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EFFECT OF CASH FLOW MANAGEMENT ON FINANCIAL PERFORMANCE OF NON-FINANCIAL LISTED FIRMS ON NIGERIA EXCHANGE GROUP

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ABSTRACT

This study explored the effect of cash flow management on financial performance of listed non-financial firms in Nigeria. This study specifically seeks to ascertain the effect of operating cash flow and financing cash flow on return on equity of listed non-financial firms in Nigeria. Ex post facto research design was adopted for this study. The population of the study was 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 thirteen years covering periods of 2011-2023. The data obtained were analyzed accordingly with the use of Ordinary Least Square (OLS) Multiple Regression Technique. From the analysis and results of this study, it was found amongst others that, operating cash flow has significant effect on return on equity while financial cash flow has 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, operating cash flows has significant effect on the financial performance of selected non-financial firms, management should maintain improve on operating cash flow management to continue to boost return on equity. Also since financing cash flow has no significant effect on return on equity, management should re-appraise their financing cash flows, management should also be encouraged to reduce their means of changing accounting estimates for doubtful debts, method of depreciation because they do not contribute to firms return on equity.

Key words: *Cash Flow Management, Financing Cash Flow, Financial Performance, Operating Cash flow, Return on Equity.*

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1. INTRODUCTION

The financial crisis that blew through the countries of the world which led to the collapse of some blue-chip companies like Enron Corporation, WorldCom, Health south Corporation, among others also occurred in the developing economies as the collapse of some companies in Nigeria, like Cadbury Nigeria Plc in 2006, Oceanic Bank Plc, Afribank Plc, Intercontinental Bank Plc, and Bank PHB Plc, and so on, put earnings and cash flow in the accounting spotlight in recent times. This monument event made both foreign and indigenous stakeholders to carry

out studies to ascertain the factors responsible for the collapse of many companies across the world. Some of the studies (Lewellen & Resutek, 2019; Akenga, 2017; Adedeji & Oboh, 2017) are of the opinion that manipulation of earnings and cash flow were the major factors that were responsible for this crisis that troubled the waters of some corporate entities globally.

In a competitive business environment, directors can influence earnings to be reported in their financial statement to attract investors relative to other competitors. 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). Directors might have the incentives to inflate the reported earnings by using various accounting maneuvers and techniques to change the timing and structure of operating, investing, and financing activities (Shayan-Nia, Sinnadurai, Mohd-Sanusi, & Hermawan, 2017). 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.

Interestingly, Oyewale and Adewale (2014) observed that there is a low level of sustainable financial performance among Nigerian companies with reference to cash flows generated from asset utilization. While Rose *et al* (2007) noted that, cash flow information assists its financial statement users in obtaining the relevant information concerning the uses and sources of virtually the entire financial resources over stated period of time. Hence, Cash flow is an index of the money that is actually received by or paid out by a firm for a certain period. In the views of Libby *et al* (2001), cash flow permits a company to expand its operations, replace needed assets, take advantage of market opportunities and pay dividend to its owners. Adegbile and Fakile (2018) explain cash flow from operating activities as the cash effects of transactions and other events relating to trading activities, included in the profit or loss in arriving at operating profit while cash flow from financing activities include inflows and outflows of cash involved in obtaining cash from external sources for the purposes of financing the company and its operations (Adedeji & Oboh, 2017). According to accounting theory, earnings are considered as a measurement in order to evaluate the performance. Cash

flow data can offer a meaningful evaluation of performance in a given period of time. But cash flows might be aberrant, if they are considered as a performance index only. However, the same events and information are utilized to measure the earning and net cash flows; they cannot be replaced by each other. Having an in-depth understanding of cash flow and earnings management of listed firms is vital when analyzing a firm's financial performance especially profitability. Previous studies, Awuye and Aubert (2022); Olulu-Briggs and Orowhuo (2022); Egiyi (2021); Fialova and Folvarcna (2020); focused on company characteristics, liquidity and accrual-based earnings management alone. Hence, this study intends to ascertain the effect of earnings and cash flow management on financial performance of listed non-financial firms in Nigeria.

