EFFECT OF MACROECONOMIC FACTORS ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN NIGERIA

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Abstract

Commercial 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. The analysis of the effect of Macroeconomic factors on financial performance of Commercial Banks in Nigeria is thus vital. The findings indicated that real interest rate, unemployment rate as well exchange rate are negatively and significantly associated with the performance of commercial banks in Nigeria. The findings also indicated that unemployment rate, exchange rate and real interest rate have a significant relationship with financial performance of commercial banks in Nigeria while inflation has an insignificant relationship with financial performance. The study recommends that commercial banks operating in Nigeria should effect strategies that aim to adjust their lending rates and financial activities when the rate of real interest rate set by the Central Bank of Nigeria increases since real interest rate has a negative effect on commercial banks financial performance. The study also recommends that commercial banks should be aware of the changes in exchange rate and interest rate and adjust their rates accordingly since an increase in interest rate worsens the performance and an increase in exchange rate betters the financial performance.

Keywords: commercial banks, financial performance, macroeconomic factors
1. Background of the Study

Otieno (2013) states that macroeconomic factors of bank performance are those characteristics of a macro economy that affects the profitability of the banks operating within it. According to him, they vary in their respective levels of significance from one economy to another and cannot be directly controlled by individual shareholder and managerial decisions and activities. He stated that macroeconomic factors of bank profitability which include economic growth (GDP), inflation, interest rates and exchange rate, will provide a theoretical backup for the explanatory variables that are included in the empirical estimations of this study.

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 macroeconomic factors 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 these factors would be useful in helping the regulatory authorities and bank managers formulate future policies aimed at improving the profitability of the Nigerian banking sector.

As Sayedi (2013) states, macroeconomic factor like interest rates plays a crucial role in attraction of investors. Without interest rates stability, domestic and foreign investors will stay away and resources will be diverted elsewhere. Econometric evidence of investment behavior indicates that in addition to conventional factors (past growth of economic activity, real interest rates, and private sector credit), private investment is significantly and negatively influenced by uncertainty and macroeconomic instability.

Buyinza (2010) on the other hand, states that banks are said to be heavily dependent on the funds mainly provided by the public as deposits to finance the loans being offered to the customers. There is a general notion that deposits are the cheapest sources of funds for banks and so to this extent deposits have positive impact on banks profitability if the demand for bank loans is very high. That is, the more deposits commercial bank is able to accumulate the greater is its capacity to offer more loans and make profits.

The Nigerian banking sector has continued to financially perform poorly since the 1940s with an observation of the banking failures of late 1940s and early 1950s (banking boom and banking doom), and that of 1994-2000 which led to the erosion of confidence in the banking system (CBN, 2001). Between 1994 and 2000, a total of 33 terminally distressed banks were liquidated (CBN, 2001). Also, with the consolidation exercise, the number of banks was reduced from 89 banks in 2004 to 24 groups of banks in 2006 to 2010. With 8 banks now adjudged to be in grave situations, the number of banks will likely reduce to 16 commercial banks even as their poor financial performance continues to loom.
2. Statement of the Problem

This study sought to establish the situation that holds in the Nigerian economy on the relationship between macroeconomic environment and financial performance of commercial banks since previous studies have recorded mixed findings. Studies by Arpa, Giulini and Pauer (2001) and Schwaiger and Liebig (2008) indicate a positive relationship between macroeconomic factors like GDP growth rate and financial performance while other studies for instance a study by Bernake and Geitler (1989) have indicated negative relationship between GDP growth rate and financial performance of commercial banks. Other studies have indicated no relationship between macro-economic factors and financial performance of commercial banks for instance a study by Alper and Anbar (2011) and Anna et al., (2008). In the wake of these contradicting results, the study sought to establish the effect of macroeconomic factors on the performance of commercial banks in Nigeria.

3. Study Objectives

The study specifically aimed to evaluate the effect of unemployment rate, inflation, exchange rate and interest rate on financial performance of commercial banks in Nigeria.

