MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

Research Article

Nexus between Cash Flow Components and Performance of Commercial Banks in Nigeria: An Empirical Analysis.

Okafor Justina Obiageli[1], Ekwe Michael[2], Azubike Joseph[3], Ekeagwu Innocent Chukwuemeka[4]

[1]*Abia State Ministry of Finance, Umuahia,*

[2,3]*Department of Accounting, College of Management Sciences, Michael Okpara University of Agriculture Umudike, Nigeria,*

[4]*Department of Economics, College of Management Sciences, Michael Okpara University of Agriculture Umudike, Nigeria*

Email: sr_ifunanyam@yahoo.com[1], ekeagwu.innocent@mouau.edu.ng[4]

ABSTRACT**:** *The study examined the effect of cash flow components on the performance of commercial banks in Nigeria. Specifically, the study examined the effect of cash flow components on Return on assets of commercial Banks in Nigeria, evaluated the effect of the cash flow components on Earnings per share (EPS) of commercial Banks in Nigeria and determined their influence of cash flow components on Market price per share of commercial banks in Nigeria using time series data from 2005 to 2014 as well as autoregressive distributed lag (ARDL) regression approach. The data for the study was sourced from the financial statements and annual reports of the various commercial banks selected for the study. The performance of commercial banks in Nigeria proxied by earnings per share (EPS), return on assets (ROA) and market price per share (MPPS) was measured in this study using such variables such as: Operating Cash Flow (CFO), Investment Cash Flow (CFI), Financing Cash Flow (CFF) and Debt to Equity ratio (DER) which was used as a control variable. The coefficient of determination (R^2) values of 97.34%, 63.75% and 34.48% respectively are the proportion of variations in ROA, EPS and MPPS explained by the independent variables included in the model. All the unexplained variations are left stochastic.*

Keywords: *Cash Flow, Operating, Investing, Financing, Performance and Commercial Bank.*

MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

1. INTRODUCTION

The sustainability of any organization depends paramount on its ability to generate positive cash flow from the Operating, Investing and Financing activities. Since the emergence of Statement of Accounting Standard (SAS) 18 in 1998 to replace Statement of Sources and Application of fund (SSAF), cash flow statement constitutes an integral and mandatory part of a company's annual financial reports. The cash flow statement provides the stakeholders and financial analysts with the necessary information regarding the operations and movements of funds into (inflow) and out (outflow) of the firm through the financial statements. Cash is a life wire and a vital factor that propels the operations of any organisation.
The importance of cash flows cannot be overemphasized in the survival of any economy, business organization or company, especially in the banking sector because it represents the vascular system of the firm's existence. If it increases, the business will expand and survive and if it dwindles it will collapse. Cash flow of an organization according to [1] are those pools of funds that the company commits to its fixed assets, inventories, account receivables and marketable securities that leads to corporate profit. It is a concept in accounting which is concerned with where an entities money came from in other words from where they generated their funds (cash inflows) where it is being spent (cash outflows), over a specific period of time.

Based on the importance of cash in any business organisation especially in the banking sector where cash is their major trading instrument, banks are expected to be very liquid in terms of cash in order to be able to carry out their banking business transactions. Bank liquidity simply means the ability of the bank to maintain sufficient funds to pay for its maturing obligations. It is the ability of the bank to immediately meet cash, cheques and other withdrawals obligations and legitimate new loan demand while abiding by existing reserve requirements [2]. Banks lay emphasis on their liquidity because it shows the users of their financial statement how strong they are thereby encouraging investors to come and invest. Meanwhile it is equally important to realise that the more liquid banks are the less profitable they become since idle cash cannot yield any inflow unless it is invested in a profitable project. So there have to be a balancing between liquidity and profitability of banks. This liquidity is showcased in the cash flow of the bank thereby reflecting how it affects its performance.

1.1 Objectives of the study

Generally, this study seeks to assess the relationship between components of the cash flow statements and financial performance of banks in Nigeria. In particular it addresses the response of profit to changes in the components of cash flow.

i. Examine the effect of cash flow components on return on assets of commercial Banks in Nigeria.
ii. Evaluate the effect of the cash flow components on Earnings per Share (EPS) of commercial Banks in Nigeria.
iii. Determine their influence of cash flow components on Market price per share of commercial banks in Nigeria.

1.2 Statement of hypotheses

i. Cash flow components have no significant effect on Return on assets of commercial banks in Nigeria.

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

ii. There is no significant effect of Cash flow components on Earnings per Share (EPS) of Banks in Nigeria.
iii. Cash flow components do not significantly affect Market price per share of commercial banks in Nigeria.

II. Literature Review

2.1 Conceptual Framework

Cash

Cash is money in the form of cash in hand (i.e. currency notes and coins) and demand deposits with banks (denominated in naira and foreign currencies).

Cash Flows

These are inflows (receipts) and outflows (payments) of cash and cash equivalents in the organizational business. Positive cash flow from operations indicates that the company's liquid assets are increasing which will enable it to settle its emerging financial obligations. While negative cash flow indicates that a company's liquid assets are decreasing.

