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EARNINGS MANAGEMENT AND RETURN ON EQUITY OF NON-FINANCIAL FIRMS ON NIGERIA EXCHANGE GROUP

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ABSTRACT

In line with accounting theory, earnings are taken into account as a measurement when assessing performance. This study examined the effect of earnings management on return on equity of listed non-financial firms in Nigeria. This study specifically seeks to ascertain the effect of discretionary accrual earning management and real earning management on return on equity of listed non-financial firms in Nigeria. The study adopted Ex post facto research design. The population of this study comprised of ninety-five (95). Purposive sampling technique was used to select seventy–four (74) listed non-financial firms as sample population. Data were obtained from secondary sources for a period of 13years covering 2011-2023. The study found amongst others that, discretionary accrual earning management and real earning management have no significant effect on return on equity of listed non-financial firms in Nigeria. Based on the findings of this study, it is recommended that since discretionary accrual earning management has no significant effect on return on equity, the study recommends that management should be encouraged to reduce their means of changing accounting estimates.

***Key words:** Discretionary Accrual Earning Management, Earnings Management, Real Earning Management, Return on Equity.*

1. INTRODUCTION

Attention has been given to the concept of earnings because it serves as a predictor of future financial performance. In recent times, there have been greater attentions in Nigeria on earnings management and firm's financial performance since the Cadbury Nigeria Plc scandal in 2006. In the Cadbury's case, it was announced that there was detection of overstatements in their published financial statement for a period of four years 2002 to 2005. Furthermore, In the Nigeria banking sector, it was alleged that some managers were involved in serious financial crimes such as window dressing of accounts and embezzlement. The banks are

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Oceanic Bank International Nigeria Plc, Afribank Nigeria Plc, Equitorial Trust Bank Ltd, Finbank Plc, Intercontinental Bank Plc, and Bank PHB Plc. It is always surprising when firms that have been tagged to be doing well based on the information provided in financial report suddenly collapse on issues of poor earnings and accounting manipulation such as Skye Banks plc in 2018. Earnings refer to a company's net income or profit for a certain specified period. Earnings are the accounting estimate of the value added by the company in producing products or and delivered services to customers within the period (Adedeji & Oboh 2017). Mauchi, Nzaro and Njanike (2011) described accounting earnings as accruals-based revenues minus accruals-based expenses. Earnings management is seen as accounting practices by management intended to influence or misrepresent reported earnings through the use of accounting methods or accelerating expense or under accruing expense or untimely recognition or deferment of revenue transactions (depending on target objective) or using other methods crafted to influence earnings. The term is understood to refer to "systematic misrepresentation of the true income and assets of companies" (Omoye & Eriki, 2014). Shehu, (2012) explained that management influenced their reported earnings for either because shareholders demand for higher returns on their investment, the quest to maintain a giant corporate status in the eye of the business community or sporadic changes in competitiveness, the craze to satisfy the greed of company's insiders. Joosten (2012) distinguishes between two types of earnings management: accrual-based earnings management and real earnings management. Accrual-based earnings management involves various accounting maneuvers to improve the earnings baseline, which should be reverted in future periods and should not affect the firm cash flows (Walker, 2013; Mellado-Cid, Jory & Ngo, 2018). Real activities manipulation, however, involves changes made to the normal business operations and consequently should affect the firm earnings management (Zang, 2012).

Having an in-depth understanding of earnings management of listed firms is vital when analyzing a firm's financial performance especially profitability. Profitability is a metric that reveals the financial success of any firm. It indicates the efficient nature in which raw materials are utilized to generate above-average return on investment (Mishra, 2018). Previous studies, Awuye and Aubert (2022); Olulu-Briggs and Orowhuo (2022);Egiyi (2021); Fialova and Folvarcna (2020); Khanh and Thu (2019); Vakilifard and Mortazavi (2016); Adebayo and Adebiyi (2016); Uwuigbe, Uwuigbe and Okorie (2015); Lusi and Swastika, (2013), focused on company characteristics, liquidity and accrual-based earnings management alone. Hence, this study intends to ascertain the effect of earnings management on return on equity of listed non-financial firms in Nigeria.

1.1 Objectives

The broad objective of the study is to determine the effect of earnings management on return on equity of non-financial firms on the Nigeria Exchange Group. The specific objectives are to:

1. evaluate the effect of discretionary accrual earning management on return on equity of listed non-financial firms in Nigeria.
2. assess the effect of real earning management on return on equity of listed non-financial firms in Nigeria.

1.2 Hypotheses

The following null hypotheses were developed in line with the objectives to guide the study:

H_{01}: Discretionary accrual earnings management has no significant effect on return on equity of non-financial firms in the Nigeria Exchange Group.

H_{o2}: Real earning management does not have significant effect on return on equity of listed non-financial firms in the Nigeria Exchange Group.

2. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Earnings Management

Earnings management is the process by which financial information is manipulated to provide a firm's financial position and performance. Earnings management takes advantage of loopholes in accounting policies to falsify books of account either to mislead shareholders on the actual financial performance of an organization or to influence contractual agreements which may rely on the financial numbers. The practice allows companies to produce accounts that flatter their financial performance while still conforming to the Generally Accepted Accounting Principles (GAAP) (Ijeoma, 2014). Earnings management is altering a company's earnings to make financial statements appear better than the real reports (Abraham, Zhang, Joseph, Agyemang & Ofori, 2021). Earnings management (EM) was described by Whittington and Delany (2013) as a fraudulent practice by one or more individuals among management, those charged with governance, employees, or third parties, involving the use of deception to obtain an unjust or illegal advantage. Swai (2016) view earnings management as the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about desired level of reported earnings.

According to Omoye and Eriki (2014), earnings management is seen as accounting practices by management intended to influence or misrepresent reported earnings through the use of accounting methods or accelerating expense or under-accruing expense or untimely recognition or deferment of revenue transactions (depending on target objective) or using other methods crafted to influence earnings. The term is understood to refer to "systematic misrepresentation of the true income and assets of corporations or other organizations" or innovative ways of characterizing income, assets and liabilities (Donaldson and Werhane 2019). In crafting financial reports, the financial reporting frameworks allow for management estimates and judgments provided that they are reasonable in the circumstances and in line with industry practices. But earnings management takes place when managers in the use of judgments structure transactions to alter financial reports in such a way that they mislead stakeholders about the underlying economic performance of the company, or influence contractual outcomes that depend on reported financial information.

According to Egbunike and Udeh (2015); Okafor, Ezeagba, and Onyali (2018) the issue of earnings management is becoming quite rampant in organizations and has gained so much importance throughout the world following notable failures of companies as Enron, WorldCom, Tyco, Cadbury Nigerian Plc, African Petroleum Plc, Lever Brothers Plc, and failed Banks in Nigeria. It is a major problem that has increased both in its severity and frequency; it undermines the integrity of financial reports, contributed to significant economic losses, and eroded investors' confidence regarding the usefulness and reliability of financial statements (Bhasin, 2013). In lieu of these, there was an outcry for more to be done to regulate the markets as accountants and auditors are pushing more and more beyond the acceptable limits in the accounting profession (Ijeoma, 2014).

2.1.1.1 Discretionary Accrual Earnings Management (DACEM)

Generally, accrual is defined as the difference between net income and actual cash flow from operating activities (Olotu, Salawu, Adegbie, & Akinwunmi, 2019; Yihui, 2020). Accruals are the most important earnings management instruments that are used by managers to fluctuate reported income. This is because they are components of earnings that are not reflected in current cash flows, and a great deal of managerial discretion goes into their construction (Bergstresser & Phillippon 2016). Accruals earnings management means to manipulate the earnings through the utilization of accounting principles provided by generally accepted accounting principles (Olaniyi & Abubakar, 2018). This method of earnings management is accomplished through changing the choice of accounting methods used. It is applied by changing accounting estimates such as estimates for doubtful debts and changes in the method of depreciation (Zhang & Abraham, 2020). Examples of accruals earnings management are provisions for bad debt expenses and timing asset write-offs (Olaniyi & Abubakar, 2018).

2.1.1.2 Real Earnings Management (REMGT)

Real Earnings Management (REM) is also referred to as Cash Flow Earnings Management (CFEM). Real earnings management is a manipulation performed by company management through the company's operational activities that have direct effect on the company's cash flow (Sun &Lan, 2014). Real earnings management is a practice carried out by managers that deviates from the normal operation of the firm with the primary objective of meeting short-term earnings goals (Rowchowdhury, 2006). These departures do not necessarily contribute to firm value even though they enable managers to meet reporting goals (Rowchowdhury, 2006). According to Abraham, Zhang, Joseph, Agyemang and Ofori (2021) it is the process of changing a company’s operating activities to increase current period profits. Real Earnings Management is undertaken by making changes to the structure of operation, investment and financial transactions (Zhang & Abraham, 2020). Examples of Real Earnings Management are manipulation of Research and Development expenses, overproduction, manipulation in advertising expenses and sales manipulation (Olaniyi & Abubakar, 2018).

2.1.2 Methods and Techniques of Earnings Management

Earnings management exists in numerous ways due to the volume of estimates that require judgment and experience in drawing up a set of periodic financial statements.

1. **Income Smoothing:** According to Mathews and Perera (2016), income smoothing is the process of deflating the reported profits of a business in good period and deferring them to loss making periods in an effort to portray a “stable income steam” over the years.
2. **Window Dressing and Secret Reserves:** According to Olatunji and Fakile (2012), Window Dressing and Secret Reserves involve the adjustment of financial statements of a company to achieve the maximum effect on the financial position at a particular date.

