INFLATION AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN NIGERIA

Sunday Baba[1], Samuel Oyekan Ashogbon[2]

Corresponding Authors email: sundaybab@yahoo.com

samesty2018@gmail.com

Abstract

Commercial banks play an important role in the operation of an economy since these banks serve as the financial intermediaries that channel funds from savers to borrowers for investment which is an important thing for a country's economic growth and development. The analysis of the effect of inflation on financial performance of Commercial Banks in Nigeria is important. The aim of the study was to establish the effect of inflation on financial performance of Commercial Banks in Nigeria. The study specifically aimed to evaluate the effect of inflation on financial performance of commercial banks in Nigeria. An ordinary least square regression model was used. Inflation has insignificant relationship with financial performance.

Key Words: *Inflation, Performance of Commercial Banks, Nigeria*

Introduction

Banks play an important role in the operation of an economy since they are the financial intermediaries that channel funds from savers to borrowers for investment which is an important thing for a country's economic growth (Abebe, 2014). Aguinis (2009) also argues that banks are the linchpin of the economy of any country occupying central position in the country's financial system and are essential agents in the development process. By intermediating between the surplus and deficit savings' units within an economy, banks mobilize and facilitate efficient allocation of national savings, thereby increasing the quantum of investments and hence national output. The analysis of the effect of inflation on Commercial Banks financial performance in Nigeria is thus. Inflation is an external factor that is beyond the control of the commercial banks (Mohana & Tekeste, 2012).

The financial stability of the banking sector relies heavily on the stability of the economy. Given the relation between the well-being of the banking sector and the growth of the economy (Levine, 1998), knowledge of the effect of inflation on Commercial Banks financial performance in Nigeria is therefore essential not only for the managers of the banks, but also for numerous stakeholders such as the central banks, bankers associations, governments, and other financial authorities. Knowledge of this factor would be useful in helping the regulatory authorities and bank managers to formulate future policies aimed at improving the profitability of the Nigerian banking sector.

Theoretical Review

The study was hinged on the Schumpeter Economic Cycle theory.

Schumpeter Economic Cycle theory.

Schumpeter Economic Cycle Theory was advocated by Schumpeter (1939) and indicated that economic change consists of two distinct phases, "prosperity" and "recession" which he called business cycle. Under prosperity phase, the impulse of entrepreneurial activity draws away from an equilibrium position, and under recession, it draws toward another equilibrium position. Schumpeter (1939) shows the intermediary role of financial sector between those who save and invest, through a process referred to as credit creation by bank financing that leads to economic growth and development. The effect of this process leads to profit and loss generation by the lender and the borrower. According to the theory, certain macroeconomic variables typically display unique pattern of boom and recession in a business cycle. A crisis is said to occur at the peak of expansion when growth in real GDP and domestic demand decline leading to acceleration in inflation. During periods of economic expansion, firms and their respective sectors profits increases, asset prices rises aggregate sectoral demand for credit facilities expands leading to growth in bank lending resulting to increased interest income. Banks may underestimate their risk exposures, relaxing credit standards and reduce provisions for future losses while the economy indebtedness rises. As the downturn sets in individual's, firms and sector profitability deteriorates (Bikker & Hu, 2002).

The theory assumes that recessions and periods of economic growth are efficient response to exogenous changes in the real economic environment and that decline in profitability result in fall of asset prices, non-performing loans, lowers borrowers' financial capacity, fall in employment levels, and depresses the value of collaterals as secondary means of servicing debts. Banks' risk exposure increases, and consequently raises the need for larger loan provisions and higher levels of capital, exactly when it is more expensive or simply not available. This may lead to banks reacting by reducing the amount of lending, especially if they have low capital buffers above the minimum capital requirement, thus increasing the

effects of the economic downturn as well as cycle fluctuation and bank profitability. Since the study aims to investigate the effect of macroeconomic factors on financial performance, it is important to understand the concept of business cycle and this theory is relevant.
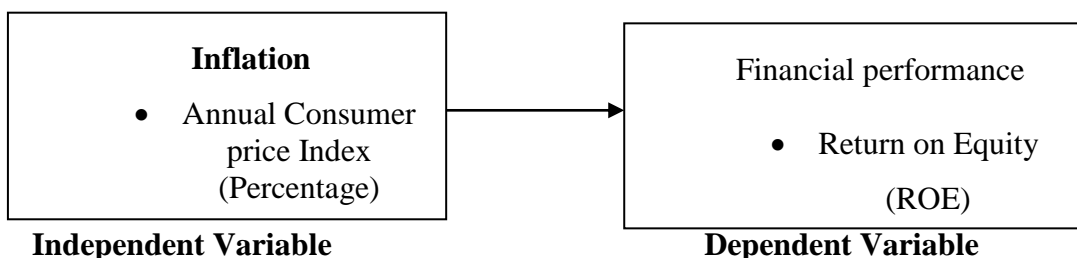
Conceptual Framework