Cash Flow from Operating Activities

These are the normal activities arising from the ordinary course of the business of an enterprise and transactions arising there from are usually included in the profit and loss account in arriving at operating profit. Cash flows from operating activities include: Payments for goods, inputs and services purchased. Payment of salaries, wages, and other staff costs .Cash paid in respect of other operating expenses such as rent and rates, transport and travelling, printing & stationery, postage etc. Cash received from sales of goods and services and company income taxation paid.

Cash Flows from Investing Activities

These relate to the acquisition and disposal of fixed assets, investment properties, investments and other assets used in producing goods and services. Investing activities help to maintain and expand existing capacity of a firm.

Cash flows From Financing Activities

These are activities which include obtaining funds from lenders and owners of the enterprise, repayment of debts, payment of returns in the form of dividends and interest to the providers of funds, and payment of expenses directly related to the efforts to obtain financing [3].

2.2 Theoretical Framework

This study is based on the theoretical framework concerning the nexus between cash flows and performance of banks in Nigeria and this relationship is viewed through Operating, Investing and Financing activities in the banking sector. There are two outstanding theories that present a clear direction on firm behaviour relating to cash flows management. They are Agency theory and trade-off theory.

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

2.2.1 Agency Theory

In its simplest form, agency theory explains the agency problems arising from the separation of ownership and control. It provides a useful way of explaining relationships where the parties' (The principal and the Agent) interests are at odds and can be brought more into alignment through proper monitoring and a well-planned compensation system [4] in [5].

2.2.2 The Trade-off Theory

This theory substantiate that there are benefits to leverage within a capital structure up until the optimal capital structure is reached. In other words, if firms are more profitable they prefer debt financing as compared to equity for the sake of profit [6]. Trade-off theory recognises the tax benefit from payments through which organisational performance can be enhanced, in line with this theory it is revealed that most firms have less leverage than this theory would suggest is optimal.

2.3 Review of Empirical Studies

A study by [6], examined "Cash flow and Corporate Performance on selected food and Beverages Companies in Nigeria". The study established that significant and positive relationship exists between cash flows and corporate performance in the food and beverage sector of Nigeria. The results of the study supports both theoretical and empirical evidence of prior studies that operating and financing cash flows impact positively on the profitability of corporate organisations in the food and beverages sector of Nigeria, provided a strong governance policy is operational in the industry [7]. Also, the researchers concluded that negative net cash flows generated from investment activities associated with corporate governance are capable of decreasing food and beverages industry performance.

A year later [8], studied the association between various earnings and cash flow measures of firm performance and stock returns in lran. They used the simple and multiple regressions to analyse the data for a period of nine consecutive years from 2003 to 2011. The study revealed that company's performance and cash flow have a significant negative relationship; furthermore, earning based measures are more related to stock returns and depict the company performance better than cash flow measures in some companies with higher accruals.

[2], conducted a research on the Efficacy of Liquidity Management and Banking Performance in Nigeria. Their data were analysed using Pearson's product-moment correlation co-efficient (r). The study underpins or supports with evidence the fact that there exist a strong positive relationship between efficient liquidity management and banking performance in terms of profitability and Return on Capital Employed (ROCE). Therefore, the need for efficient liquidity management in the banking industry cannot be over emphasized particularly for reasons of maximizing profit levels and concurrently remaining liquid. For the banking industry in Nigeria, there is the need to emphasize the need to remain liquid. The study buttresses the fact that efficient liquidity management can significantly influence returns on capital employed by a bank and as well impact positively on the bank's profitability and thus its stability.

[9], carried out a study on the Determinants of Bank Profitability in Nigeria, using CAMEL Rating Model. They used Ordinary Least Square method (LR) to analyse the data for a period of 11 years from 2001-2011. The study revealed that liquidity has a significant impact on banks profitability in Nigeria while capital adequacy, assets quality, management efficiency, earnings have insignificant impact on the profitability of Nigerian banks.

[10], examined the Determinants of Financial performance of Quoted Banks in Nigeria: A study of Selected Deposit Money Banks. They used the regression analysis method on the data from 2001-2010. The study revealed that, asset

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

quality significantly affects the financial performances of quoted banks in Nigeria. It was discovered that employee motivation is a key success factor in evaluating the financial performance of selected banks.

[11], also used CAMEL model to compare the financial performance of commercial banks in Nepal by identifying the determinants of performance. They used regression models to estimate the impact of capital adequacy ratio, non-performing loan ratio, interest expenses to total loan, net interest margin and credit to deposit ratio on the financial profitability namely Return on Assets (ROA) and Return on Equity (ROE). (ROA) was significantly influenced by capital adequacy ratio, interest expenses to total loan and net interest margin, while capital adequacy ratio had considerable effect on return on equity. The result of their findings revealed that return on assets (ROA) was significantly influenced by capital adequacy ratio, interest expenses to total loan and net interest margin, while capital adequacy ratio had considerable effect on return on equity.

[12], conducted a research on the effect of level of deposits on financial performance of commercial banks in Kenya. A cross sectional regression model was adopted to analyse the data. The population of study were 18 commercial banks. The result of the study indicates that there is a positive and significant relationship between Deposits Ratio and ROE. The result equally revealed that there is a positive and significant relationship between Deposit Ratio and ROA.

