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## Relationship between Monetary Policy Instruments and Financial Performance of Commercial Banks in Nigeria

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#### **Abstract**

This paper examined the relationship between monetary policy instruments and financial performance of commercial banks in Nigeria. The study was anchored on Keynesian theory and employed causal research design. The Nigerian banking populace is 21 commercial banks, so census approach was adopted. Panel data was utilized and inferential statistical methods were used to analyze the data. The result of regression analysis showed that open market operations had a coefficient of  $\beta = 4.851167$ , \*\*\* p = 0.000 implying that it had positive and significant effect on the earning performance of commercial banks in Nigeria. The results also show that monetary policy reforms had positively and significantly intervened on the relationship between open market operations and financial performance of commercial banks in Nigeria of a most distinctive finding of the study. The study concluded that monetary policy instruments as adopted by Central Bank of Nigeria are critical and heavily influenced the performance of banking sector players in Nigeria. The study recommends that Central Bank of Nigeria should be meticulous and involve management of commercial banks when designing policy instruments to enhance the earnings of the commercial banks in Nigeria.

#### **Keywords**

Commercial Banks, Financial Performance, Open Market Operations, Monetary Policy Reforms

### 1. Introduction

#### **Background of the Study**

The banking sector around the world is arguably the most significant sector in

the financial industry and the whole economy (Wainaina, 2013; Pastory & Mutaju, 2013; Maux, 2015). No doubt that its business activities are perhaps the most greatly controlled and oversee of all businesses (Ahumada & Fuentes, 2004; Okoye & Eze, 2013; Ngure, 2014; Meshak & Nyamute, 2016). The banking sector performs a key role in the financial system through bringing financial lenders and borrowers together at legally accepted interest rates and credit risk management as well (Ajayi & Atanda, 2012; Macharia, 2013; Waweru, 2013; MacKathy, 2016).

As a result, commercial banks are key to the financial sector, particularly in the third world economies especially Sub-Sahara Africa economies such as Nigeria economy where capital markets are still in development process (Akanbi & Ajagbe, 2012; Ongure & Kusa, 2013; Otuori, 2013; Ekpung et al., 2015). In such economies, commercial banks serve as the major sources of funds for the businesses (Olagunju, Adeyanju, & Olabode, 2011; Otalu, Aladesanmi, & Olufayo, 2014). Therefore, the performance of the sector is connected to the performance of the economy at large (Sehrish, Irshad, & Khalid, 2011; Hifza, 2011; Ponce, 2011; Majed, Said, & Firas, 2012; Ntow & Laryea, 2012; Adebayo & Olalekan, 2012; Lipunga, 2014; Nkegbe & Yazidu, 2015; Bassey, 2015; Njoroge, 2016).

However, the banking sector is faced with regulatory challenge due to the nature of its business operations (Islam, 2010; Enyioko, 2012; Andiries & Capraru, 2013; Agboluaje, Fasanya, & Onakoya, 2013; Okonkwo, Godslove, & Mmaduabuchi, 2015; Udeh, 2015). In regulating the banking industry, the government employs monetary policy instruments as the basic tools (Onouorah, Sahib, Oyathelemi, & Friday, 2011; Solomon, 2013; Okoye & Eze, 2013; Obidike, Ejeh, & Ugwuegbe, 2015). Each time these policy instruments change, banks operations and financial performance are affected (Al-Jarrah et al., 2010; Mulwa, 2015; Udeh, 2015). However, Kolapo, Ayeni, & Oke (2012), Kimani (2013), Kigandi (2014), Khan, & Sattar (2014), Agha (2014) and Muya & Gathogo (2016) are of the view that a commercial bank must be profitable for its long-term survival. A case in point is when the U.S commercial banks' net interest margin (NIM) declined significantly from 4.04 percent in 1999 to 3.03 percent in 2016 and rose again to 3.14 percent in 2017 (World Bank, 2018).