Figure 1: Conceptual Framework

Research Methodology

The study used Panel data regression model to establish the relationship between the predictor and the independent variables. Panel data refers to the pooling of cross-section data over several time periods. The data employed in this study was panel in nature since for each of the 23 banks (or cross-sections) data on selected variables influencing Return on Equity (Inflation Rate) was tabulated over the period 2006 – 2015.

The general form of the panel data model is written as follows:

$$Y_{it} = \alpha_i + X'_{it}\beta + \varepsilon_{it}$$

Specifically, in this study, the regression equation is stated as:

$$Y_{it} = \alpha_i + \beta_1 X'_{1t} + \varepsilon_{it}$$

Where:

Y_{it} => Return on Equity (ROE)

X'_{it} => X'_{1t} = Inflation Rate (INFLRATE) in period t;

Research findings

Descriptive Statistics

The study was conducted using the descriptive statistics involving mean, standard deviation, minimum and maximum value of the study variables as presented in Table 4.1.

Descriptive Statistics

Variable	Observation	Mean	Std. Dev.	Min	Max
ROE	230	0.08	0.14	(0.38)	0.22
Inflation rate	230	9.91	2.37	5.38	13.72

From table above, results indicated that the mean ROE recorded in the study period was 0.08 with a standard deviation of 0.14 which indicated a large variation in ROE over the study period in the Nigerian banking sector. The minimum ROE recorded was 38 percent and the largest was 22 percent.

Concerning inflation rate, the mean inflation rate recorded over the study period was 9.91 with a standard deviation of 2.37 which indicated a small variation in inflation rate over the study period. The minimum inflation rate recorded was 5.38 percent while the maximum was 13.72 percent.

Correlation Analysis

The study further assessed the correlations among the predictor variables using the pair-wise correlation matrix. The correlation analysis helped in determining whether multicollinearity problem existed in the data before a regression model was run. The result in Table below shows the correlation matrix of Pearson correlation coefficients. The starred values indicate significance at 5% level of significance.

Correlation

|		Inflation rate	ROE
Inflation rate	Pearson Correlation	1	
	Sig. (2-tailed)		
ROE	Pearson Correlation	0.085	1
	Sig. (2-tailed)	0.201	
* Correlation is significant at the 0.05 level (2-tailed).			

The results indicated that the association between inflation rate and financial performance of commercial banks is positive and insignificant. This implied that an increase in inflation rate is associated with an improvement in financial performance of commercial banks.

Trend Analysis

Trend analysis of ROE and Inflation rate was also established.