3. **Off Balance Sheet Financing:** This is a situation where total debts of a company increases but the increased borrowing is not reflected in the financial statements of the company, (Kang & Kim, 2011).
4. **Pooling Versus Purchases Methods**: Pooling is the accounting for a merger of two companies where there is no goodwill created which increases future income because no amortization of good-will is needed. More so, all pre- and post-acquisition reserves and earning are distributed to the shareholders. Other techniques according to Ahmad (2011) include cookie jar reserve, big bath, big bet on the future, flushing the investment portfolio and many others.

2.1.3 Financial Performance

Financial performance is an essential measure to access the well-being of a company. This measures the ability of the company to utilize its resources efficiently and effectively to achieve the desired result. This assertion is in line with the view of Kenton (2021) sees "financial performance as a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues". The financial performance of a company can be accessed through various indicators like profitability ratios and liquidity ratios. In the view of Verma (2021), financial performance is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure a firm's overall financial health over a given period of time and used to compare similar firms across the same industry. Abraham, Zhang, Joseph, Agyemang and Ofori (2021) opined that financial performance are measured in various ways, such as shareholders' wealth maximization, profitability, and components of financial statements including sales, assets, liability and equity. For the purpose of this study, Returns on Equity (ROE) will be used as measures of financial performance. Businesses are interested in their ability to make efficient use of their assets to generate sales (and positive cash flows). Returns are calculated by comparing profits against the volume and the sources of funding.

2.1.3.1. Returns on Equity (ROE)

These are accounting based performance measurements which are generally considered as an effective indicator of the company's profitability and the business when compared to benchmark rate of return equal to the risk adjusted weighted average cost of capital (Fodio & Hassan, 2020). They are unique measurements of the profit after tax divided by total equity and it can be easily obtained from the firm's annual report. Tobin's Q is a market-based measurement which is characterized by its forward-looking aspect and its reflection of the expectations of the shareholders concerning the firm's future performance (Abbadi, Murad, Hanady & Abulla, 2020). It is of place to discuss firm's earnings and Cashflow without its overall performance. Therefore, in this research return on equity is used to measure firm's financial performance. It is calculated as;

ROE = Profit after Tax/ Total Equity

2.1.4 Earnings Management and Financial Performance

Dechow, Sloan and Sweeney (1995) claimed that performance matching can eliminate performance-motivated earning management because both treatment and match control firms perform similarly. They also claim that total accruals are in reality not abnormal accruals but performance-matched discretionary accruals are (Dechow et al., 1995). Additionally, their study results show a preference for the standard Jones model compared to the Modified Jones model under the performance matching approach. They discovered that it would inadvertently find earnings management when using the Modified Jones model to match results based on ROA. Many studies have been empirically carried out on influence of earnings management on financial performance (Dakhlallh, Rashid, Abdullah, Qawqzeh, & Dakhlallh, 2020; Kumar, Madhu, & Goswami, 2020; Tabassum, Kaleem, & Nazir, 2015). Hassan and Ahmad, (2012) explored the earnings management and financial performance in Nigerian manufacturing firms. The study found that earnings management negatively affect financial performance mechanisms significantly impact on firm performance (adjusted and non-adjusted) in different directions and magnitudes. These results confirm the assertion by Dechow et al. (1995) that the significance of manipulating financial indicators when investigating earnings management stimuli that associated with financial performance.

Many studies have been empirically carried out on influence of earnings management on financial performance (Dakhlallh, Rashid, Abdullah, Qawqzeh, & Dakhlallh, 2020; Kumar, Madhu, & Goswami, 2020; Tabassum, Kaleem, & Nazir, 2015). Dakhlallh et al. (2020) investigated how both accrual-based earnings management and real earnings management and firm performance among Jordanian firms. Using the panel data technique on data collected from listed Jordanian companies from 2009 to 2017, the authors find that both discretionary accruals and abnormal cash flows have significant negative impact on Tobin's Q, indicating that firms involved in discretionary accrual report less performance. Furthermore, study of Farooqi, Harris and Ngo (2014) showed that significant associations exist between earnings

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management and financial performance. Similarly, Hassan and Ahmed (2012) posit that earnings management affects firms' financial performance. Although, Okafor, Ezeagba, and Onyali (2018) and Saidu, Ibrahim, and Muktar (2017) claimed no significant effect of earnings management on firms' financial performance. Harrison and Freeman (1999) insisted that the connection between earnings management and company performance varies in terms of the quality of the firms' managers. Fernandes and Ferreira (2017) reported that accumulation that centers on earnings management might adversely influence shareholders' accurate knowledge of the actual financial performance of the organization. Hence, this might affect the continuing performance of the companies' response to surprises. In respect of this, an accumulation that is centered on earnings management adversely affects firms' financial performance.