[13], examined the Determinants of Performance among Banks in Nigeria. A cross Generational Analysis; they used a multiple regression to analyse the data. Using a sample of ten banks comprising each of first and second generation banks, the result of the study shows that the performance of a bank was accounted for by the amount of profit paid out as dividend. The profit retained for expansion and new share sold to the public. Age of banks was shown to be insignificant to the performance of banks.[14], have used CAMEL model to examine factors affecting bank profitability with success. The central Bank of Nigeria also used the CAMEL framework for performance evaluation of the banks.

[15], carried out a study on the Performance Measurement through Cash Flow Modeling: distinct from similar studies, three selected performance proxies were separately used to formulate the three models adopted in the study Ratios and Traditional Ratios and did a Comparison between Commercial and Casino Hotel Companies. They used Independent sample t-test for the data analysis. The results show that traditional ratios generated different results from cash flow ratios in liquidity. Casino hotel 5 companies were found to have significantly higher liquidity ratios than commercial hotel companies, indicating a possibility that the difference may be caused by the type of hotel.

However, most empirical studies in Nigeria have concentrated on the financial performance in the firms; limited efforts have been made to investigate financial performance using the statement of the cash flow in the banking industry. It is this obvious gap that this study tends to fill.

Modeling: distinct from similar studies, three selected performance proxies were separately used to formulate the three models adopted in the study

III. Methodology

The study employed causal comparative research design otherwise known as ex-post factor design due to the variables used are embedded in the Annual financial report of the selected banks because they are secondary data property and were sourced from Nigeria stock exchange for the ten-year period of the study, from 2005-2014.Twelve listed banks in the Nigeria stock exchange were selected based on availability of data from the Annual report. The banks selected are: First bank of Nigeria plc (FBN), Zenith bank plc, and Guaranty Trust bank plc (GTB), Diamond Bank, Eco Bank, Fidelity Bank, First City Monument Bank, access Bank, United Bank for Africa plc, Stanbic IBTC Bank, Sterling Bank Plc, Wema Bank Plc.

MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

Research variables used are:

Dependent and independent variables proxied by Return on Asset (ROA), Earning per share (EPS), and Market price per share (MPPS), Operating, Investing and Financing Activities.

3.1. Model Specifications

To examine the relationship between cash flow components and performance of commercial banks in Nigeria, this work relied on the earlier research carried out by [6]. Specifically they studied cash flow and Corporate Performance on selected food and Beverages Companies in Nigeria using the model below.

$$ROA = F(OPCF, INVCF, FINCF) \quad (1)$$

Where ROA is Return on Assets, OPCF is Operating activities Cash Flows, INVCF is Investing activities Cash Flow and FINCF is Financing activities Cash Flow.

To make the equation easy for empirical verification, we transformed it in a multiple linear regression equation.

To reflect the focus of this study and accommodate the research slant of this work, the model above was modified especially with respect to the definition of performance of Commercial bank and the incorporation of debt equity ratio as a control variable.

Return on Assets (ROA), Earnings per share (EPS) and Market price per share (MKPPS) are the dependent variables which measure or serve as indices for performance of banks.

CFO = Cash flows from Operating activities

CFI = Cash flow from Investing activities

CFF = Cash flow from Financing activities

DER = Debt to equity ratio

$$ROA = \beta_0 + {}_1CFO + \beta_2CFI + \beta_3CFF + \beta_4DER + \mu_i \quad (2)$$

$$EPS = \beta_0 + {}_1CFO + \beta_2CFI + \beta_3CFF + \beta_4\ DER + \mu_i \quad (3)$$

$$MKPPS = \beta_0 + {}_1CFO + \beta_2CFI + \beta_3CFF + \beta_4\ DER + \mu_i \quad (4)$$

Where:

B = Parameter to be estimated

et = Error terms

The multiple regressions used for the data is justified on the basis that it allows the utilization of more of the information available to estimate the dependent variable. Moreover, it possesses the unique qualities of un-biasness, consistency and efficiency for empirical analyses. First we test the stationarity of the time series data.

MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

Table 1: Augmented Dickey-Fuller unit root test at level

Variables	1(0) ADF test statistic	I(1) ADF test statistic	Order of Integration
Return on assets	-4.208110***	-25.61205	I(0)
Earnings per share	-4.485051***	-14.04609	I(0)
Market price per share	-5.323420	-10.21100	I(0)
Debt to equity ratio	-2.686322***	-9.845836	I(1)
Operating cash flow	-6.588630***	-11.68952	I(0)
Investment cash flow	-9.701112***	-12.09906	I(0)
Financing cash flow	-10.54083***	-12.64360	I(0)
Test critical values:	1% level	-3.490210	
	5% level	-2.887665	
	10% level	-2.580778	