1.1 **Objectives**

The main objective of the study is to ascertain the effect of cash flow management on financial performance of non-financial firms on the Nigeria Exchange Group. The specific objectives are to:

1. determine the effect of operating cash flow on return on equity of listed non-financial firms in Nigeria.
2. ascertain the effect of financing cash flow on return on equity of listed non-financial firms in Nigeria.

1.2 Hypothesis

The study was guided by the following null hypothesis:

H_{01}: Operating cash flow has no significant effect on return on equity of listed non-financial firms in the Nigeria Exchange Group.

H_{02}: Financing cash flow 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 Cash Flow Management

Cash management, according to AsifIqbal and Wang Zhuquan (2015) is "the art and science of handling the organization's cash flow." The main features of good cash management, according to them, are consistent use of a company's current assets and current liabilities efficiently across each step of the business cycle, consistent preparation, tracking, and review of a company's sales, disbursement, and account balances, and collection and storage of

information to effectively use the cash. According to Pandey (2016), cash management is concerned with controlling cash flows into and out of the company, as well as cash balances kept by the business at any given time, whether by deficit financing or cash spending surpluses. He further claimed that the goals of cash management include maintaining reasonable control over cash position, maintaining ample liquidity for the company and ensuring that surplus cash is used profitably. Wanja, (2011) opined that cash flow management is concerned with maximizing cash accessible, increasing interest received on non-required surplus money as soon as possible, and preventing losses caused by fund transfer delays. The opportunity cost of holding cash to meet short-term demands is equivalent to the return that could have been achieved if the money had been saved or put to better use. Corporations capability to produce cash flows can be accessed by reviewing the statements of cash flow and this enables the stakeholders to develop theories to assess and compare the present value of the future cash movements of diverse enterprises and enhances the comparability of the reporting of operating performance by various enterprises because it eliminates the effects of using different accounting treatments for the same transactions and events.

2.1.1.1 Operating Cash flow Management

According to IAS 7, the amount of cash flows arising from operating activities is a vital display of the magnitude to which the operations of the corporation have generated adequate cash flows to repay credits, maintain the operating capability of the corporation. They comprise receipts and payments relating to the normal activities of the firm as well as those items which do not relate to the other activity group such as investing and financing (Igben, 2017). The operating cash flow shows how much cash companies will have generated from their everyday product delivery. Cash receipts from transactions include income from the sale of goods and services, cash from debtors, cash interest gained, cash dividends collected from finance and investment (Simpasa, 2014). Cash and earnings do not mean equivalent facts. Cash flows are assumed to be higher than sales since expenditures will distort them. Profits are subject to manipulation by management, hence the need to follow standards which are less vulnerable to manipulation by management (Soyade, 2017). The cash flow is characterized as the amount of cash paid to buy goods, tax settlements, seller payments, wage payments, and other operating expenses (Reheman & Nasr, 2017).

2.1.1.2 Financing Cash flow Management

The discrete disclosure of cash flows resulting from financing activities is necessary because it is valuable in envisaging claims on future cash flows by benefactors of capital to the

corporation. These are cash flows relating to the issue and redemption of securities for financing the business together with any expenses relating thereto, as well as any interest and dividend paid therein (Igben, 2017). Odo and Udodi (2022) described financing activities as the procurement of start-up or expansion resources, or any other contribution that the organization might require from internal or external sources in order to provide additional funding. Financing indicates how and how many funds the operating and investment funds have been procured from outside or from within. It can also involve buying and returning stockholders' funds to their accounts, and borrowing and repaying the amount loaned under the contractual terms (Powers & Needles, 2011). Cash flow from financing activities is reported in Kemboi (2010) by Cash proceeds from issued shares and lending borrowings. This includes cash on financial accounts; money spent on repayment of the principal loan amounts, bonus amount on both common and preferred shares.

2.1.2 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.