Kumar et al. (2020) examined the influence of real earnings management on firms' future performance in 108 non-financial firms India from 2006 to 2018. The authors used the panel GMM estimator and found that Indian firms engage in earnings management by reducing discretionary expenditures in a way to manipulate earnings. Their findings imply that real earnings management activities negatively influence accounting and market performance. Hassan and Ahmad, (2012) explored the earnings management and financial performance in Nigerian manufacturing firms. The study found that earnings management negatively affect financial performance mechanisms significantly impact on firm performance (adjusted and non-adjusted) in different directions and magnitudes. These results confirm the assertion by Dechow et al. (1995) that the significance of manipulating financial indicators when investigating earnings management stimuli that associated with financial performance.

2.2 Theoretical Review

2.2.1 Agency Theory

According to Jensen and Mecking (1976) agency relations is a contract between managers (agents), with investors (principal). Principal is the party that employs agents to perform tasks for the interests of principal, while the agent is the party that runs the interests of principal. 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. In general, the theory demonstrates manager (agent) and owner (principal) conflict of interest. The conflict of interest arises as a result of domination of authority. They emphasize the existence 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). The separation between owners and managers creates an agency relationship (Olotu, Salawu, Adegbie, & Akinwunmi, 2019). According to Rieke, Sri, Juita and Dewi (2020) the agent has more information about his capacity, work environment and the company as a whole.

According to Phylice, Robert and Ondiek (2021) the agency problem usually arises if an agent fails to act in the shareholders' best interest (the principal). This can happen when managers choose to serve their interests at the company's shareholders' expense to increase their rewards or fulfill a certain earnings target or debt covenant. Because of the division of ownership and control and information asymmetry, all of this is possible (since managers have more information than the real owners of a company). Management could manipulate earnings to conceal a company's true financial condition and relevant details that investors should have known. The agency theory clarifies the possibility for managers to manage earnings; managers can create a biased financial report with no way for anyone to see through it. Because of an agent's opportunistic behaviour, the corporation put a mechanism to align the principal and agent's interest by establishing the Board of Directors (Sarah & Bilel, 2021). In a corporate entity, to oversee the management operation and constraint the management's opportunistic behaviour, the shareholders invest in information and monitoring system, including employing the Board of Directors, audit committee, and auditors (Shi, Connelly & Hoskisson, 2017). The theory was established to be significant to this study because it supports the reduction of conflict of interest involving managers and stakeholders to ensure efficient and effective management of earnings that result in wealth maximization.

2.3 Empirical Review

Ibobo and Ogbodo (2023) ascertained the effect of earnings management on financial performance of listed manufacturing firms in Nigeria from 2012-2021. Specifically, this study ascertained the effect of discretionary accruals on returns on assets, returns on equity, earnings per share and net profit margin. Panel data were used in this study, which were obtained from the annual reports and accounts of twenty-one (21) sampled manufacturing firms for the periods 2012-2021. Ex-Post Facto research design was employed. Descriptive statistics of the dataset from the sampled firms were used to describe using the mean, standard deviation, minimum and maximum values of the data for the study variables. Inferential statistics using Pearson correlation coefficient and Panel Least Square (PLS) regression analysis were applied to test the hypotheses of the study. The results revealed that discretionary accrual has a positive and significant effect on returns on assets, returns on equity, earnings per share and net profit margin. In conclusion, the study submits that earnings management has a significant effect on financial performance of listed manufacturing firms in Nigeria at 5% level of significance.

Usaini and Hooy (2023) examined the influence of earnings management on the financial performance of financial listed firms. It also investigates the moderating role of CEO competency on the relationship between earnings management and financial performance. The study argues that the competencies of CEOs are important to reduce the discretionary accruals of firms. Using a sample of deposit money banks in Nigeria, the study adopts the panel regression estimator to analyze the testable hypotheses of the paper. In support of the agency theory, the study finds evidence that earnings management reduces financial performance. On the contrary, the interaction of CEO competency and earnings management negatively reduce financial performance, indicating that CEOs use their competencies to entrench themselves for their personal interests more than the interests of shareholders. The magnitude of the combined CEO competency and earnings management affecting financial performance is less than the sole effect of earnings management. Thus, while we find support for the agency theory on earnings management, our study establishes little support for CEO competency to erode earnings management. Hence, we call for a broader CEO monitoring and resource mechanisms such as CEO compensation and CEO social capital to reduce the negative impact of earnings management on financial performance of financial institutions.