Source: Researcher's compilation from E-view 9.0

Traditional methods of estimating cointegrating relationships, such as [16] or [17], [18] method, either require all variables to be I (1), or require prior knowledge and specification of which variables are I(0) and which are I(1).
To alleviate this problem, [19] showed that cointegrating systems can be estimated as ARDL models, with the advantage that the variables in the cointegrating relationship can be either I(0) or I(1), without needing to pre-specify which are I(0) or I(1).
The augmented Dickey Fuller specification is in(eq4.1) above was used to estimate the unit root of the data sets used by comparing ADF values with the critical values in absolute terms. Moreover, it was based on the assumption that y follows an autoregressive (AR) process and may seem restrictive and the ADF test asymptotically valid in the presence of a moving average (MA) component, provided that sufficient lagged difference terms are included in the test regression.
In comparison, the observed values of the Augmented Dickey Fuller (ADF) test statistics with the critical values of the test statistics at the various, (1%, 5% and 10%) levels of significance provides strong evidence of stationarity at level for return on assets, earnings per share, market price per share, operating cash flow, investment cash flow and financing cash flow while debt to equity ratio appeared stationary at I(1). This study fails to accept the null hypothesis that there is unit root on the variables used.

MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

3.2 Test of Hypothesis

$H0_1$: Cash flow components do not have significant effect on return on assets of commercial banks in Nigeria.
The above hypothesis was tested using the model below:

$$ROA = \beta_0 + {}_1CFO + \beta_2 CFI + \beta_3 CFF + \beta_4 DER + e_{it} \quad (5)$$

The regression result of the optimal lag model as predicated on Akaike information criterion (AIC) is presented below.

ARDL regression result with ROA as the dependent variable
ARDL regression result with ROA as dependent variable (long-run)

TABLE 2 below presents the long-run regression result of autoregressive distributed lag model of the Relationship between cash flow components and commercial banks return on assets based on the selected lag length.

Table 2: ARDL Result with ROA as Dependent Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
ROA(-1)	1.082970	0.099897	10.84087	0.0000***
ROA(-2)	-0.825789	0.157112	-5.256066	0.0000***
ROA(-3)	1.364653	0.168898	8.079768	0.0000***
ROA(-4)	3.765234	0.233929	16.09559	0.0000***
ROA(-5)	-9.511615	0.463884	-20.50428	0.0000***
ROA(-6)	5.204417	8.706710	0.597748	0.5513
CFO	-0.000178	0.000215	-0.830307	0.4083
CFI	-4.99E-06	2.83E-05	-0.176628	0.8602
CFF	-8.64E-06	4.48E-05	-0.192808	0.8475
DER	-0.175413	0.357711	-0.490377	0.6249
C	34393.21	25618.15	1.342533	0.1824

R-squared	0.973419	Mean dependent var	168768.5
Adjusted R-squared	0.970813	S.D. dependent var	1087835.
F-statistic	373.5309	Durbin-Watson stat	1.938845
Prob(F-statistic)	0.000000***		

Source: Computed by the author using econometric view 9.0

The result in TABLE 2 above showed that in the previous periods, ROA of commercial banks appeared better than its subsequent years. This is evidenced in the respective coefficient of elasticity and probability (p-values in the respective years).The coefficient of multiple determinations (R^2) 0.973419 is very high and explains the goodness of fit. The F-statistic test establishes the overall significance of the regression; and based on the probability value of the F-statistic (0.0000) the overall regression model is significant and well specified. The negative signs in the coefficients (-0.000178, -4.99E-09 and -8.64E-06) of operating cash flow, investment cash flow and financial cash flow is an indication of reduction in return on assets. This implies that there is a reduction in return on assets as cash flow components decreases.

MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

Theory states that increase in cash flow components leads to proportionate increase in return on assets *vice-versa* meaning that the signs of the coefficients of cash flow components are in tandem with *a prior* expectation.

The short-run regression result of autoregressive distributed lag model of the Relationship based on the selected lag length between Cash flow Components and return on assets of Banks in Nigeria is presented in Table 3 below.

Table 3: Short-run Regression result of Relationship between Cash Flow Components and Return on Assets of Banks (ROA).

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ROA(-1))	0.105809	0.093627	1.130108	0.2611
D(ROA(-2))	-0.163596	0.111688	-1.464754	0.1461
D(ROA(-3))	0.887338	0.105222	8.433008	0.0000***
D(ROA(-4))	3.855085	0.129438	29.783309	0.0000***
D(ROA(-5))	-5.163230	0.340196	-15.177228	0.0000***
D(CFO)	-0.000521	0.000149	-3.503218	0.0007***
D(CFI)	-0.000002	0.000017	-0.122925	0.9024
D(CFF)	-0.000005	0.000026	-0.201737	0.8405
D(DER)	-3.510427	0.456118	-7.696311	0.0000***
CointEq(-1)	-0.004477	0.047608	-0.094033	0.9253

Cointeq = ROA- (0.0022*CFO +0.0001*CFI + 0.0001*CFF + 2.1962*DER -430615.2919)

Source: Computed by the Author using econometric view 9.0

The ARDL result appears very robust in explaining the short-run relationship among variables under study. This is indicated by the asterisk (*) that follow the cointegration equation above.

