NIGERIA PLC	HEALTHCARE	1.467E-07	0.042681	0.0490351	0.0451509
53	MCNICHOLS CONSOLIDATED PLC	CONSUMER GOODS	5.658E-06	0.6721818	0.0387323	-0.0344431
54	MOBIL OIL NIGERIA PLC	OIL AND GAS	4.078E-08	0.1345843	0.2252553	0.2333046
55	MORISON INDUSTRIES PLC	HEALTHCARE	1.793E-06	-0.0517076	-0.050924	-0.0603931
56	MRS OIL NIGERIA PLC	OIL AND GAS	2.439E-08	-0.103802	0.0494685	0.0704348
57	MULTI TREK INTEGRATED FOODS PLC	CONSUMER GOODS	8.807E-08	0.1448467	0.0139733	0.0200733
58	MULTIVERSE RESOURCES PLC	NATURAL RESOURCES	2.244E-07	0.020294	0.0065659	0.0371341
59	NATIONAL SALT	CONSUMER	1.332E-	0.0957668	0.4146813	0.275556

	COMPANY OF NIG PLC	GOODS	07			
60	NCR (NIGERIA) PLC	ICT	4.403E-07	0.1181043	0.1627839	0.4674164
61	NEIMETH INTERNATIONAL PHARMACEUTICALS PLC	HEALTHCARE	3.371E-07	-0.0930606	0.0416127	-0.0136537
62	NESTLE NIGERIA PLC	CONSUMER GOODS	1.657E-08	0.2545593	0.3072174	0.3023255
63	NIGERIAN AVIATION HANDLING COMPANY PLC	SERVICES	1.372E-07	0.0601393	0.1765499	0.2347858
64	NIGERIAN BAG MANUFACTURING COMPANY	INDUSTRIAL GOODS	5.35E-08	0.0734308	0.0687242	0.0676653
65	NIGERIAN BREWERIES PLC	CONSUMER GOODS	8.742E-09	0.1758046	0.4995499	0.3931011
66	NIGERIAN ENAMELWARE PLC	CONSUMER GOODS	7.01E-07	-0.0069255	0.0867225	0.0773154
67	NIGERIAN GERMAN CHEMICALS PLC	HEALTHCARE	1.572E-06	0.0442126	0.0080727	-0.020867
68	NIGERIAN ROPES	INDUSTRIAL GOODS	1.516E-07	-0.0197325	-0.0465333	-0.0830614
69	NORTHERN NIGERIAN FLOUR MILLS	CONSUMER GOODS	3.895E-07	0.8313495	0.2529806	0.1605632
70	OANDO PLC	OIL AND GAS	1.95E-09	0.0073534	0.0048788	0.0110746
71	PAINTS & COATINGS MANUFACTURING PLC	INDUSTRIAL GOODS	6.334E-07	0.2212522	0.0778934	0.0687954
72	PHARMA DEKO PLC	HEALTHCARE	5.163E-07	0.4178717	0.0248173	-0.2389883
73	POLY PRODUCTS NIGERIA PLC	CONSUMER GOODS	6.461E-07	0.0139974	0.0294801	0.0364797
74	PORTLAND PAINTS AND PRODUCTS NIG PLC	INDUSTRIAL GOODS	6.436E-07	0.1358234	0.1769598	0.1588705
75	PREMIER PAINTS PLC	INDUSTRIAL GOODS	5.953E-06	0.0992844	-0.3359765	-0.3400126
76	PRESKO PLC	AGRICULTURE	1.355E-07	0.3701362	0.3495843	0.1806816
77	PZ CUSSONS NIGERIA PLC	CONSUMER GOODS	1.906E-08	0.1036868	0.0908445	0.1257859
78	R.T. BRISCOE (NIGERIA) PLC	SERVICES	9.274E-07	1.297132	0.2715806	0.1782681
79	RED STAR EXPRESS	SERVICES	4.481E-07	-0.066421	0.0891523	0.1481987
80	ROADS NIGERIA PLC	CONSTRUCTION & REAL ESTATE	3.075E-07	-0.1588719	0.0375038	0.0370671
81	SCOA NIGERIA PLC	CONGLOMERATES	2.173E-07	0.000011	0.0479228	0.0479228
82	SECURE ELECTRONIC TECHNOLOGY PLC	SERVICES	8.318E-08	0.042028	-0.0719128	0.0086971
83	SEVEN-UP BOTTLING COMPANY PLC	CONSUMER GOODS	2.991E-08	0.2964655	0.0755369	0.0788299
84	SMART PRODUCTS NIGERIA PLC	ICT	9.287E-06	0.0494795	0.0886322	0.0594441
85	STUDIO PRESS NIGERIA PLC	SERVICES	1.245E-07	0.010956	0.0097468	0.0101801
86	TANTALIZERS PLC	SERVICES	1.703E-07	-0.0528648	0.0142372	0.0261265
87	THE OKOMU OIL PALM COMPANY PLC	AGRICULTURE	1.154E-07	0.5914794	0.5374219	0.227415