2.1.2.1. 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

2.1.3 Cash flow Management and Financial Performance

A company's operating cash flows demonstrate whether or not operating cash is generated or exhausted. If a company has negative net cash flow from operating activities, it means that its expenses exceed its income. Positive net operating cash flows have the opposite effect (Liman & Mohammed, 2018). A company will be forced to look for more funding from outside sources, such as debts or stock issues, if its net cash flow is negative. Debt financing exposes a company to the risk of bankruptcy, raises the cost of interest payments, and restricts expansion. On the other hand, the issuance of shares reduces the proportion of the company's ownership (Frank & James, 2014). Although a growing company may initially have negative operational cash flows as a result of inventory growth and short-term obligations coming due, eventually positive operating cash flows are required for the company to exist. In addition, a business may experience positive cash flows for a period of time if spending falls but sales rise or stay the same. However, if sales decline, the company may have to file for bankruptcy or go through liquidation (Pouraghajan, Tabari, Mansourinia, & Emangholipour, 2013). Mehtari (2016) explored the relationship between operating cash flow and profitability the study concluded that firms with low total assets, more liabilities, less equity, an unqualified opinion of auditor and low retained earnings have better cash flow performance (measured by cash dividend). Parsian (2018) studied the effect of operating cash flow on profitability; the study found that different operating cash flow components affect profitability. Furthermore, company's overall change in its cash position due to gains or declines concerning investments in the stock market, functioning subsidiaries, as well as changes as a result of money spent on investments in capital assets like plant and equipment is reported as cash flow from investing activities on the cash flow statement. It is crucial to take into account all of the many sections that contribute to the total change in the cash position when examining a company's cash flow statement. Many times, a company will have a lower overall cash flow for a certain quarter, but if the organization can produce positive cash flow from operations, the decrease in overall

cash flow may simply be the consequence of high investment costs, which is not always an undesirable outcome (Amah, Michael & Ihendinihu 2016).

The statement of cash flows component deals with financing cash flows. Activities associated with raising money to support commercial ventures, corporate expansion, or any other project for which a company needs more funding are referred to as financing activities. An internal or external source of funding could be used as finance. Internal finance is based on retained earnings, whilst external financing is based on equity and debt funding. Selling investors company shares is one way to raise money. On the other hand, the selling of bonds counts as debt financing for the company. As a result, financial markets are used to raise these cash (Nwanyanwu, 2015). The financial strategy of a company typically has an impact on cash flows from financing activities. However, operations require relatively less finance during periods of maturity. For each business, debt and equity are crucial sources of cash. Cash flow patterns are governed by business cycles in terms of how businesses are financed. By examining this section of the cash flow statement, one can thus examine the monetary transactions between a company and its shareholders or creditors. Recent studies have demonstrated that most businesses need short-term loans and retained earnings to fund their operations since long-term resources in the financial markets are insufficient (Tariverdi & Teimoory, 2013).

2.3 Empirical Review

Chibuike and Celestine (2022) examined the effect of cash flow management on financial performance: Evidence from the pharmaceutical industry in Nigeria. The ex post facto research design was adopted for the study with a population of ten (10) listed pharmaceutical companies in Nigeria as listed by the Nigerian Exchange Group in 2021. Data were retrieved from the annual reports of the selected listed pharmaceutical companies for the period 2011 to 2020. Multiple regression analysis and the Pairwise Granger Causality tests were used to analyze the data gathered with the aid of E-Views 10 statistical software. The study revealed a positive and insignificant effect of operating activities on liquidity. Also, it revealed a positive and insignificant effect of investing activities on liquidity. And finally, it revealed a negative but significant effect of financing activities on the liquidity of listed pharmaceutical companies in Nigeria. Chibuike and Celestine (2022), examined the effect of cash flow management on financial performance: Evidence from the pharmaceutical industry in Nigeria. The ex post facto research design was adopted for the study with a population of ten (10) listed pharmaceutical companies in Nigeria as listed by the Nigerian Exchange Group in 2021.