Agbata, Oranu, Ndum, and Eze (2022) investigated Earnings Management (EM) and Financial Performance of the Nigerian Deposit Money Banks (DMBs). Population comprised DMBs quoted on the Nigerian Exchange Group. Data that spanned from 2012 – 2018 were gathered from the selected quoted DMBs in Nigeria. The simple linear regression method was used in analyzing data. The research findings disclosed significant effect of EM on DMBs' financial measures - Earnings before Interest, Tax, Depreciation and Amortization; Dividend Pay Out Ratio; and Net Profit Margin. The study concluded that earnings management exists in DMBs and it has significant negative and positive effects on their financial performance.

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Phylice, Robert, and Ondiek (2021) examined the Influence of Earnings management on financial performance of Agricultural Firms listed in Nairobi Securities Exchange, Kenya. The study Adopted descriptive survey research design. The sample size comprises of all the 6 companies listed in Nairobi Securities Exchange as at July 2014 to July 2019. Data collected was analyzed using descriptive statistics, correlation and multiple regression. The study found out that earnings management has a positive significant effect on financial performance. Earnings management has a positive relationship with the Return on Investment (ROI) of the firms under study.

Abraham, Zhang, Joseph, Agyemang and Ofori (2021) examined accrual earnings management, real earnings management and firm performance of listed firms on the Ghana Stock Exchange. The study was based on a sample of 14 non-financial firms listed on the Ghana Stock Exchange from 2008 to 2019. Descriptive statistics and Panel analysis was adopted for the study. The study proxied firm performance by return on assets (ROA) and return on equity (ROE) as dependent variable. While discretionary accruals and abnormal cash flow from operations were used as independent variables supported by firm size, leverage, and liquidity as control variables. Findings of the study revealed that firms use both accrual earnings and real earnings methods to manage earnings. Results further indicate that firms employ the efficient concept of earnings management to facilitate positive firm performance. The study found evidence of a positive relationship between EM and firm performance. Olaoye, and Akinleye (2020), examined the relationship between accrual-based earnings, real-based earnings management and firm’s value of listed manufacturing companies in Nigeria. The study was based on a sample of ten (10) purposively selected listed manufacturing firms on the Nigeria stock exchange for the period of ten (10) years (2008-2017). Data collated were analyzed using descriptive statistics, and panel least square regression technique such as pooled, fixed and random effect with various diagnostic evaluation techniques. The study measured accrual-based earnings management by abnormal discretionary accrual earnings (ADA) and real-based earning management measured by abnormal cash flow of operational activities (ACF) While return on equity (ROE) was used as a proxy of firm value. The result revealed that accrual-based earnings management measured by abnormal discretionary accrual earnings (ADA) was positively related with the firm’s value captured by the return on equity (ROE) of the companies. On the other hand, the real-based earnings management measured by abnormal cash flow operation activities (ACF) was discovered to be negatively related with the firm's value captured by return on equity.

Abdullahi, Norfadzilah, Umar, and Lateef (2020) explored the financial determinants of Earnings Management and the profitability of listed companies in Nigeria. The study employed a panel data approach on 84 listed companies on the NSE with 756 firm-year observations for the period 2010- 2018 financial years. The data was analyzed with the use of Descriptive Statistics and multiple regressions to examine the model. The study reveals that earnings ability shows a significant and positively related to the profitability, which was measured using ROA. This result from this study indicates that the more the earnings ability of a company, the profitability of the listed companies in Nigeria will increase. Financial structure ability shows a significant negative association with the ROA. This further indicates that any increase in financial structure ability, profitability of listed companies in Nigeria will also increase in the same value. Furthermore, the statistical results offer evidence that non-financial factor is positively and significantly associated with the ROA. This implies that a percentage increase in non-financial factor will result in the increase of profitability of listed companies in Nigeria. The result also indicates that companies that engaged in financial determinants of Earnings Management are also seen to be more profitable.

Nwaobia, Kwarbai and Fregene (2019) examined the effect of earnings management on the survival of manufacturing entities in Nigeria. The population of the study was the 66 manufacturing companies listed on the Nigerian Stock Exchange as at 31 December 2016. A sample size of thirty companies with complete data for our study was purposively selected from the 66 listed manufacturing companies. The study was for a period of 12 years (2005 to 2016) and secondary data drawn from published financial statements of sample companies were used. Data were analyzed using descriptive and inferential (OLS regression) statistics. Appropriate diagnostic tests were conducted on the data set. For our main hypothesis (HO1), Earnings management (EM) proxied by discretionary accruals jointly with corporate governance (CG) proxies exerted significant effect on corporate survival. Individual effects of EM and CG proxies on corporate survival were mixed. Khuong, Nguyen and Phung (2019), examined the Relationship between Real Earnings Management and Firm Performance of Energy Firms in Vietnam. The study was based on a sample of 29 Energy Company listed on Vietnam's stock market for the period 2010-2016. Return on asset and return on equity were used as the proxy for firm performance. The study adopted Descriptive statistics, Correlation and regression analysis in accordance with panel data, namely fixed effects model and random effects model for analysis. The results revealed that real activity earnings management positively impacts on firm performance. This implies that increasing current sales activities will have a positive impact on current earnings. However, this may be pernicious to the company in the future. There is a positive association between firm size, cash from operating activities, growth opportunities and firm performance while firm leverage and tangible asset have a negative association. Research results are significant for regulators and investors in emerging markets.