Also, in Sub-Sahara Africa countries, commercial banks also experienced the effect of changes in monetary policy instruments. For instance, in South Africa, the commercial banks' net interest margin (NIM) dropped substantially from 3.07 percent in 2013 to 2.98 percent in 2015. Similar impact was experienced in Nigeria. Commercial banks' net interest margin (NIM) rocketed from 6.65 percent in 2010 to its full-time peak of 8.97 percent in 2011 and hit its lowest point at 5.60 percent in 2016 and climbed up to 7.93 percent in 2017 (World Bank, 2018). This had led to retrenchment of employees, loss of deposits and acquisition of banks like Oceanic Bank Nigeria PLC by Eco Bank Nigeria PLC in 2010. In 2011, African Bank PLC and others were liquidated which generated unemployment adverse effect on the economy (Central Bank of Nigeria, 2015). Hence,

the study sought to investigate the significant effect of open market operations on financial performance of commercial banks in Nigeria and also sought to investigate the intervening effect of monetary policy reforms on the relationship between monetary policy instruments and financial performance of commercial banks in Nigeria which is the main unique contribution to this study. The limitation of the study is lack of continuous data from the commercial banks which resulted from merger and acquisition that took place between 2004 and 2010. The study sample spans from year 1999-2017 because the article is extracted from my MSc. Thesis which covers that period. Any attempt to alter the study period may affect the research finding of the study.

The article is organized as follows. Section 1 discusses the theoretical issue and reviewed some of the related literature and came up with the empirical model to determine the influence of monetary policy instruments on financial performance of commercial banks. Section 2 presents the research findings of the study, while Section 3 concludes the paper.

#### 2. Literature Review

#### 2.1. Introduction

Commercial banks' operations and financial performance are always affected once central bank adopts monetary policy instruments both in the developed and the developing economies. This section will review the important theory and some of the studies carried out on monetary policy instruments and financial performance of commercial banks.

#### 2.2. Theoretical Literature Review

This study broadly examined one of the fit transmission mechanisms through which the policy instruments influence the performance of banking sector under the Keynesian Theoretical school of thought.

#### Keynesian Theory

In 1936 John Maynard Keynes published "General Theory of Employment, Interest and Money" and initiated Keynesian Revolution. However, Keynes and other Cambridge economists threw lighter and clarify the function of money through the indirect influence of cost of credit (interest rate) which subsequently affects investments and cash holding of the open market (Onoh & Timothy, 2017). Keynes maintained that economic activities are only motivated through indirect influence of interest rate mechanism but not monetary policy which alone cannot be successful because monetary policy itself functions effectively through interest rate (Keynes, 1936). Keynesian transmission mechanism clearly shows how monetary policy works by indirectly influencing interest rate which influences investment decisions of financial institutions such as banks and public and consequently output and income through the multiples processes (Okpara, 2010; Solomon, 2013; Simiyu et al., 2014).

As in Equation (2.1).

$$OMO \uparrow \rightarrow R \uparrow \rightarrow MS \uparrow \rightarrow r \downarrow \rightarrow I \rightarrow GNP \uparrow$$
 (2.1)

where OMO = Open Market Operations

R = commercial banks' reserve

MS = Stock of Money

r = Interest Rate

I = Investment

GNP = Gross National Product

Assuming the economy is initially at equilibrium and the Central Bank out rightly purchase government bonds, the Open Market Operations (OMO) will influence the commercial banks' reserves (R) to rise. The banks then operate by advancing new loans or by enlarging bank credits in new ways to maintain their ratio of interest. Hence, such loans created give rise to fresh checkable deposits, thereby, increasing the volume of money supply. An increasing quantity of money supply influences the overall level of interest rate (r) to decline. This affects the performance of banking sector and in the other hand triggers investments given the business profit opportunity. The stimulated investment expenditure gives rise to successive rounds of final demand spending by GNP to rise by a multiple of the initial investment. On the contrary, a decline in volume of money supply results to the overall level of interest rate (r) to rise thereby, increasing the commercial banks profitability (Muric, 2010; Bentum, 2012; Onoh & Timothy, 2017). However, Keynes' approach was disapproved by the classical economists and free market promoters.

The Keynes theory's relevance in this study as it relates with objectives one to examine the effect of open market operations on financial performance of commercial banks in Nigeria and to examine the intervening effect of monetary policy reforms on the relationship between monetary policy instruments and financial performance of commercial banks in Nigeria.

#### 2.3. Empirical Literature Review

This study reviews and summarizes previous studies relating to effects of monetary policy instruments on commercial banks' financial performance. The section also reviewed literature on each hypothesized variable.