4.3.1 Trend Analysis of ROE
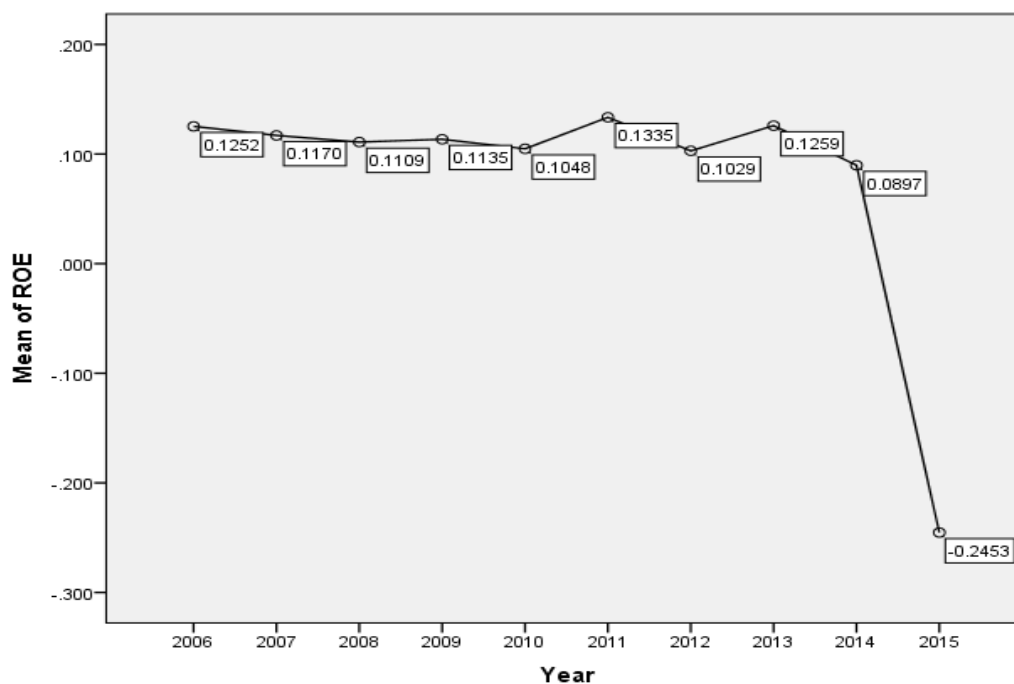
Trend Analysis of ROE

The study findings from figure 4.1, indicated that the yearly mean ROE for all the commercial banks in Nigeria had unsteady trends. From the year 2006 to 2010, the mean ROE was unsteady before recording the highest value in the study period in the year 2011. The lowest mean ROE recorded in the study period was in the year 2015.

Trend Analysis of Inflation rate

The trend analysis indicated that inflation rate of Nigeria between the year 2006 and 2015 had unsteady increasing and decreasing trends. The year 2007 had the lowest value while the highest percentage of inflation rate recorded was in the year 2010.
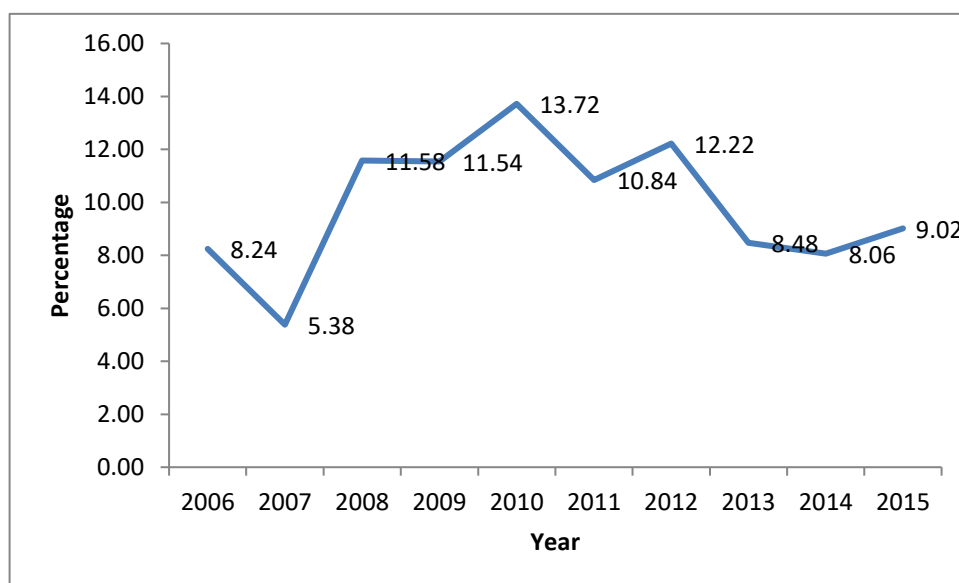
Regression Analysis

The study used Panel data regression model to establish the relationship between the predictor and the independent variable as described below:

$Y_{it} = \alpha_i + \beta_1 X'_{1t} + \varepsilon_{it}$

Using the Panel Least Squares method, both the Fixed Effects and the Random Effects models were estimated. The data sample comprised of 23 cross-sections (banks) spread over a ten-year period (2006 – 2015), hence 230 observations. The test for correlated random effects (Hausman Test) was then applied to determine which of the two models was applicable.

The summary results for the Fixed Effects Panel Model are as presented in Table below while details are given in Annex 1.