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Ebimobowei, Awuji andAnuogwo (2021), investigated the effect of cash flow accounting on the corporate financial performance of listed consumer goods companies in Nigeria for the period 2015 to 2019. The ex-post facto and correlational research design was utilized for the study. A population of twenty-six and a sample size of twenty-three firms were used in the study while descriptive, correlational and panel ordinary least squares were used for data analysis. The study revealed a positive and significant relationship between operating cash flow, financing cash flow and firm size to profit after tax of listed consumer goods manufacturing companies while investing activities and financial leverage revealed a negative and significant relationship. Ezenwafor, Okegbe and Nwoye (2021) conducted a study and ascertained the extent to which Investing activities and Financing activities affect Cash holdings of Systematically Important Banks (SIBs) in the pre and post recession periods (2011 – 2018) of Nigeria. Spearman Correlation analysis conducted revealed that Investing activities and Financing activities have significant effect on the Cash holdings of SIBs in the pre and post recession periods of Nigeria.

Egwu, Orugun and Adelakun (2021), investigated the exploration of cash flow management for enterprise's business performance in Nigeria. The survey research design was utilized for the study. Data gathered were analyzed using the descriptive method and regression analysis. The study revealed that cash flow management influences the fulfillment of financial obligations and that cash flow management strategies influence the performance of enterprises in Abuja. The study concluded that cash flow is critical to the success of enterprises. Nwoye, Ezenwafor and Okoye (2021) examined relationship between firm liquidity and cash holding decisions of Systematically Important Banks in the pre and post economic recession period in Nigeria between 2011 and 2018, and found out that the relationship
between selected SIBs' Investing activities, Financing activities and Cash holdings significantly differed.

Nangih, Ofor and Onuorah (2020), examined, empirically, the relationship between cash flow management and the financial performance of some selected oil and gas firms listed on the Nigerian Stock Exchange. The work was anchored on the Stakeholders' Theory. It employed the judgmental research design. Data were obtained from the annual reports of five selected listed firms for five years (2013-2018) and analyzed with correlation and multiple regression techniques. The results obtained established that cash flows from operating and investing cash flows had negative and insignificant relationship with profitability whereas cash flow from financing activities had positive and significant influence on firm performance in the oil and gas sector. Nangih, Ofor and Onuorah (2020) investigated the relationship between cash flow management and the financial performance of quoted oil and gas firms in Nigeria. The judgmental research design was utilized while data were obtained from the annual reports of five selected listed firms for the period 2013-2018. The data thus collected were analyzed with correlation and multiple regression techniques. The study revealed that cash flows from operating and investing cash flows had a negative and insignificant relationship with profitability while cash flow from financing activities had a positive and significant influence on firm performance in the oil and gas sector.

Ogiriki, Atagboro and Ogoun (2020), examined the relationship between cash flow and performance of companies in the Consumer Goods sector of Nigeria. The study involved a survey of sixteen (16) Consumer Goods companies listed on the Nigerian Stock Exchange, and the relevant data were subjected to statistical analysis using multiple regression techniques. The results of the investigation exposed that operating and investing cash flow has a significant positive relationship with the performance of companies in the Consumer Goods Sector of Nigeria. It was also empirically verified that financing cash flow has a significant negative correlation with the performance of companies in the Consumer Goods sector of Nigeria.

Liman and Mohammed (2018), examined the impact between operating cash flow and corporate financial performance of listed conglomerate companies in Nigeria over a period of 10 years (2005 to 2014). The data were analyzed using descriptive statistics, correlation analysis as well as regressions techniques to determine the variation in financial performance due to the variation in operating cash flow. A panel data regression technique was employed since the data has both time series and cross-sectional characteristics. The result revealed a positive and insignificant impact between Cash Flow from Operating Activities (CFO) and financial performance proxied by ROA while the impact is positive and significant when

financial performance was proxied by ROE of the listed conglomerate companies in Nigeria. Konak (2018), examined the effect of cash flows on firm performance through estimating the impact of three types of cash flows that are namely operational, investing and financing cash flows of companies listed on the Borsa İstanbul Industrial Index in 10 years' period from 2008 to 2017. Pooled Ordinary Least Squares test and Panel Data technique are employed. The result revealed that although statistically significant relationship between cash flows and firm performance is detected, that relationship differed from the effect of the model and the direction of the relationship on the basis of dependent variables.