3,3. Bound Test

Bound testing is used to estimate whether the ARDL model contains a level (or long-run) relationship between the dependent variable and the regressors. Meanwhile, a test for the existence of level relationship is simply a test of $p = 0$

$$_1 = _2 = \ldots = _k = 0$$

MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

Table 4: ARDL bounds test

Test Statistic	Value	K
F-statistic	5.427494	4
Critical value bounds		
Significance	I0Bound	I1 Bound
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: Econometric view 9.0

The result in table 4 above shows that the upper bound limit of the critical value for the F-test is 5.427494 (5%) greater than the critical value bounds (t-test is 3.29 at 1% on the I (0) bound and 4.37 at1%on the I(1) bound. This outcome is a clear indication of the presence of long-run relationship among the variables under study.

Decision Rule: In the long run, cash flow components positively and significantly influenced the return on assets of commercial banks in Nigeria within the study period. t-statistic (3.503218) is greater than critical value of t' in absolute terms, while probability value (0.0007) on the other hand is less than critical p-value of 0.05. The study thus rejects the null hypothesis and concludes that there is significant effect of cash flow components on return on assets of commercial banks within the reference period.

$H0_2$: There is no significant effect of Cash flow components on Earnings per share (EPS) of commercial Banks in Nigeria

The above hypothesis was tested using the model below:

$$EPS = \beta_0 +_1 CFO + \beta_2 CFI + \beta_3 CFF + \beta_4 DER + e_{it} \quad (6)$$

The regression result with the optimal lag model as predicated on Akaike information criterion (AIC) is presented below.

ARDL regression result with EPS as the dependent variable

The result of the multiple regression analysis of the effect of Cash flow Components on earnings per share of commercial Banks in Nigeria is presented in TABLE 5 below.

MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

Table 5: long-run Regression result for the relationship between cash flow components and performance of banks (EPS)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
EPS(-1)	0.274937	0.105775	2.599251	0.0108**
EPS(-2)	0.216460	0.102090	2.120278	0.0366**
EPS(-3)	0.252051	0.106766	2.360770	0.0203**
EPS(-4)	-0.182201	0.120207	-1.515721	0.1329
EPS(-5)	-0.191177	0.100378	-1.904569	0.0599*
CFO	-1.33E-08	4.41E-08	-0.302134	0.7632
CFO(-1)	-5.91E-08	4.34E-08	-1.363746	0.1759
CFO(-2)	4.42E-08	4.00E-08	1.104855	0.2720
CFI	-1.25E-09	4.96E-09	-0.252689	0.8011
CFF	-1.24E-09	7.85E-09	-0.157802	0.8750
DER	0.000347	9.31E-05	3.724536	0.0003***
DER(-1)	0.000150	9.92E-05	1.515344	0.1330
DER(-2)	6.95E-05	0.000131	0.529576	0.5977
DER(-3)	6.18E-05	0.000193	0.320698	0.7492
DER(-4)	-0.000402	0.000184	-2.184826	0.0314**
C	7.219192	5.586425	1.292274	0.1994
R-squared	0.637522	Mean dependent var		20.49682
Adjusted R-squared	0.579680	S.D. dependent var		50.12091
F-statistic	11.02175***	Durbin-Watson stat		1.878488
Prob(F-statistic)	0.000000			

Source: Computed by the author using econometric view 9.0

The result of the multiple regressions shows a direct and negative relationship between cash flow components and earnings per share of commercial banks in Nigeria within the reference period. These relationships were not significant except debt to equity ratio which was used as control variable. Operating cash flow, investment cash flow and operating cash flow were negative and insignificant. The coefficient of multiple determination (R^2) is 0.637522 implies that about 63.75% variation in the dependent variable can be explained by the changes in the independent variables. This also implies that the model meets goodness of fit. Again, the F-statistic shows that the aggregate model is significant at 1% level with a value of 11.02175 and probability score of 0.0000. The Durbin-Watson value of 1.878488 show that serial autocorrelation is not a problem.

The result in table 5 above is consistent with that of [20], [10] and [21]. The result of the influence of cash flow components on the earnings per share of commercial banks is equally constituent with *a prior* expectation as negative influence was recorded. This is even more obvious considering the fact that before and immediately after the operating cash flow, investment cash flow and debt to equity ratio in the model, there was positive statistically significant influence recorded at the 5% level. Although this result seems to be in agreement with the findings of [22], on the effect of capital structure on firms' performance, the result appears quite unique as it relates to a capital structure.

MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

We proceeded further to introduce the short run equilibrium result of the effect of cash flow components on earning per share of commercial banks with AIC.

Table 6: short run regression result effect of cash flow components on earnings per share

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EPS(-1))	-0.094808	0.114810	-0.825781	0.4110
D(EPS(-2))	0.121555	0.107325	1.132582	0.2603
D(EPS(-3))	0.373604	0.101150	3.693566	0.0004***
D(EPS(-4))	0.191358	0.095614	2.001367	0.0482**
D(CFO)	-0.000000	0.000000	-0.366722	0.7147
D(CFO(-1))	-0.000000	0.000000	-1.214833	0.2275
D(CFI)	-0.000000	0.000000	-0.183889	0.8545
D(CFF)	-0.000000	0.000000	-0.168701	0.8664
D(DER)	0.000347	0.000088	3.952435	0.0001***
D(DER(-1))	0.000271	0.000100	2.713748	0.0079***
D(DER(-2))	0.000340	0.000123	2.774942	0.0067***
D(DER(-3))	0.000402	0.000150	2.677516	0.0088***
CointEq(-1)	-0.630447	0.117403	-5.369920	0.0000***
Cointeq = EPS - (-0.0000*CFO -0.0000*CFI -0.0000*CFF + 0.0004*DER + 11.4603)				

Source: computed by the author using Econometric view 9.0 version

The coefficient of cointegration ((cointEq(-1)) in TABLE 6 above is statistically significant at 1% level and negatively signed, hence, we infer that there is the existence of cointegration or short-run equilibrium condition. The speed of adjustment between the short-run and long-run realities is 63.04%.