4. Conceptual Framework

Below is a figurative representation of the variables explored by this study

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inflation</strong></td>
<td><strong>Financial performance</strong></td>
</tr>
<tr>
<td>• Annual Consumer price Index (Percentage)</td>
<td>• Return on Equity (ROE)</td>
</tr>
<tr>
<td><strong>Interest rate</strong></td>
<td></td>
</tr>
<tr>
<td>• Annual interest rate</td>
<td></td>
</tr>
<tr>
<td><strong>Unemployment rate</strong></td>
<td></td>
</tr>
<tr>
<td>• Percentage number of unemployed out of the total labour force</td>
<td></td>
</tr>
<tr>
<td><strong>Exchange rate</strong></td>
<td></td>
</tr>
<tr>
<td>• Exchange rate of Naira to US dollar</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 1: conceptual framework*

5. Research Gaps

The review of literature presented the conceptual, contextual and methodological research gaps. Conceptual research gaps arise when a study looks at different concepts or considers different
variables. Contextual research gap arose because the studies are conducted in different geographical as well as sectoral contexts and a need arises to compare results. Methodological research gap arose because different methods have been used to analyse the same concept and it becomes necessary to use a different approach for comparison purposes. Some of the reviewed studies for instance studies by Ani et al. (2012) which examined the effect of bank consolidation on cost savings for consolidated banks in Nigeria for ten year-period (2000 – 2009) and Ofoegbu and Iyewumi (2013) which investigated the effect of deregulation and consolidation on the level of competition in the Nigerian banking industry presented conceptual research gaps while the study by Ofoegbu & Iyewumi (2013) and Simpasa (2013) which examined how competitive the Zambian banking system will be for the period 1998 to 2011 presented methodological research gaps since they used OLS and Panzar-Rose (PR) methodologies respectively while the current study will conduct a panel data analysis. Due to these mixed results as well as research gaps, the study established the effect of Macroeconomic factors on financial performance of Commercial Banks in Nigeria.

6. Research methodology used

An explanatory research design was adopted. This study targeted all the 23 licensed commercial banks operating in Nigeria in the study period. The study analyzed secondary data collected from annual reports of the commercial banks, published data on company websites, research centers, Nigerian national bureau of statistics and World Bank.

Table 1: Operationalization of study variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial performance of commercial banks</td>
<td>ROE (Net income/Total Equity)</td>
</tr>
<tr>
<td></td>
<td>(Kosmidou et al., 2006)</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>Percentage of unemployed labour force</td>
</tr>
<tr>
<td></td>
<td>(Ifeachio, 2014)</td>
</tr>
<tr>
<td>Inflation</td>
<td>Consumer price Index (Percentage)</td>
</tr>
<tr>
<td></td>
<td>(Anna et al., 2008)</td>
</tr>
<tr>
<td>Exchange rate</td>
<td>Annual exchange rate of Naira on Us dollar</td>
</tr>
<tr>
<td></td>
<td>(Ofoegbu and Iyewumi, 2013)</td>
</tr>
<tr>
<td>Interest rate</td>
<td>Annual real interest rate (Alper and Anbar, 2011)</td>
</tr>
</tbody>
</table>
7. ANALYSIS AND FINDINGS

A survey research design was used and a population of 1500 business enterprises formed the sampling frame. The sample for the study comprised of 150 business enterprises selected where simple random and stratified sampling technique was used since the population was heterogeneous. The questionnaire technique was used to obtain information from the respondents. Kothari (2004) observes that a questionnaire is good for research studies as they enable a researcher to collect more information which is not directly observable. Based on the above facts, the researcher used questionnaires to collect primary data since it was suitable research instrument for data collection in this study. Secondary data was collected from past research reports. After gathering, synthesis and analysis of data for three months, the researcher found that there is a wide gap between strategy formulation and implementation which is Achilles heel in many businesses.

RESEARCH FINDINGS AND DISCUSSION

8. Correlation Analysis

The study 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 4.2 shows the correlation matrix of Pearson correlation coefficients. The starred values indicate significance at 5% level of significance.

Table 2: Correlation

<table>
<thead>
<tr>
<th></th>
<th>Inflation rate</th>
<th>Interest rate</th>
<th>Unemployment rate</th>
<th>Exchange rate</th>
<th>ROE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation rate</td>
<td>Pearson</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest rate</td>
<td>Pearson</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>-.492*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>Pearson</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>.158*</td>
<td>-.295*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.016</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exchange rate</td>
<td>Pearson</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>0.102</td>
<td>0.124</td>
<td>-.693*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.122</td>
<td>0.06</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>Pearson</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>0.085</td>
<td>-.131*</td>
<td>-.357*</td>
<td>-.581*</td>
<td>1</td>
</tr>
</tbody>
</table>
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.

The findings also indicated that real interest rate is negatively and significantly associated with financial performance of commercial banks. This implied that an increase in the real interest rate is associated with poor performance of commercial banks.