### 2.3.1. Open Market Operation and Financial Performance of Commercial Banks

Younus and Akhta (2009) examine the significance of Statutory Liquidity Requirement (SLR) as a monetary policy instrument in Bangladesh. Using descriptive analysis techniques, they found that statutory liquidity requirement has faced occasional changes and past proof that reduction in SLR created an impact on credit and investment particularly before 1990s. SLR and Cash Reserve Requirement (CRR) were found to be significant tools of reducing inflation and both are used only in situation of drastic imbalance resulting from major shocks. They posited that Bangladesh Bank has used Open Market Operations (OMO)

more frequently rather than changes in the Bank Rate and SLR as instruments of monetary policy in line with its market oriented approach.

Chipote and Makhetha-Kosi (2014) analyzed the impact of monetary policy on economic growth in South Africa. The study employed the Augmented Dickey-Fuller and Phillips Perron Unit root test stationarity in the time series. The Johansen co-integration and the Error Correction Mechanism are employed to identify the long-run and short-run dynamics in the variables. The variables include money supply, repo rate and exchange rate. The core findings of this study indicate that money supply and repo rate are insignificant monetary policy instruments that drive economic growth in South Africa.

Apere and Karimo (2015) examined the impact of monetary policy on bank credits to Nigeria economy from 1981 to 2013. Data was collected from the Central Bank of Nigeria records. A three variable unrestricted VAR (1) model including banks' total credit to the economy, money supply and monetary policy rate was estimated. Pre-estimation findings reveal that all the variables be integrated at first different 1 (1) but were not co-integrated. Further, results indicate that money supply has an instantaneous influence on both monetary policy rate and banks' credit to the economy.

Nwoko, Ihemeje and Anumadu (2016) investigated the extent to which the CBN monetary policies could effectually be used to support economic growth. The research focused on the period of 1990-2011. The influence of money supply, average price, interest rate and labour force were tested using multiple regression models as the main statistical tool of analysis. Empirical findings show that money supply was not significant in influencing gross domestic product.

Onoh and Timothy (2017) analyzed the influence of monetary policy tools on turnover ratio of commercial banks in Nigeria. The objective of the research was to examined effects of monetary policy instruments-money supply; liquidity ratio; monetary policy rate and cash reserve ratio on commercial banks Turnover Ratio (TOR), Bank Assets (BAS) and Loan and Advances (LADV). The study findings showed that monetary policy had some level of effect on banks' performance as measured by turnover ratio (TUR); bank assets (BAS) and loan and advances (LAD). Money supply only (M<sub>2</sub>) alone had a positive relationship with bank turnover ratio.

### 2.3.2. Monetary Policy Reforms and Financial Performance of Commercial Banks

Ranciere and Tornell (2016) used a sector model to investigate the financial freedom, allocative efficiency and growth in the United States (U.S). The model incorporates Schneider and Tornell (2004) element of credit market game with a double sector endogenous growth model. The study findings indicate that financial liberation enhances growth, nonetheless results in more crises and costly bailouts. They further established that liberation fosters financial discipline and is likely to improve allocative efficiency, growth and consumption prospects.

Fadare (2010) studies the effect of banking sector reforms on the economic growth in Nigeria using annualized data covering the period between 1999 and 2009. Adopting the OLS regression technique, the research findings indicated that interest rate margins, parallel market premiums, total banking sector credit to the private sector, inflation rate, size of the banking sector, capital and cash reserve ratios surmount to a significant proportion of the variation in economic growth in Nigeria. Fadare's work adds insight to the current study as far as reforms in banking sector are concerned, this study assessed the intervening effect of monetary policy reform on the link between monetary policy instruments and commercial banks' financial performance in Nigeria from the year 1999 to 2017 using multivariate random effect regression model where, the Net Interest Margin (NIM) was used as measure of financial performance of commercial banks in Nigeria.

#### 2.3.3. Summary of Literature Review and Research Gaps

From the review of the empirical literature, studies conducted both locally (in Nigeria) and globally indicated evidences of both significant and insignificant findings of the relationship between monetary policy instruments and financial performance of commercial, most of the researches' study period did not cover some of the recent years to 2017 and limited in considering the intervening effect of monetary policy reforms to understand the relationship have been registered across context.