88	THE TOURIST COMPANY OF NIGERIA PLC	SERVICES	8.777E-08	0.00011	-	-
89	THOMAS WYATT NIGERIA PLC	NATURAL RESOURCES	1.571E-06	-0.0468475	-	-
90	TOTAL NIGERIA PLC	OIL AND GAS	1.831E-08	0.2399436	0.1072979	0.1059216
91	TRANSNATIONAL CORPORATION PLC	CONGLOMERATES	4.646E-08	0.0209514	0.0529399	0.1606118
92	TRANS-NATIONA WIDE EXPRESS	SERVICES	1.843E-06	-0.256733	0.107843	0.0688269
93	TRIPPLE GEE & COMPANY PLC	ICT	7.005E-07	0.0030114	-	-
94	UAC PLC	CONGLOMERATES	4.865E-08	-0.4656724	0.0317618	0.0323068
95	UACN PROPERTY DEVELOPMENT COMPANY PLC	CONSTRUCTION & REAL ESTATE	1.435E-08	0.0383877	0.2942297	0.0934261
96	UNILEVER	CONSUMER GOODS	3.856E-08	0.3788127	0.0475993	0.0486187
97	UNION VENTURES AND PETROLEUM PLC	OIL AND GAS	1.5E-05	23.389751	0.307816	0.2371997
98	UNIVERSITY PRESS PLC	SERVICES	4.945E-07	0.0082237	-	-0.013887
99	UTC NIGERIA PLC	CONSUMER GOODS	3.854E-07	-0.0143486	0.2523208	0.1615224
100	VITAFOAM NIGERIA PLC	CONSUMER GOODS	1.403E-07	0.5526631	0.1615224	0.2029307
101	VONO PRODUCTS PLC	CONSUMER GOODS	2.286E-06	4.3029398	-	-
					0.0597067	0.0020043
					0.1361346	0.1174084
					0.1828627	0.1174084

*Table 15 :Research Variables for Estimating Eda for 2011
Source: Akinteye, York & Henderson (2014)*