3.4 Bounds Test with EPS as Dependent Variable

MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

Table 7: ARDL Bounds test for Earnings Per Share

Test Statistic	Value	K
F-statistic	4.650383	4
Critical value bounds		
Significance	I0Bound	I1 Bound
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: computed by the author using Econometric view 9.0 version

The greater the F-statistic (4.650383) is at a preferred percentage level than critical values of upper and lower bound at a preferred level of significance, the higher the chance of existence of cointegration and short run equilibrium relationship is established. Bound test equally perform error correction function as rightly indicated by the coefficient (-0.630447 at 1% level of significance) which equally entails the possible speed of adjustment back to long run equilibrium.

Decision Rule: The study observed insignificant effect of cash flow components (investment cash flow, operating cash flow and financing cash flow) on commercial banks earnings per share except for debt to equity ratio used as a control variable. However Debt to equity ratio which was used in this study as control variable was found to be significant at is 0.000347 1% level and the t-statistics of 3.724536 is greater than the critical t-value in absolute terms. In other words it is a very important variable; it shows how relevant it is in explaining the variation in EPs of commercial banks in Nigeria. The study fails to accept the null hypothesis that there is no significant effect of cash flow components on commercial banks earnings per share.

$H0_3$: There is no significant effect of Cash flow components on Market price per share of commercial banks in Nigeria.
The above hypothesis was tested using the model below:

$$MPPS = \beta_0 +_1 CFO + \beta_2 CFI + \beta_3 CFF + \beta_4 DER + e_{it} \quad (7)$$

The regression result of the optimal lag model as predicated on Akaike information criterion (AIC) is presented below.

ARDL long-run result with MPPS

The regression result of autoregressive distributed lag model of the Relationship based on the selected lag length between Cash flow Components and market price per share of commercial Banks in Nigeria is presented in Table 8 below.

MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

Table 8: Regression Result for the Relationship between Cash Flow Components and Market Price Per Share (MPPS)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
MPPS(-1)	0.589375	0.081280	7.251145	0.0000***
CFO	5.88E-09	1.54E-07	0.038293	0.9695
CFI	-5.47E-09	2.26E-08	-0.241609	0.8095
CFF	-8.02E-09	3.59E-08	-0.223741	0.8234
DER	-6.35E-06	0.000202	-0.031471	0.9750
C	32.38806	20.21075	1.602516	0.1120
R-squared	0.348907	Mean dependent var		75.60549
Adjusted R-squared	0.318482	S.D. dependent var		180.2910
S.E. of regression	148.8376	Akaike info criterion		12.89522
Sum squared resid	2370332.	Schwarz criterion		13.04004
Log likelihood	-722.5802	Hannan-Quinn criter.		12.95399
F-statistic	11.46780***	Durbin-Watson stat		2.186676
Prob(F-statistic)	0.000000			

Source: Computed by the author using Econometric view 9.0 version

Table 8 above shows the result of ARDL regression of effect of cash flow component on market price per share of commercial banks. The autoregressive approach causes the dependent variable to perform a dual function by including it as explanatory variable. The coefficient of operating cash flow is rightly signed and insignificant in explaining the variations in market price per share of commercial banks it implies that a positive change in operating cash flow will lead to positive change in market price per share of banks, on the other hand, the coefficients of investment cash flow and financing cash flow were negatively signed and insignificant in influencing the changes in performance proxy (market price per share). The sign of the coefficient is in conformity with theoretical expectation. The size of the coefficient of multiple determinations (R^2= 0.3489) shows the magnitude of the dependent variable that was explained by the explanatory variables. F-statistic 11.46780 at 1% significant level shows that the model was rightly specified. The DW value of2.186676 shows that autocorrelation was not a problem.

In comparison, the results of this study and those of previous works yielded mixed conclusions. This is particularly because the study of the effect of cash flow components on performance of commercial banks in Nigeria has been adjudged theoretically complex and empirically ambiguous. In particular, the result of the study was found in disagreement with that of [8]. [8], in their study of the association between earnings and cash flow measures of firm performance and stock returns reported a negative but significant relationship between earnings and cash flow. In an earlier work by [23], in their quest to examine the relationship between free cash flow and financial performance evidence from listed real estate companies; the study reveals negative relationship between the variables used.