Therefore, the inconsistence of findings among researchers or scholars and wide difference in studies' periods bring gap that demands for further empirical inquiry. Thus, this study therefore, sought to empirically investigate the significant effect of monetary policy instruments on financial performance of commercial banks in Nigeria from 1999-2017. In an attempt to investigate the relationship between monetary policy instruments and commercial banks' financial performance in Nigeria, studies remain limited in the explanation of the intervening effect of monetary policy reforms to understand the relationship. This study therefore also investigated the effect of monetary policy instruments on financial performance of commercial banks in Nigeria through the intervening effect of monetary policy reforms.

#### 3. Research Methodology

#### 3.1. Introduction

The study utilized multivariate random effect regression model in investigating the relationship between monetary policy instruments and financial performance of commercial banks in Nigeria through the intervening effect of monetary policy reforms and recommendation made (Breusch & Pagan, 1979; Cooper & Schindler, 2003; Crowther & Lancaster, 2008; Mugenda & Mugenda, 2003; Collins, 2010). Thus, financial performance of commercial banks in terms of Net Interest Margin (NIM) was express as a function of OMO and Monetary Policy

Reform (MPRE).

$$Y_{t} = \beta_{0} + \beta_{1} X_{1t} + \mu_{t} \tag{3.1}$$

 $Y_{it}$  = financial performance (NIM) of Commercial Banks in Nigeria, where i = bank and at time t.

#### 3.2. Intervening Effect Model

The test of intervening effect was based on Whisman and McClelland (2005). Based on two steps:

Step 1:

$$Y_{t} = \beta_{0} + \beta_{1} X_{1t} + \beta_{2} X_{2t} + \mu_{t}$$
(3.2)

Step 2:

$$Y_{t} = \beta_{0} + \beta_{1} X_{1t} + \beta_{2} X_{2t} + \beta_{3} X_{1} M_{1t} + \mu_{t}$$
(3.3)

#### 4. Discussion and Recommendations

#### 4.1. Statistical Analysis

This section presents the descriptive statistics results on the study variables. The descriptive statistics used in this section include mean, standard deviation, minimum and maximum values as the results are presented in **Table 1**.

From Table 1, the results show that the mean for open market operations was 5529.848 while the minimum and maximum values were 270.75 and 11346.48 respectively. The results show that open market operations have standard deviation of 3591.911 which is high indicating that open market operations varied significantly and have a great effect on the financial performance of commercial banks in Nigeria. Similarly, monetary policy reforms oscillated between 21.86 and 30.99 with standard deviation of 2.749252 which changes are insignificant during the study period. This imply that variation in monetary policy reforms have positive effect on the performance of commercial banks in Nigeria. These finding confirmed that monetary policy instruments in Nigeria were very dynamic depending on the economic environment. This finding concurs with those of Udeh (2015) who posited that Nigeria's monetary policy tools have undergone various forms of changes to manage and survive the instabilities in economic

Table 1. Descriptive statistics.

Variable	Obs	Mean	Std. Dev.	Min	Max
Open Market Operations	136	5529.848	3591.911	270.75	11346.48
Monetary Policy Reform	136	25.85875	2.749252	21.86	30.99
Financial Performance	126	90808.67	75688.92	5842	331522

Source: Researcher (2020).

indices. The changes in these monetary policy instruments also affect banks operations and financial performance as shown by changes in net interest margin between N5842 and N331,522 Billion. The findings support those of Chigbu and Okonkwo (2014) who found that monetary policy instruments affect the operations of commercial banks.

## 4.2. Regression Analysis Results of Monetary Policies Instruments and Financial Performance of Commercial Banks in Nigeria

The inferential statistics adopted by the study was random effect regression analysis. The study adopted the multivariate random effect regression model to test for research hypotheses at a 5 percent significance level.