APPENDIX E: RESEARCH VARIABLES FOR ESTIMATING DISCRETIONARY ACCRUALS FOR 2012

			1/At2011	ChRev_ChRec	PPE	ROAM
1	A.G.LEVENTIS (NIGERIA) PLC	CONGLOMERATES	6.721E-08	-0.0639272	0.3421636	0.0834034
2	ACADEMY PRESS PLC	SERVICES	5.215E-07	-0.0077475	0.796682	0.0846559
3	ADSWITCH PLC	ICT	1.06E-05	-0.0236718	0.5309937	- 0.2017187
4	AFROMEDIA PLC	SERVICES	1.137E-07	0.0894755	0.3179487	- 0.0466195
5	AIRLINE SERVICES AND LOGISTICS LIMITED	SERVICES	4.009E-07	0.017749	0.5415681	0.0879097
6	ALUMINIUM EXTRUSION INDUSTRIES PLC	NATURAL RESOURCES	1.024E-06	-0.0105872	1.3805342	0.0826704
7	ASHAKACEM PLC	INDUSTRIAL GOODS	2.91E-08	0.0304157	1.6309452	0.1386298
8	ASSOCIATED BUS COMPANY PLC	SERVICES	2.021E-07	0.1205816	1.5772383	0.0147484
9	AVON CROWNCAPS & CONTAINERS (NIG) PLC	INDUSTRIAL GOODS	1.957E-07	-0.185249	0.4699567	0.020571
10	BERGER PAINTS PLC	INDUSTRIAL GOODS	3.767E-07	0.0502567	0.6862697	0.1521458
11	BETA GLASS PLC	INDUSTRIAL GOODS	5.584E-08	-0.055123	1.2506957	0.114813
12	BOC GASES PLC	NATURAL RESOURCES	4.421E-07	-0.0599733	1.0903152	0.2307653
13	CADBURY NIGERIA PLC	CONSUMER GOODS	3.058E-08	0.3475156	0.5127814	0.1632748
14	CAP PLC	INDUSTRIAL GOODS	3.419E-07	0.3225827	0.2653909	0.4446297
15	CAPITAL HOTELS PLC	SERVICES	1.493E-07	-0.0544121	0.7051617	0.1969172
16	CEMENT COMPANY OF NORTHERN NIGERIA PLC	INDUSTRIAL GOODS	7.956E-08	0.1428467	0.7533192	0.2620786
17	CHAMS PLC	ICT	1.059E-07	-0.0755062	0.288428	- 0.0631975
18	CHELLARAMS PLC	CONGLOMERATES	1.001E-07	0.1118773	0.3070709	0.0311172
19	CONOIL PLC	OIL AND GAS	1.617E-08	-0.1436774	0.3693592	0.0709676
20	COSTAIN WEST AFRICA PLC	CONSTRUCTION & REAL ESTATE	7.024E-08	0.0536204	0.4399638	0.008275
21	COURTEVILLE INVESTMENT PLC	ICT	3.227E-07	0.0435707	0.3302207	0.0979802
22	CUTIX PLC	INDUSTRIAL GOODS	1.069E-06	0.0894748	0.6547838	0.1338989
23	DAAR COMMUNICATIONS PLC	SERVICES	4.056E-08	0.0710826	1.0885435	-0.186795
24	DANGOTE CEMENT COMPANY PLC	INDUSTRIAL GOODS	1.901E-09	0.0924176	0.7978962	0.2240618
25	DANGOTE FLOUR MILLS PLC	CONSUMER GOODS	1.454E-08	0.0337012	0.441365	0.015253
26	DANGOTE SUGAR REFINERY PLC	CONSUMER GOODS	1.373E-08	-0.0511016	0.3494804	0.1016772
27	DN MEYER PLC	INDUSTRIAL GOODS	3.958E-07	0.176899	0.8872766	-0.037099
28	DN TYRE AND RUBBER PLC	CONSUMER GOODS	3.394E-07	0.0612939	0.6884048	- 0.1753165
29	ETERNA OIL AND GAS PLC	OIL AND GAS	7.071E-	1.0443703	0.083901	0.1244844