Soet, Muturi and Oluoch (2018), studied the effect of operating cash flow management on financial performance of mutual funds in Kenya. The study employed causal research. Secondary panel data from the audited financial statements of 22 mutual funds was retrieved from financial reports for the period 2011-2016. The data was evaluated using the regression technique. The study found out that operating cash flow management had significant and positive effect on return on assets and insignificant and positive effect on return on equity. The study concludes that operating cash flow management had significant and positive effect on return on assets and insignificant and positive effect on return on equity. Ali and Mukhongo (2016), empirically examined the effects of cash flow management on the financial performance of the small and medium enterprises in Mogadishu Somalia. A descriptive research design was adopted in this study with a population is 360 individuals who were Owners/managers of selected small and medium enterprises in Mogadishu-Somalia. Linear Regression analysis was used in data analysis. The study revealed that cash control, cash planning and liquidity management were significant effects on the financial performance of small media enterprises in Mogadishu.

Bingilar and Oyadonghan (2014), examine the relationship between cash flow and corporate performance in the Food and Beverages sector of Nigeria. The study involved a survey of Six (6) Food and Beverages companies quoted in the Nigerian Stock Exchange. Data were obtained from the annual report and accounts of the selected companies under study. The relevant data were subjected to statistical analysis using the multiple regression technique. The results of the study revealed that operating and financing cash flows have significant positive relationship with corporate performance in the Food and Beverage Sector of Nigeria. Ghodrati and Abyak (2014), investigated the relationship between operational cash flow and the returns to stockholders of 54 firms from Tehran Stock Exchange. The study covered period 2005-2011 and used cross-sectional data, descriptive–analytic random statistical sample. The

study used regression analysis to find the relationship between operational cash flow and the return of stockholders. The results showed that there was meaningful relationship between the operating cash flows profitability and the returns of all stakeholders.

Tariverdi, Amanolahi and Faal (2014), examined the four-part model of cash flow statement on the operational performance of listed companies in the Tehran Stock Exchange for the period 2007 to 2011. The ex post facto research design was utilized while the Pearson correlation was used in data analysis. The study revealed a positive association between cash flows from investments' returns on return on assets and return on equity. It also revealed a negative association between cash flows from interest paid for financing on return on assets and return on equity while there was no association between cash flows of financing and cash flows from investment on return on assets and return on equity. Ali, Alireza, and Jalal (2013), premeditated the relationship between earnings and cash flow dealings of corporate performance and stock returns in Iran, with multiple and straightforward regressions statistical means of analyzing the data for a period of 9 succeeding years from 2003 to 2011. The study exposed that the establishment's performance and cash movements have a significant adverse association; furthermore, returns based measures are more related to capital returns and depict the company executes vital than cash flow measures in some corporations with higher accruals.

3. MATERIAL AND METHODS

The research design adopted for this study was *Ex post fact.* The suitability of this choice was based on the fact that the design allows researchers to establish the time sequence of the variables on the basis of logical considerations. The population of the study is made up of ninety-five (95) listed non-financial firms in Nigeria as at 31st December, 2023. The choice of non-financial firms that 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 cash flow 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 study used purposive sampling technique to select the sample size of seventy–four (74) firms across the listed non-financial firms in Nigeria. The total number of non-financial firms that have their financial statements available either on their website or in the office of the Nigerian Exchange Group as at 31st December, 2023 were used as our sample size. Secondary data culled from their annual reports and accounts of companies, corporate website of companies

and the Nigerian Exchange Group Fact books and CBN Statistical Bulletin was analysed using Ordinary Least Square (OLS) multiple regression technique. The dependent variable financial performance was denoted with return on equity (Profit after Tax/Total Equity) while the independent variables are: operating cash flow (operating income plus Depreciation less taxes plus change in working capital) and financing cash flow (add dividend paid to the repurchase of debt and equity, then subtract the total number from cash inflows from issuing equity).

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(OPRCF,FINCF, EM)…….Equ. i.