Unemployment rate is negatively and significantly associated with the financial performance of commercial banks in Nigeria. The findings implied that an increase in the unemployment rate is associated with poor performance of commercial banks.

The performance of commercial banks in Nigeria is negatively and significantly associated with exchange rate. An increase in the exchange rate of Naira to US dollar is negatively associated with performance of commercial banks in Nigeria. The results also indicated absence of multicollinearity among the predictor variables hence the study went ahead to conduct a regression analysis.

9. Trend Analysis of ROE

Figure 2: Trend Analysis of ROE
The study findings from figure 2, 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.

10. 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.

![Figure 3: Trend Analysis of inflation rate](image)

11. Trend Analysis of Interest rate

Interest rate had steady increasing and decreasing trends over the study period. The year 2010 had the lowest real interest rate value. The real interest rate percentage then started rising steadily from the year 2011.

![Figure 3: Trend Analysis of inflation rate](image)
12. Trend Analysis of Unemployment rate

The unemployment rate as a percentage of the total labour force in Nigeria had steady rate of 7.6 since the year 2006 up to the year 2011 before decreasing to 7.5%. The rate of 7.5% remained constant up to the year 2015. There was a small variation in the unemployment rate.

13. Trend Analysis of Exchange rate

The trends of exchange rate of Naira to US Dollars was steadily increasing and decreasing. From the year 2006 to 2009, the rate was unsteady before indicating steady increasing and decreasing trends from the year 2009 to the year 2014. The year 2015 had the highest value of exchange rate of Naira to US Dollars.
14. Regression Analysis

The study used Panel data regression model to establish the relationship between the predictor and the independent variables given by:

\[ Y_{it} = \alpha_i + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \varepsilon_{it} \]

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 3 while details are given in Annex 1.

Table 3: The summary results for the Fixed Effects Panel Model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>4.713677</td>
<td>1.627209</td>
<td>2.896786</td>
<td>0.0042</td>
</tr>
<tr>
<td>INFLRATE</td>
<td>0.010803</td>
<td>0.003448</td>
<td>3.133117</td>
<td>0.0020</td>
</tr>
<tr>
<td>REALRATE</td>
<td>-3.14E-05</td>
<td>0.000481</td>
<td>-0.065340</td>
<td>0.9480</td>
</tr>
<tr>
<td>UNEMPRATE</td>
<td>-0.528998</td>
<td>0.208945</td>
<td>-2.531757</td>
<td>0.0121</td>
</tr>
<tr>
<td>EXCHRATE</td>
<td>-0.004984</td>
<td>0.000501</td>
<td>-9.957837</td>
<td>0.0000</td>
</tr>
</tbody>
</table>
Table 4: The summary results for the Random Effects Panel Model

Dependent Variable: ROE

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>4.713677</td>
<td>1.627226</td>
<td>2.896756</td>
<td>0.0041</td>
</tr>
<tr>
<td>INFLRATE</td>
<td>0.010803</td>
<td>0.003448</td>
<td>3.133117</td>
<td>0.0020</td>
</tr>
<tr>
<td>REALRATE</td>
<td>-3.14E-05</td>
<td>0.000481</td>
<td>-0.065340</td>
<td>0.9480</td>
</tr>
<tr>
<td>UNEMPRATE</td>
<td>-0.528998</td>
<td>0.208945</td>
<td>-2.531757</td>
<td>0.0120</td>
</tr>
<tr>
<td>EXCHRATE</td>
<td>-0.004984</td>
<td>0.000501</td>
<td>-9.957837</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.401019  Adjusted R-squared 0.390370
F-statistic 37.65946  Prob(F-statistic) 0.000000
Durbin-Watson stat 1.824979

15. Hausman Test

In order to determine which of the two models should be preferred (i.e. whether the Fixed Effects or the Random Effects Model), the following hypothesis was investigated:

H₀: Random Effects (RE) Model
H₁: Fixed Effects (FE) Model

Results of the Test for Correlated Random Effects (Hausman Test):

Table 5: Correlated Random Effects-Hausman Test[Test cross-section random effects]
Cross-section random 0.000000 4 1.0000

Since the Chi-Sq. Statistic = 0.000 and P = 1.000 > 0.05, we fail to reject the $H_0$: Random Effects (RE) and conclude that the preferred model is the Random Effects Model.