3. MATERIALS AND METHOD

The study adopted *ex-post facto research design*. The population of the study comprises of ninety-five (95) listed non-financial firms in Nigeria as at 31st December, 2023. These non-financial listed firms consists of Industrial Goods, Natural Resources, Consumer goods, Health care, Agriculture, Services, conglomerate, ICT, Oil and Gas and Construction/Real estate is based on the fact that most of these companies are seriously affected by earnings management. Non-financial firms that have not operated on the floor of Nigeria Exchange Group for the period of thirteen years (2011 to 2023) were excluded from the population. The purposive sampling technique was used to select the sample size of seventy–four (74) firms across the listed non-financial firms in Nigeria. The secondary data were extracted from the annual reports and accounts of the firms, corporate website of companies and the Nigerian Exchange Group Fact books and CBN Statistical Bulletin was analysed using multiple regression method. The dependent variable, return on equity (Profit after tax/Total equity) while the independent variables are: discretionary accrual earnings management (deducting calculated non-discretionary accruals from total accrual) and real earnings management ((Abnormal production costs).

The regression model guiding this study was adapted from Zang (2012); Salleh & Haat 2014

$Q = \alpha 0 + \beta 1DACC + \beta 2REM + \beta 3SIZE + \beta 4LEV + \beta 5ROA + \beta 6AUD + \varepsilon$

The model was modified by inserting the variables of this study:

ROE = f(DACEM,REMGT)……………………………………….…Equ. i.

The model is further stated clearly as follows:

$ROE = \beta 0 + \beta 1DACEM_{it} + \beta 2\ REMGT_{it} + eit$…………...................Equ. ii

Equations ii above can be rewritten in its explicit form as below:

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ROE $_{it}$= β_0+β_1DACEM + it……………..................Equ. iii

ROE $_{it}$=β_0+β_2 REMGT + it……………................... Equ. iv

Where:

ROE = Return on Equity

DACEM = Discretionary Accruals Earnings Management

REM = Real Earnings Management (Abnormal Production Costs)

i = firm; *t* = year; β0 = the intercept; *e* = the error term;

β1, β2… = represent the coefficients;

The *apriori* expectations are stated as: β1>0; β 2>0;

As a rule of thumb, the null hypothesis (H_0) is rejected if the calculated value of any of the statistical tools adopted in this study is greater than the critical/table value, at 5% level of significance, otherwise H_0 is accepted.

4. RESULT AND DISCUSSIONS

4.1 Descriptive Statistics

The descriptive statistical analysis of the study was carried out using mean, standard deviation, minimum and maximum values to answer research questions for this study. The results of the analysis are presented in the table below.

Table 1: Descriptive Statistics of dependent, independent and control variables

	DACEM	***REMGT***	***ROEQY***
Mean	-4950463	-0.526130	8.288430
Median	-275386.0	-0.529000	7.830000
Maximum	54930642	5.570000	10264.72
Minimum	-596,000,000	-7.030000	-1880.050
Std. Dev.	26779334	0.747604	367.6837
Skewness	-13.90474	-1.239477	23.61788
Kurtosis	276.5465	38.47965	669.8751
Observations	987	987	987

Source: E-Views 10

Key: DACEM- Discretionary Accruals Earnings Management; REMGT- Real Earnings Management; ROEQY- Return on Equity

For discretionary accrual earning management (DACEM), the mean value is -4950463, indicating a negative mean value which is quite extreme. The range of values is from a minimum of -596,000,000 to a maximum of 54930642, with a very high standard deviation of 26779334, suggesting a wide variability around the mean. The skewness of -13.90474 and kurtosis of 276.5465 indicate extremely negative skewness and high kurtosis, respectively, suggesting a highly skewed distribution with many extreme negative values present.

For Real Earnings Management (REMGT), the mean value is -0.526130, indicating a slightly negative average value for real earning management. The range of values is from a minimum of -7.03 to a maximum of 5.57, with a standard deviation of 0.747604, suggesting some variability around the mean. The skewness of -1.239477 and kurtosis of 38.47965 indicate moderate negative skewness and high kurtosis, respectively. This suggests that while the average real earning management is slightly negative, the distribution is slightly skewed to the left and has some extreme values present.