The summary results for the Fixed Effects Panel Model

Dependent Variable: ROE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.713677	1.627209	2.896786	0.0042
INFLRATE	0.010803	0.003448	3.133117	0.0020
R-squared	0.494723	Adjusted R-squared		0.430008
Log likelihood	210.6802	Durbin-Watson stat		2.026930
F-statistic	7.644616	Prob(F-statistic)		0.000000

Summary results for the RE Panel Model (Corrected for Heteroscedasticity)

Dependent Variable: ROE
Method: Panel EGLS (Cross-section weights)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.627652	1.393595	3.320656	0.0011
INFLRATE	0.009937	0.002953	3.365170	0.0009
REALRATE	-4.96E-05	0.000412	-0.120380	0.9043
R-squared	0.531225	Adjusted R-squared		0.471185
F-statistic	8.847824	Prob(F-statistic)		0.000000
Durbin-Watson stat	1.949662			

The variables INFLRATE was found to be statistically significant at 5% significance level.

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The variables INFLRATE, was found to be statistically significant at 5% significance level.

Interpreting the Equation:

$$ROE = 4.63 + 0.0099 \, INFLRATE + \varepsilon_{it}$$

A one unit increase in inflation rate will lead to 0.0099 units increase in return on equity; a one unit increase in real rate will lead to 0.00005 units decrease in return on equity. The R – squared is 0.531225 and the adjusted R- squared is 0.471185

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.612	0.375	0.364	0.108899

The study findings presented in the above Table indicated that the correlation of the joint predictor variable (Inflation) with ROE of commercial banks in the study period is positive as revealed by a Pearson coefficient value (R) of 0.612. The findings also indicated that the predictor variables (Inflation) explained up to 37.5% of the changes in ROE of commercial banks.

Model Fitness

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.598	4	0.4	33.697	.000
Residual	2.668	225	0.012		
Total	4.267	229			

The F calculated, 33.697, is significant at 5% level of significance as indicated by a p-value of 0.00 which is significant at 5% level of significance implying that the model fit well. The study lastly established the model coefficients. The results are presented in Table 4.5.

Model Coefficients

Indicator	B	Std. Error	t	Sig.
(Constant)	4.681	1.718	2.725	0.007
Inflation rate	0.011	0.004	2.975	0.003

The findings presented in Table 4.5 indicate that inflation rate is positively and significantly related to ROE as shown by a beta coefficient of 0.011 and P-value of 0.003. These findings imply that a unit increase in inflation rate leads to a unit improvement in ROE by 0.011 units. The findings are consistent with the findings of a study by Kosmidou, Pasiouras, Doumpos, & Zopounidis, 2006). as well as (Athanasoglou, Brissimis, & Delis, 2005).

Athanasoglou, Brissimis and Delis (2005) which indicated that macroeconomic factors like inflation have a positive impact on bank performance. The findings are however not consistent with the findings of a study by Sufian, and Shah (2009) which revealed that inflation has a negative relationship with banks profitability.

The finding also agreed with the finding of a study by Anna and Hoi Si, Ch (2008) which found that only the rate of inflation reveals a significant relationship with banks' performance. The relationship between unemployment rate and financial performance of commercial banks is negative and significant as indicated by a beta value of -0.525 and p-value of 0.018.

Summary of Findings, Conclusion and Recommendations

Summary of the Findings

This section summarizes the findings that were obtained in chapter four. The purpose of the study was to establish the effect of inflation rate on financial performance of Commercial Banks in Nigeria. The summary of findings is presented in line with the objectives of the study.

Inflation rate and financial performance of commercial banks in Nigeria

The first objective of the study was to investigate the effect of inflation rate on financial performance of commercial banks in Nigeria. The results indicate that the association between inflation rate and financial performance of commercial banks is positive and insignificant. This implies that an increase in inflation rate is associated with an improvement in financial performance of commercial banks.

The study sought to test the null hypothesis that there is no statistically significant relationship between inflation rate and financial performance of commercial banks in Nigeria. The regression results indicated that the relationship between inflation rate and ROE was positive and significant implying that an increase in inflation rate leads to an increase in ROE. The null hypothesis was rejected hence there is a significant relationship between inflation rate and financial performance of commercial banks in Nigeria.

Conclusion of the Study

The conclusion on inflation rate is that inflation rate has a statistically insignificant positive effect on financial performance of commercial banks in Nigeria.

Recommendations

The study recommends that since inflation rate has significant effect on the performance of commercial banks, banks should operate in a way that it put into consideration the operation of inflation rate in the banking operational activities. The monetary policy framework set by the regulatory authority should put inflation rate indices in context when being formulated.

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