**Diagnostic Tests for the Random Effects Model**

**Jarque Bera Residual Normality Test:**

Setting the hypothesis below:

$H_0$: Residuals are normally distributed

$H_1$: Residuals are not normally distributed

Figure 7: Histogram for Normality Test

From the results, Jarque-Bera Statistic = 45.74890 and computed P-value P = 0.000000 < 0.05

We reject $H_0$: Residuals are normally distributed and conclude that the residuals are not Normally Distributed. This is also revealed in the Actual Vs Fitted residual graph below:
This implies presence of Heteroscedasticity. After correcting for presence of heteroscedasticity using the “Coefficient Covariance Method” based on the White-cross section (see Annex 2); the following robust results were obtained:

**Table 6: Summary results for the RE Panel Model (Corrected for Heteroscedasticity)**

Dependent Variable: ROE

Method: Panel EGLS (Cross-section weights)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>4.627652</td>
<td>1.393595</td>
<td>3.320656</td>
<td>0.0011</td>
</tr>
<tr>
<td>INFLRATE</td>
<td>0.009937</td>
<td>0.002953</td>
<td>3.365170</td>
<td>0.0009</td>
</tr>
<tr>
<td>REALRATE</td>
<td>-4.96E-05</td>
<td>0.000412</td>
<td>-0.120380</td>
<td>0.9043</td>
</tr>
<tr>
<td>UNEMPRATE</td>
<td>-0.529045</td>
<td>0.178947</td>
<td>-2.956428</td>
<td>0.0035</td>
</tr>
<tr>
<td>EXCHRATE</td>
<td>-0.004347</td>
<td>0.000429</td>
<td>-10.14093</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

| 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, UNEMPRATE and EXCHRATE and statistically significant at 5% significance level.

Interpreting the Equation:

\[
\text{ROE} = 4.63 + 0.0099 \times \text{INFLRATE} - 0.00005 \times \text{REALRATE} - 0.53 \times \text{UNEMPRATE} - 0.004 \times \text{EXCHRATE} + \varepsilon_{it}
\]

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. Also, one unit increase in unemployment rate will lead to 0.53 units decrease in return on equity and a one unit increase in exchange rate will lead to 0.004 units decrease in return on equity. The R –squared is 0.531225 and the adjusted R- squared is 0.471185

<table>
<thead>
<tr>
<th>Table 7: Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>.612</td>
</tr>
</tbody>
</table>

The study findings presented in Table 7 indicated that the correlation of the joint predictor variables (Inflation, exchange rate, unemployment rate and interest rate) 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, exchange rate, unemployment rate and interest rate) jointly explain up to 37.5% of the changes in ROE of commercial banks and the remaining percentage, 62.5%, is explained by other variables not studied by the current study. The study further established the model fitness. The results for the model fitness are as presented in Table 8.

<table>
<thead>
<tr>
<th>Table 8: Model Fitness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of Squares</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Regression</td>
</tr>
<tr>
<td>Residual</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
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 9 below.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>B</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>4.681</td>
<td>1.718</td>
<td>2.725</td>
<td>0.007</td>
</tr>
<tr>
<td>Inflation rate</td>
<td>0.011</td>
<td>0.004</td>
<td>2.975</td>
<td>0.003</td>
</tr>
<tr>
<td>Interest rate</td>
<td>-0.001</td>
<td>0.001</td>
<td>-0.053</td>
<td>0.958</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>-0.525</td>
<td>0.221</td>
<td>-2.38</td>
<td>0.018</td>
</tr>
<tr>
<td>Exchange rate</td>
<td>-0.005</td>
<td>0.001</td>
<td>-9.416</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The findings presented in Table 9 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 et al. (2006) as well as Athanasoglou et. al. (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 et al. (2009) which revealed that inflation has a negative relationship with banks profitability.

Further results indicated that the relationship between interest rate and ROE of commercial banks is negative and insignificant as indicated by beta coefficient of -0.001 and p-value of 0.958. The findings imply that an increase in real interest rate leads to poor performance of commercial banks. The study findings are consistent with the findings of a study by Ofoegbu and Iyewumi (2013) which indicated that the effect of interest rate on financial performance of commercial banks in Nigeria is insignificant. The findings also agreed with the findings of a study by Anna et al., (2008) which found that only the rate of inflation reveals a significant relationship with banks’ performance while there was no significant relationship between real interest rate and financial performance of Macao commercial banks.