			08			
30	E-TRANZACT INTERNATIONAL PLC	ICT	3.728E-07	0.3085553	0.1420762	0.0469863
31	EVANS MEDICAL PLC	HEALTHCARE	2.524E-07	0.0469236	1.1676431	0.0120352
32	FIDSON HEALTHCARE PLC	HEALTHCARE	1.06E-07	0.0390581	0.5790478	0.0501004
33	FIRST ALUMINIUM NIGERIA PLC	INDUSTRIAL GOODS	1.026E-07	-0.6864747	0.893369	-0.0320428
34	FLOUR MILLS OF NIGERIA PLC	CONSUMER GOODS	8.567E-09	0.200574	0.5905508	0.1222022
35	FORTE OIL PLC	OIL AND GAS	2.176E-08	-0.5650479	0.2664971	-0.3929427
36	FTN COCOA PROCESSORS PLC	AGRICULTURE	2.217E-07	0.0368867	0.8737064	-0.0490002
37	GLAXOSMITHKLINE CONSUMER NIG PLC	HEALTHCARE	5.646E-08	0.3477949	0.5609073	0.2150341
38	GREIF NIGERIA PLC	INDUSTRIAL GOODS	1.493E-06	-0.1837481	1.0721474	0.1068751
39	GUINNESS NIGERIA PLC	CONSUMER GOODS	1.084E-08	0.0996033	0.9789619	0.2838294
40	HONEYWELL FLOUR MILLS PLC	CONSUMER GOODS	3.032E-08	0.1135982	1.0270201	0.1041769
41	I.H.S. NIGERIA PLC	ICT	4.355E-08	-0.0910847	1.3443091	-0.105121
42	IKEJA HOTELS PLC	SERVICES	8.034E-08	0.1279922	0.2110999	0.128207
43	INTERLINKED TECHNOLOGIES PLC	SERVICES	1.541E-06	-0.0580232	0.0576997	0.0039506
44	INTERNATIONAL BREWERIES PLC	CONSUMER GOODS	7.788E-08	0.3819409	0.797983	0.0148242
45	IPWA PLC	INDUSTRIAL GOODS	5.987E-07	0.0905274	0.8045765	-0.0938085
46	JAPPAUL OIL AND MARITIME SERVICES PLC	OIL AND GAS	4.164E-08	0.0431255	0.5957588	0.0450334
47	JOHN HOLT PLC	CONGLOMERATES	1.647E-07	-0.4946484	0.7161205	-0.2501235
48	JULIUS BERGER NIGERIA PLC	CONSTRUCTION & REAL ESTATE	5.828E-09	0.2454832	0.7094775	0.0575464
49	LAFARGE-WAPCO NIGERIA PLC	INDUSTRIAL GOODS	6.554E-09	0.1211434	0.9392616	0.0670778
50	LEARN AFRICA PLC	SERVICES	2.072E-07	0.1321622	0.1747044	0.0793254
51	LIVESTOCK FEEDS PLC	AGRICULTURE	6.413E-07	1.3087898	0.4988523	0.0967738
52	MAY AND BAKER NIGERIA PLC	HEALTHCARE	1.42E-07	0.0344206	0.8712105	0.0474674
53	MCNICHOLS CONSOLIDATED PLC	CONSUMER GOODS	4.453E-06	-0.014634	1.1590505	0.0304839
54	MOBIL OIL NIGERIA PLC	OIL AND GAS	3.251E-08	0.601913	0.432587	0.1796223
55	MORISON INDUSTRIES PLC	HEALTHCARE	1.731E-06	0.2849242	0.806744	-0.049175
56	MRS OIL NIGERIA PLC	OIL AND GAS	1.482E-08	0.1224698	0.3952899	0.0300527
57	MULTI TREK INTEGRATED FOODS PLC	CONSUMER GOODS	5.453E-08	0.0882917	0.7193378	0.0086518
58	MULTIVERSE RESOURCES PLC	NATURAL RESOURCES	1.991E-07	-0.0009307	0.8835731	0.0058272
59	NATIONAL SALT COMPANY OF NIG PLC	CONSUMER GOODS	9.954E-08	0.3775503	0.5458577	0.3099692