The model is further stated clearly as follows:

ROE = β0 + β1OPRCFit +β2 FINCF Eit +β3 REMit + *e*it……...Equ. ii

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

$ROE_{it} = \beta_0 + \beta_1 OPRCF + it$ Equ. iii

$ROE_{it} = \beta_0 + \beta_2 FINCF + it$ Equ. iv

$ROE_{it} = \beta_0 + \beta_3 REMGT + it$ Equ. v

Where:

ROE = Return on Equity

OPRCF = Operating Cash Flow

FINCF = Financial Cash Flow

REMGT = Real Earnings Management (Abnormal Production Costs)

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

β1, β2, β3… = represent the coefficients;

The *apriori* expectations are stated as: β1>0; β 2>0; β 3>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 Analysis

4.1.1 Descriptive Analysis

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 Table 4.1 below.

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

	OPRCF	*FINCF*	*REMGT*	*ROE*
Mean	0.080329	-0.030495	-0.526130	8.288430
Median	0.080000	-0.021000	-0.529000	7.830000
Maximum	0.590000	0.550000	5.570000	10264.72
Minimum	-1.003300	-2.120000	-7.030000	-1880.050
Std. Dev.	0.155449	0.132102	0.747604	367.6837
Skewness	-1.790011	-4.326717	-1.239477	23.61788
Kurtosis	14.43933	73.95408	38.47965	669.8751
Observations	987	987	987	987

Source: E-Views 10

Key: OPRCF- Operating Cash Flow; FINCF- Financing Cash Flow; REMGT- Real Earnings Management; ROE- Return on Equity

For Operating Cash Flow (OPRCF), the mean value is 0.080329, indicating a positive average cash flow from operations. The range of values is from a minimum of -1.0033 to a maximum of 0.59, with a standard deviation of 0.155449, suggesting some variability around the mean. The skewness of -1.790011 and kurtosis of 14.43933 indicate moderate negative skewness and high kurtosis, respectively. This suggests that while the average operating cash flow is positive, the distribution is slightly skewed to the left and has some extreme values present.

For Financing Cash Flow (FINCF), the mean value is -0.030495, indicating a slightly negative average cash flow from financing activities. The range of values is from a minimum of -2.12 to a maximum of 0.55, with a standard deviation of 0.132102, suggesting some variability around the mean. The skewness of -4.326717 and kurtosis of 73.95408 indicate significant negative skewness and high kurtosis, respectively. This suggests that while the average financing cash flow is slightly negative, the distribution is highly skewed to the left and has some extreme 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 (ROE), 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 Normality Test

Normality refers to the assumption that data follows a normal distribution, also known as a Gaussian distribution or bell curve (Fendler & Muzaffar, 2008). In a normal distribution, the data is symmetrically distributed around the mean, with the majority of the observations clustered near the mean and fewer observations as you move away from the mean in either direction (George & Mallery, 2018). Jarque-Bera Test was performed to assess this condition.

Table 2: Normality Test using Jarque-Bera Test

	OPRCF	***FINCF***	***REMGT***	***ROE***
Jarque-Bera	374333.2	5435.696	47857.31	16909745
Probability	0.000000	0.000000	0.000000	0.000000

Source: Researcher, 2024

Table 1 reports the Jarque-Bera Test for each variable: OPRCF, FINCF, REMGT, and ROE. The test statistics for all variables are significantly different from zero, as indicated by their respective probability values of 0.000000 (or effectively zero). This suggests strong evidence against the null hypothesis of normality for each variable. In other words, the data for all variables do not follow a normal distribution, indicating that they exhibit significant departures from normality in terms of skewness and kurtosis. This finding is important for

subsequent statistical analyses and model estimations, as it implies that normality assumptions may not hold, and alternative methods or robust technique such Robust Least Square regression may be necessary in place of panel least square regression.

4.1.3 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 4.3 below shows the test for group unit root in the series.

Table 3 Panel unit root test: Summary
Series: OPRCF, FINCF, REMGT, ROE
Date: 12/24/24 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 OPRCF, FINCF, REMGT and ROE, are presented in Table 3. 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.

4.2 Test of Hypotheses

4.2.1 Hypothesis One

H0: Operating cash flow has no significant effect on return on equity of listed non-financial firms in Nigeria.

H1: Operating cash flow has significant effect on return on equity of listed non-financial firms in Nigeria.