The result of the study however was consistent with the finding of [13], who examined the Determinants of Performance among Banks in Nigeria. The result of the study shows that the performance of a bank was accounted for by the amount of profit paid out as dividend. [6], in their work titled “Cash flow and Corporate Performance:

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

Study of Selected Food and Beverages Companies in Nigeria." avers that cash flow components is designed to restructure and avail the financial institutions the opportunity to diversify their productivity which in turn boosts the economy reduce dependency on shareholders' dividends for further productivity. The finding of the study was also consistent with the work of [24], who their finding support the view that cash flow component promotes the efficiency of the financial institutions through financial intermediation process. They also stressed that a device for raising the level of competition in the banking industry, is to allow free flow of cash components.

3.5.ARDL Regression Result with MPPS as the Dependent Variable

The short run result of effect of cash flow components on market price per share of commercial banks in Nigeria is presented in table 9

Table 9 Cointegration result

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ROA(-1))	0.105809	0.093627	1.130108	0.2611
D(ROA(-2))	-0.163596	0.111688	-1.464754	0.1461
D(ROA(-3))	0.887338	0.105222	8.433008	0.0000***
D(ROA(-4))	3.855085	0.129438	29.783309	0.0000***
D(ROA(-5))	-5.163230	0.340196	-15.177228	0.0000***
D(CFO)	-0.000521	0.000149	-3.503218	0.0007***
D(CFI)	-0.000002	0.000017	-0.122925	0.9024
D(CFF)	-0.000005	0.000026	-0.201737	0.8405
D(DER)	-3.510427	0.456118	-7.696311	0.0000***
CointEq(-1)	-0.004477	0.047608	-0.094033	0.9253

Cointeq = MPPS -(0.0000*CFO -0.0000*CFI -0.0000*CFF -0.0000*DER + 78.8751)
Source: computed by the author using Econometric view 9.0

The result in TABLE 9 above presents the cointegration analysis of the relationship among the variables under study. The error correction term (CointEq(-1)) was correctly signed (negative), we therefore conclude that there is existence of cointegration or short-run equilibrium.

MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

Table 10 ARDL Bounds Test

Test Statistic	Value	k
F-statistic	4.716116	4
Critical Value Bounds		
Significance	**I0 Bound**	**I1 Bound**
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: Econometric view 9.0

The essence of ARDL bounds test is to establish the presence or absence of long run relationship among variables under study. In bound testing approach, F-statistic is normally used to compare critical values at lower and upper bound regions for acceptance or rejection. F-statistic value of 4.716116 at 5% significant level is greater than critical values at the same level. Therefore, the study rejects the null hypothesis of no long run relationship among the variables in the model.

Decision Rule: The study found that investment cash flow, operating cash flow and financing cash flow were not significant in influencing commercial banks performance proxied by Market price per share; except for debt to equity ratio which on the short run significantly affect the performance of commercial banks. The coefficient of elasticity (-3.510427) is significant at 1% level while t-statistic (-7.696311) is greater than the critical value of t', Hence we conclude that there is significant effect of cash flow components on the performance of commercial banks in Nigeria proxied by MPPS. To further fit the coefficient of the estimated variables into the multiple regression models; we summaries as follows:

IV Discussion of Results

ROA = 34393.21-0.000178CFO-4.99E-06CFI-8.64E-06CFF
(0.000215) (2.83E-05) (4.48E-05)
[-0.830307] [-0.176628] [-0.192808]

$\mathbf{R^2 = 0.973419}$, DW = 1.9388

EPS = 7.219192-1.33E-08CFO-1.25E-09CFI-1.24E-09CFF+0.000347DER
(4.41E-08) (4.96E-09) (7.85E-09) (9.31E-05)
[-0.302134] [-0.252689] [-0.157802] [3.724536]

$\mathbf{R^2 = 0.637522}$, DW = 1.878488

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

MPPS = 32.38806+5.88E-09CFO-5.47E-09CFI-8.02E-09CFF-6.35E-06DER

(1.54E-07)	(2.26E-08)	(3.59E-08)	(0.000202)
[0.038293]	[-0.241609]	[-0.223741]	[-0.031471]

$\mathbf{R^2 = 0.348907}$, DW = 2.186676

The study found strong relationship existing between cash flow components and performance of commercial banks in Nigeria. ARDL bounds test proved the existence of long-run relationship as well as short run cointegration among the variables. Serial correlation tests proved that the error terms are independent of each other. The short-run model was used based on lag selection criteria.

Also In the long run, cash flow components positively and significantly influenced the return on assets of commercial banks in Nigeria within the study period. This implies that commercial banks performed creditably well in the long-run as indicated by the result. It further indicates that asset quality of commercial banks require some level of improvement in order to stand the test of time. The study rejects the null hypothesis that Cash flow components have no significant effect on Return on Assets of commercial banks in Nigeria.

Furthermore, the study observed insignificant effect of cash flow components on commercial banks earnings per share. This implies that commercial banks within this period may have experienced drop down in their liquidity. This finding could further be somewhat debatable in assessing the performance of commercial banks in Nigeria. This is because in contrast; commercial banks have not operated at a healthy status within the period under review as rightly evidenced in the results. The study fails to reject the null hypothesis that there is no significant effect of cash flow components on Earning per share (EPS) of banks in Nigeria.

Finally, the study established that cash flow components were not significant in influencing commercial banks performance proxied by Market price per share. The implication of this outcome is that commercial banks within this period displayed under performance as a result of low investment status, as well as other components driving their market strength. The study fails to reject the null hypothesis that Cash flow components do not significantly affect market price per share of commercial banks in Nigeria.