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. This implies that an increase in unemployment rate leads to poor performance of commercial banks. The study findings agreed with the findings of a study by Sudin (2004) which indicated that unemployment rate and money supply play a major role in influencing the profitability of Islamic banks in Jordan. Furthermore, the findings agreed with Samhan & AL-Khatib (2015) who indicated that there is significance level and negative relationship between ROA and unemployment rate.
The study findings also agreed with the findings of a study by Ifeacho (2014) which indicated that except for interest rates (in the ROA model), unemployment rate (in the ROA model), and the rate of inflation (in the ROE model), the rest of the macroeconomic variables are statistically insignificant.

Exchange rate is negatively and significantly related to financial performance of commercial banks. This implied that an increase in the exchange rate of Naira to US dollars leads to a reduction in ROE of commercial banks in Nigeria. These findings are not consistent with the findings of a study by Sing and Chaudhary (2009) conducted in India and indicated a positive relationship between exchange rate and financial performance of commercial banks. The findings are also inconsistent with the findings of a study by Tan and Floros (2012) who examined the determinants of bank profitability in China for the period of 2003-2009 and indicated a positive relationship between bank profitability, cost efficiency, banking sector development, stock market development, exchange rate and inflation in China.

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

16. Summary of Findings

**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.

**Interest rate and financial performance of commercial banks in Nigeria**

The second objective of the study was to establish the effect of interest rate on financial performance of commercial banks in Nigeria. The findings indicated that real interest rate is negatively and significantly associated with financial performance of commercial banks. This implies that an increase in the real interest rate is associated with poor performance of commercial banks.

The study sought to test the null hypothesis that there is no statistically significant relationship between interest rate and financial performance of commercial banks in Nigeria. The regression results indicated that the relationship between interest rate and ROE was negative but not
significant implying that an increase in interest rate leads to a decrease in ROE. The null hypothesis was not rejected hence there is no statistically significant relationship between interest rate and financial performance of commercial banks in Nigeria.

**Unemployment rate and financial performance of commercial banks in Nigeria**

The third objective of the study was to establish the effect of unemployment rate on financial performance of commercial banks in Nigeria. The findings indicated that unemployment rate is negatively and significantly associated with the financial performance of commercial banks in Nigeria. The findings imply that an increase in the unemployment rate is associated with poor performance of commercial banks.

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

**Exchange rate and financial performance of commercial banks in Nigeria**

The fourth objective of the study was to examine the effect of exchange rate on financial performance of commercial banks in Nigeria. The study findings indicated that the performance of commercial banks in Nigeria is negatively and significantly associated with exchange rate. An increase in the exchange rate of Naira to US dollar is negatively associated with performance of commercial banks in Nigeria.

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

### 17. Conclusions

Based on the study findings, the study concluded that the association between unemployment rate and ROE is negative and significant. Furthermore, the study concluded that there is a positive but insignificant association between inflation rate and ROE. Another conclusion on inflation rate is that inflation rate has a statistically insignificant positive effect on financial performance of commercial banks in Nigeria. The study also concluded that exchange rate is negatively and significantly associated with ROE. Exchange rate and interest rate have a significant effect on financial performance of commercial banks. In general, the study concludes that unemployment rate, exchange rate and real interest rate have a significant relationship with
financial performance of commercial banks in Nigeria while inflation has an insignificant relationship with financial performance.

18. Recommendations

Based on the conclusions, the study recommends that commercial banks operating in Nigeria should effect strategies that aim to adjust their lending rates and financial activities when the rate of real interest rate set by the Central Bank of Nigeria increases since real interest rate has a negative effect on commercial banks financial performance. The study also recommends that the commercial banks should be aware of the changes in exchange rate and interest rate and adjust their rates accordingly since an increase in interest rate worsens the performance and an increase in exchange rate betters the financial performance.

19. Areas for Further Research

The purpose of the study was to establish the effect of Macroeconomic factors on financial performance of Commercial Banks in Nigeria. A study can be conducted to establish the effect of both internal and macroeconomic factors on financial performance of Commercial Banks in Nigeria. This study used ROE as a measure of financial performance; further studies can consider other measures of financial performance for instance ROA, net income and Tobin Q. This will help to bring more diversity in comparing the results. Research can also be carried out to identify other factors apart from those investigated in this study and which have not been researched on. The factors investigated in this study explained 37.5% of the changes in ROE of commercial banks and the remaining percentage, 62.5%, of the changes in financial performance of commercial banks is explained by other factors not included in this study. Therefore, further research should be conducted to investigate the other factors that explain 67.3% of changes in financial performance of commercial banks. Such factors can be internal factors like governance and interest rate spread.

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