Table 2: Robust Least Square Regression

Dependent Variable: ROE

Method: Robust Least Squares

Date: 12/24/24 Time: 18:08

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.
OPRCF	10.70513	3.186911	3.359092	0.0008
C	8.165757	0.557397	14.64981	0.0000
	Robust Statistics			

R-squared	0.004119	Adjusted R-squared	0.003020
Rw-squared	0.014652	Adjust Rw-squared	0.014652
Akaike info criterion	1588.266	Schwarz criterion	1599.024
Deviance	307272.0	Scale	13.92169
Rn-squared statistic	11.28350	Prob(Rn-squared stat.)	0.000782

Source: Researcher, 2024

Table 2 shows that the regression results for ROE reveal that operating cash flow (OPRCF) also has a statistically significant positive effect, with a coefficient of 10.70513 and a probability value of 0.0008. This indicates that operating cash flow does have a significant positive impact on ROE, suggesting that changes in operating cash flow are associated with increases in ROE. The robust statistics exhibit a moderate R-squared value of 0.004119 and an adjusted R-squared value of 0.003020, indicating that a moderate proportion of the variability in ROE is explained by the model. The F-statistic of 11.28350 is statistically significant with a probability value of 0.000782, indicating that the overall regression model is significant.

Therefore, given that the *p*-values for ROE are less than 0.05, we therefore reject Null hypothesis and accept the alternate hypothesis that operating cash flow has a significant effect on return on equity of listed non-financial firms in Nigeria($p<0.05$).

4.2.2 Hypothesis Two

H0: Financing cash flow has no significant effect on return on equity of listed non-financial firms in Nigeria Exchange Group

H1: Financing cash flow has significant effect on return on equity of listed non-financial firms in Nigeria Exchange Group

Table 3: Robust Least Square Regression

Dependent Variable: ROE

Method: Robust Least Squares

Date: 12/24/24 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.
FINCF	-6.668968	3.756289	-1.775414	0.0758
C	8.872566	0.508998	17.43144	0.0000
	Robust Statistics			
R-squared	0.000752	Adjusted R-squared		-0.000351
Rw-squared	0.002844	Adjust Rw-squared		0.002844
Akaike info criterion	1591.932	Schwarz criterion		1602.693
Deviance	308853.0	Scale		13.94133
Rn-squared statistic	3.152096	Prob(Rn-squared stat.)		0.075830

Source: Research, 2024

However, in Table 3 above, the regression results for ROE reveal that financing cash flow (FINCF) does not have a statistically significant effect, with a coefficient of -6.668968 and a probability value of 0.0758. This indicates that there is insufficient evidence to reject H02, suggesting that financing cash flow may not have a significant impact on ROE. The robust statistics exhibit a low R-squared value of 0.000752 and an adjusted R-squared value of -0.000351. Additionally, the F-statistic of 3.152096 is not statistically significant with a probability value of 0.075830.

Thus, the *p*-value for ROE is greater than 0.05 leading to the acceptance of the null hypothesis. For this reason, we conclude that financing cash flow has no significant effect on return on equity of the firms ($p>0.05$).

5. CONCLUSION AND RECOMMENDATIONS

This study assessed the effect of cash flow management on financial performance of listed non-financial firms in Nigeria using a sample size of seventy-four (74) non-financial firms that consists of Industrial Goods, Natural Resources, Consumer goods, Health care, Agriculture, Services, conglomerate, ICT, Oil and Gas and Construction/Real estate. The study established that operating cash flow has a significant effect on return on equity which implies that increase in operating cash flow management would continue to boost return on

equity, while financing cash flow has 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. That management of listed non-financial firms should improve on operating cash flow management.to continue to boost return on equity which will in turn increase the wealth of the shareholders.

2. That management should reappraise their financing cash flows management policy and the regulatory authorities of accounting and capital market operations in Nigeria such as Central Bank of Nigeria (CBN), Financial Reporting Council of Nigeria (FRCN), Security and Exchange Commission (SEC) and Nigeria Exchange Group (NGX) should encourage companies to set-up a result oriented financing cash flow system to boost companies return on equity.

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