For Return on Equity (ROEQY), the mean value is 8.288430, indicating a positive average return on equity. The range of values is from a minimum of -1880.05 to a maximum of 10264.72, with a relatively high standard deviation of 367.6837, suggesting some variability around the mean. The skewness of 23.61788 and kurtosis of 669.8751 indicate significant positive skewness and high kurtosis, respectively, suggesting a distribution with a long tail and many extreme values present.

4.1.2 Panel Unit Root Test

A unit root test is a statistical method used to determine if a time series variable is stationary or non-stationary (Arltová & Fedorová, 2016). In time series analysis, stationarity is a key assumption, where a stationary series exhibits constant mean, variance, and autocovariance over time. If a series is non-stationary, it may have a tendency to drift over time or exhibit trends, making it more challenging to model and analyze accurately (Cavaliere, Georgiev & Taylor, 2018). Table 2, below shows the test for group unit root in the series.

Table 2 Panel unit root test: Summary

Series: DACEM, REMGT, ROEQY

Date: 12/25/24 Time: 16:18

Sample: 1 912

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0 to 3

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-52.2044	0.0000	7	6342
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-45.7931	0.0000	7	6342
ADF - Fisher Chi-square	918.838	0.0000	7	6342
PP - Fisher Chi-square	1270.74	0.0000	7	6356

Source: Researcher, 2024.

The unit root tests conducted on the panel of variables, including DACEM, REMGT, and ROEQY, are presented in Table 2. These tests are crucial for assessing the stationarity properties of the variables, which is fundamental for time series analysis. The first set of tests assumes a common unit root process across all series. Under this assumption, both the Levin, Lin & Chu t-statistic and the Im, Pesaran and Shin W-statistic yield highly significant results, with p-values of 0.0000. These results provide strong evidence against the null hypothesis of a unit root, suggesting that the variables are stationary when analyzed jointly. The second set of tests assumes individual unit root processes for each series. Here, the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests are employed. Both tests yield extremely high test statistics, with corresponding Fisher Chi-square statistics of 918.838 and 1270.74, respectively, both with p-values of 0.0000. These results also reject the null hypothesis of a unit root for each individual series, indicating that they are stationary when analyzed separately.

4.1.3 Cointegration Test

Cointegration implies a long-term relationship between variables, suggesting that they move together in the long run despite short-term fluctuations (Gupta & Guidi, 2012).The Pedroni

Residual Cointegration Test, presented in Table 3, assesses the presence of cointegration among the series DACEM, REMGT and ROEQY.

Table 3: Pedroni Residual Cointegration Test

Series: DACEM, REMGT and ROEQY.

Date: 12/25/24 Time: 15:58

Sample: 2011- 2023

Included observations: 987

Cross-sections included: 76

Null Hypothesis: No cointegration

Trend assumption: No deterministic trend

Automatic lag length selection based on SIC with a max lag of 0

Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-6.450372	1.0000	-7.946610	1.0000
Panel rho-Statistic	9.690634	1.0000	10.42066	1.0000
Panel PP-Statistic	-6.971907	0.0000	-4.828996	0.0000
Panel ADF-Statistic	-5.025161	0.0000	-3.017596	0.0013

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	13.95818	1.0000
Group PP-Statistic	-10.85856	0.0000
Group ADF-Statistic	-3.524183	0.0002

Source: Researcher, 2024

Under the alternative hypothesis of common AR coefficients (within-dimension), the panel v-statistic, panel rho-statistic, and panel PP-statistic are reported. These statistics test for cointegration within the same dimension of the panel. The results indicate non-significance

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for the panel v-statistic and panel rho-statistic, both with p-values of 1.0000, suggesting insufficient evidence to reject the null hypothesis of no cointegration within the dimension. However, the panel PP-statistic yields a significant result with a p-value of 0.0000, indicating evidence to reject the null hypothesis and suggesting the presence of cointegration. Under the alternative hypothesis of individual AR coefficients (between-dimension), the group rho-statistic, group PP-statistic, and group ADF-statistic are reported. These statistics test for cointegration between different dimensions of the panel. The results indicate significance for the group rho-statistic and group PP-statistic, both with p-values of 1.0000 and 0.0000, respectively, suggesting strong evidence against the null hypothesis and indicating the presence of cointegration between dimensions. Additionally, the group ADF-statistic also yields a significant result with a p-value of 0.0002, further supporting the evidence for cointegration between dimensions. Thus, the Pedroni Residual Cointegration Test provides strong evidence of cointegration among the variables DAC, REM and ROE, both within and between dimensions of the panel. This suggests that these variables have long-term relationships, which is crucial for understanding their interactions and dynamics in time series analysis.

4.2 Test of Hypotheses

4.2.1 Hypothesis One

H_0: Discretionary accrual earnings management has no significant effect on return on equity of listed non-financial firms in Nigeria.