V. Conclusion and Recommendations

The result of the study has proved that there is significant and positive nexus between cash flow components and performance of commercial banks in Nigeria. This finding is similar to the works of [6], which observed correlation between Cash flow components and Corporate Performance. It equally agreed with the assertion of [8] and [23], that negative cash flow generated from investment activities and financing activities associated weak corporate governance are capable of decreasing the banking sector performance.

From the study the following were recommended.

i. Banks should while holding their liquidity preference tenaciously should look for a better strategy to culminate their operations through diversification as well balance liquidity and profitability, considering the maxim that the more liquid banks are the less profitable they become.

IJSAR Journal of Advanced Management and Social Sciences (IJSAR-JAMSS)
ISSN: 2408-767X
Volume 4, Issues 4 (December 2017), 217-234
http://www.mdcjournals.org/ijsar-jamms...html

ii. They should equally keep pace with their asset quality by culminating efficiency in operating, Investing and Financing approaches. Banks should be encouraged to channel cash towards profitable investments to enable them maximize shareholders wealth as a result boost their ROA, EPS and MPPS.

REFERENCES

[1] Uremadu, S.O. *Financial management: concepts, analysis and applications*. Enugu, precision publisher limited (2004).

[2] Agbada, A.O and Osuji, C.C. The efficacy of liquidity management and banking performance in Nigeria, *Journal; International review of management and business research issn 2306-9007. 2.*(2013)

[3] Igben, R. O. *Financial accounting made simple*. ROI publishers, Lagos (2009).

[4] Davis, J.H, Schoorman, F.D. & Donablson, L (oward a stewardship theory of management, *Academy of management review. 22* (1997).

[5] Ranti, U. O. Corporate governance and financial performance of banks. A study of listed banks in Nigeria: A Ph.D thesis of Covenant University Ogun State, Nigeria (2011).

[6] Bingilar, P.F and Ayadonghan, K.J. Cash flow and corporate performance: Study of selected food and beverages companies in Nigeria. *European journal of accounting auditing and finance research, 2(*7) (2014), pp.77-87.

[7] Brush, C.P., Bromiley, P and Hendrickx, M. The free cash flow hypothesis for sales growth & firm performance, *Strategic management journal. 21* (4) (2000) pp 455-72.

[8] Ali, M., Alireza, A and Jalal, A. The association between various earnings and cash flow measures of firm performance and stock returns: some Iranian evidence. *International journal of accounting and financial reporting*, *3(* 1) (2013), pp 24-39.

[9] Echekoba, F.N, Egbunike, C.F, & Ezu G.k. Determinants of bank profitability in Nigeria: Using CAMEL rating model. *Journal of business & management. (16)* (2013)

[10] Osuka, B.O and Osadume C.R. The determinants of financial performance of quoted banks in Nigeria: *International journal of education and research. 1 (10)* (2013)

[11] Jha and Hui. A comparison of financial performance of commercial banks (2012).

[12] Okun, D.M. *The effect of level of deposits on financial performance of commercial banks in Kenya*. Unpublished MBA thesis, University of Nairobi (2012).

[13] Abdulraheem, A., Yahaya, K.A and Aliu, O.A. Determinant of performance among banks in Nigeria; A cross generational analysis, *European journal of social science; 24(4)* (2011), *p 458.*

[14] Elyor, S. *Factors affecting the performance of foreign banks*. Masters degree thesis; University of Ubara Malaysia. (2009).

[15] Ryu, K. and Jang, S. Performance measurement through cash flow ratio and traditional ratio: A comparison of commercial and casino hotel companies (2004).

[16] Engel, R. F. and Granger C. W. Co-integration and error correction: Representation, estimation, and testing. Vol.55, no.2 (1987)

[17] Johansen, S. Estimation and hypothesis testing of co-integration vectors in Gaussian vector autoregressive models. *Journal of econometric society*, 1551-1580 (1991).

[18] Johansen, S. A statistical analysis of co-integration for variables. *Econometric theory* 1 (2), 25-59 (1995).

[19] Pesaran, M. H and Shin Y. An autoregressive distributed lag modelling approach to cointegration analysis' in Strom, (ed.), econometrics and economic theory in the 20th century: The Ragnar Frisch centennial symposium, Cambridge: Cambridge UP. 1999.

[20] Chikashi, T.O. An investigation of comprehensive income and firm performance: The case of the electric appliances industry of the Tokyo stock exchange. *Journal of accounting and finance research*. *2*(2) (2013) PP 29-35.

[21] Thanh, V.H and Nguyen, M.H. The effect of banking relationship on firm performance in Vietnam. *International journal of economics and finance*. 5. No.5 (2013) PP 148-158.

[22] Akintoye, I.R. Effect of capital structure on firms' performance: The Nigerian experience" European *journal of economics, finance and administrative science*, *10* (2008) pp 233-243.

[23] Zhou, H., Yang, S and Zhang, M. On relationship between free cash flow & financial performance & evidence from the listed real estate companies from China. *International proceedings of computer science & information technology*. 36. 2012, 331 – 335