60	NCR (NIGERIA) PLC	ICT	3.148E-07	1.0878011	0.2501983	0.1163763
61	NEIMETH INTERNATIONAL PHARMACEUTICALS PLC	HEALTHCARE	3.267E-07	0.0908147	0.2613591	0.0403231
62	NESTLE NIGERIA PLC	CONSUMER GOODS	7.411E-09	0.1163824	0.5612185	0.1373952
63	NIGERIAN AVIATION HANDLING COMPANY PLC	SERVICES	1.006E-07	0.0789003	1.1565888	0.1294805
64	NIGERIAN BAG MANUFACTURING COMPANY	INDUSTRIAL GOODS	4.739E-08	0.0987127	0.6295982	0.0608862
65	NIGERIAN BREWERIES PLC	CONSUMER GOODS	4.642E-09	0.1748645	1.1333215	0.2652309
66	NIGERIAN ENAMELWARE PLC	CONSUMER GOODS	9.81E-07	0.0479649	0.2126107	0.1213613
67	NIGERIAN GERMAN CHEMICALS PLC	HEALTHCARE	1.39E-06	0.031801	0.5262809	0.00714
68	NIGERIAN ROPES	INDUSTRIAL GOODS	1.306E-07	0.0423552	0.8592919	- 0.0400893
69	NORTHERN NIGERIAN FLOUR MILLS	CONSUMER GOODS	2.419E-07	0.3289957	0.0236933	0.1571001
70	OANDO PLC	OIL AND GAS	8.345E-09	0.0283406	0.1282911	0.0208754
71	PAINTS & COATINGS MANUFACTURING PLC	INDUSTRIAL GOODS	5.885E-07	0.7856885	0.2421204	0.072363
72	PHARMA DEKO PLC	HEALTHCARE	4.88E-07	-0.1266088	1.2640811	0.0234579
73	POLY PRODUCTS NIGERIA PLC	CONSUMER GOODS	6.424E-07	0.0957041	0.9710969	0.0293142
74	PORTLAND PAINTS AND PRODUCTS NIG PLC	INDUSTRIAL GOODS	4.657E-07	0.0233419	0.4934117	0.1280311
75	PREMIER PAINTS PLC	INDUSTRIAL GOODS	5.581E-06	0.2922125	1.6123201	- 0.3149952
76	PRESCO PLC	AGRICULTURE	9.476E-08	0.2572937	0.8634487	0.2444975
77	PZ CUSSONS NIGERIA PLC	CONSUMER GOODS	1.824E-08	0.1239658	0.5064793	0.0869494
78	R.T. BRISCOE (NIGERIA) PLC	SERVICES	6.911E-08	0.232785	0.1325432	0.0202368
79	RED STAR EXPRESS	SERVICES	1.428E-06	0.6566992	1.7393209	0.2839987
80	ROADS NIGERIA PLC	CONSTRUCTION & REAL ESTATE	3.072E-07	-0.0097321	0.591674	0.03747
81	SCOA NIGERIA PLC	CONGLOMERATES	2.173E-07	0.4932203	0.2138624	0.0479228
82	SECURE ELECTRONIC TECHNOLOGY PLC	SERVICES	8.77E-08	-0.0443073	0.1256357	- 0.0758128
83	SEVEN-UP BOTTLING COMPANY PLC	CONSUMER GOODS	2.486E-08	0.2200411	1.1438991	0.062763
84	SMART PRODUCTS NIGERIA PLC	ICT	1.018E-05	0.1284281	0.200985	0.0971142
85	STUDIO PRESS NIGERIA PLC	SERVICES	1.27E-07	-0.076323	0.7168472	0.0099461
86	TANTALIZERS PLC	SERVICES	1.523E-07	-0.0601827	1.2165081	0.0127273
87	THE OKOMU OIL PALM COMPANY PLC	AGRICULTURE	8.298E-08	-0.0851175	2.4101388	0.3865533
88	THE TOURIST COMPANY OF NIGERIA PLC	SERVICES	8.777E-08	-0.10277	1.053992	- 0.0979024
89	THOMAS WYATT NIGERIA	NATURAL	1.559E-	-0.0528355	0.8237284	-0.038289

	PLC	RESOURCES	06			
90	TOTAL NIGERIA PLC	OIL AND GAS	1.703E-08	0.6944653	0.5066741	0.0997723
91	TRANSNATIONAL CORPORATION PLC	CONGLOMERATES	4.3E-08	-0.1568267	0.0299332	0.0489985
92	TRANS-NATIONAWIDE EXPRESS	SERVICES	1.651E-06	0.0247132	0.2814657	0.0966364
93	TRIPPLE GEE & COMPANY PLC	ICT	6.926E-07	0.0602696	1.4201088	- 0.0314026
94	UAC PLC	CONGLOMERATES	4.118E-08	-0.3202595	0.073432	0.2490532
95	UACN PROPERTY DEVELOPMENT COMPANY PLC	CONSTRUCTION & REAL ESTATE	1.508E-08	0.0207086	0.2744126	0.0500223
96	UNILEVER	CONSUMER GOODS	3.098E-08	0.0249308	0.8603225	0.2473148
97	UNION VENTURES AND PETROLEUM PLC	OIL AND GAS	7.807E-06	-6.7801382	0.3045321	- 0.1313581
98	UNIVERSITY PRESS PLC	SERVICES	4.154E-07	0.0821575	0.6158181	0.1356847
99	UTC NIGERIA PLC	CONSUMER GOODS	3.505E-07	0.1877551	0.9608988	- 0.0543086
100	VITAFOAM NIGERIA PLC	CONSUMER GOODS	1.059E-07	0.0155804	0.4799967	0.1027141
101	VONO PRODUCTS PLC	CONSUMER GOODS	1.5E-06	2.82352	- 0.1248295	0.1027141

Table 16: Research Variables for Estimating Eda for 2012

Source: Akinteye, York & Henderson (2014)

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