H_1: Discretionary accrual earnings management has significant effect on return on equity of listed non-financial firms in Nigeria.

Table 4a: Robust Least Square Regression
Dependent Variable: ROEQY
Method: Robust Least Squares
Date: 12/25/24 Time: 18:10
Sample: 2011-2023
Included observations: 987
Method: MM-estimation
S settings: tuning=1.547645, breakdown=0.5, trials=200, subsmpl=2,
refine=2, compare=5
M settings: weight=Bisquare, tuning=4.684

Random number generator: rng=kn, seed=1539050286

Huber Type I Standard Errors & Covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
DACEM	-2.27E-08	1.86E-08	-1.223813	0.2210
C	8.914262	0.504557	17.66752	0.0000
	Robust Statistics			
R-squared	0.000638	Adjusted R-squared		-0.000460
Rw-squared	0.002265	Adjust Rw-squared		0.002265
Akaike info criterion	1608.914	Schwarz criterion		1619.656
Deviance	309566.7	Scale		13.88356
Rn-squared statistic	1.497717	Prob(Rn-squared stat.)		0.221023

Source: Research, 2024

Table 4a shows the regression results for Return on Equity (ROEQY) reveal that Discretionary Accrual Earning Management (DACEM) also does not have a statistically significant effect, with a coefficient of -2.27E-08 and a probability value of 0.2210. This suggests that there is insufficient evidence to reject H01 for return on equity, indicating that discretionary accrual earning management may not have a significant impact on ROEQY. The robust statistics exhibit a low R-squared value of 0.000638 and an adjusted R-squared value of -0.000460. Additionally, the F-statistic of 1.497717 is not statistically significant with a probability value of 0.221023. Since ROEQY exceeded 0.05, we accept the null hypothesis that discretionary accrual earning management has no significant effect on return on equity of listed non-financial firms in Nigeria (p>0.05).

4.2.2 Hypothesis Two

H_0: Real earning management has no significant effect on return on equity of listed non-financial firms in Nigeria.

H_1: Real earning management has significant effect on return on equity of listed non-financial firms in Nigeria.

Table 4b: Robust Least Square Regression

Dependent Variable: ROEQY

Method: Robust Least Squares

Date: 12/25/24 Time: 18:12

Sample: 2011-2023

Included observations: 987

Method: MM-estimation

S settings: tuning=1.547645, breakdown=0.5, trials=200, subsmpl=2, refine=2, compare=5

M settings: weight=Bisquare, tuning=4.684

Random number generator: rng=kn, seed=1539050286

Huber Type I Standard Errors & Covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
REMGT	-0.619167	0.662545	-0.934528	0.3500
C	8.715985	0.607356	14.35070	0.0000

	Robust Statistics		
R-squared	0.000392	Adjusted R-squared	-0.000706
Rw-squared	0.001283	Adjust Rw-squared	0.001283
Akaike info criterion	1607.888	Schwarz criterion	1618.634
Deviance	310096.2	Scale	13.89986
Rn-squared statistic	0.873342	Prob(Rn-squared stat.)	0.350032

Source: Researcher, 2024

Similarly, in Table 4b, the regression results for Return on Equity (ROEQY), reveal that Real Earning Management (REMGT) also does not have a statistically significant effect, with a coefficient of -0.619167 and a probability value of 0.3500. This suggests that there is insufficient evidence to reject $H0_2$ for ROEQY, indicating that real earning management may not have a significant impact on ROEQY. The robust statistics exhibit a low R-squared value of 0.000392 and an adjusted R-squared value of -0.000706. Additionally, the F-statistic of 0.873342 is not statistically significant with a probability value of 0.350032.

The regression results do not provide significant evidence to accept the alternate hypothesis for ROEQY because the *p*-values are greater than 0.05, the null hypothesis is accepted suggesting that real earning management has a non-significant negative effect on return on equity of listed non-financial firms in Nigeria ($p>0.05$).

CONCLUSION AND RECOMMENDATIONS

This study examined the effect of earnings management on return on equity of listed non-financial firms in Nigeria using a sample size of seventy-four (74) non-financial firms. The study revealed that discretionary accrual earning management and real earning management have no significant effect on return on equity of listed non-financial firms in Nigeria.

Based on the findings of this study, the following recommendations beneficial to stakeholders are put fort:

1. Since discretionary accrual earning management has no significant effect on return on equity, the study recommends that management should be encouraged to reduce their means of changing accounting estimates such as estimates for doubtful debts and changes in the method of depreciation because it does not contribute to firms return on equity.
2. The finding shows that real earning management has no significant effect on return on equity; management should be encouraged to reduce their real earning management because it does not contribute to firms return on equity even though they enable managers to meet reporting goals.

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