## 4.2.1. Hypotheses Testing of Monetary Policy Instruments and Financial Performance of Commercial Banks in Nigeria

H<sub>01</sub>: Open Market Operation Does Not Have Significant Effect on Financial Performance of Commercial Banks in Nigeria

The results in **Table 2** show that Open Market Operations had a coefficient of  $\beta = 4.851167$ , \*\*\*p = 0.000 implying that Open Market Operations had positive significant influence on financial performance of commercial banks in Nigeria. The study therefore rejected  $H_{01}$  that open market operation does not have significant effect on the financial performance of commercial banks in Nigeria and concluded that open market operations have significant effect on the financial performance of commercial banks in Nigeria. The findings concur with Keynesian Theory who believed that variation in money supply directly affects prices and output or income (GNP) (Hifza, 2011) and also those of Younus and Akhta (2009) whose results show that Bangladesh Bank has used Open Market Operations (OMO) more frequently rather than changes in the Bank Rate and SLR as instruments of monetary policy in line with its market oriented approach.

 $H_{02}$ : Monetary Policy Reform Does Not Have Significant Intervening Role on Relationship between Monetary Policy and Financial Performance of Commercial Banks in Nigeria

**Table 2.** Random effect regression coefficients results.

Financial Performance	Coef.	Std. Err.	z	p >  z	[95% mConf.	Interval]
Open Market Operations	4.851167	1.200322	4.04	0.000	2.498579	7.203754
_cons	34616.87	23808.95	1.45	0.146	-12047.8	81281.56
Model Summary						
Wald chi2 (2) = 62.97						
Prob > chi2 = 0.0000						
R-sq: within = 0.3664						

Source: Researcher (2020).

The study also tested the second hypothesis based on Whisman and McClelland (2005) which include two steps: The first was conducted with the intervening variable directly predicting financial performance while the second step involved using monetary policy reforms as an intervening variable.

#### 4.2.2. Step One Test for Intervening Effect of Monetary Policy Reforms

In this step, a regression analysis was conducted with intervening variable (monetary policy reforms) predicting financial performance of commercial bank in Nigeria as in shown in **Table 3**.

The results show that monetary policy reform had a coefficient of  $\beta$  = 13.6181, \*\*\*p = 0.997 which implied that monetary policy reform was not a predictor variable of financial performance of commercial banks in Nigeria and therefore it could be used as a moderating variable only.

#### 4.2.3. Step Two Test for Intervening Effect of Monetary Policy Reforms

The results of the second step in the test of intervening effect of monetary policy reforms on the relationship between monetary policy instruments and financial performance of commercial banks in Nigeria are shown in **Table 4**.

From the results presented in **Table 4**  $X_1 * Z$  ( $\beta = 2.093791, ***p = 0.001$ ) were found to be significant. The findings implied that monetary policy reforms

**Table 3.** Step one test for intervening effect of monetary policy reforms.

c	Coef.	Std. Err.	z	p >  z	[95% Conf.	Interval]
Open Market Operations	-0.16595	1.794301	-0.090	0.926	-3.68271	3.350817
Monetary Policy Reform	13.6181	4336.288	0.000	0.997	-8485.35	8512.587
_cons	34338.68	91676.65	0.370	0.708	-145344	214021.6
Wald chi2 (4) = 82.72						
Prob > chi2 = 0.0000						
R-sq: within = 0.4362						

Source: Researcher (2020).

**Table 4.** Step two test for intervening effect of monetary policy reforms.

Financial Performance	Coef.	Std. Err.	z	p >  z	[95% Conf.	Interval]
Open Market Operations	6.197752	0.799783	7.75	0.000	4.630205	7.765298
Monetary Policy Reform	15874	15577.52	1.02	0.308	-14657.4	46405.38
$X_1 * Z$	2.093791	0.631685	3.31	0.001	0.855712	3.33187
_cons	-294579	334006	-0.88	0.378	-949219	360060.6
Wald chi2 (7) = 82.99						
Prob > chi2 = 0.0000						
R-sq: within = 0.4441						

Source: Researcher (2020).

significantly intervene the relationship between open market operations and financial performance of commercial banks in Nigeria a most exceptional findings of the study.

#### 5. Discussion and Recommendations

Researchers have conducted studies on monetary policy instruments and financial performance of commercial banks in advanced economies. Similarly, a few studies have been conducted on monetary policy instruments and financial performances of commercial banks in Nigeria have shown inconsistent results. However, these studies did not consider the intervening characteristics and their impact on the relationship between monetary policy instruments and financial performance of commercial banks in Nigeria. Hence this study sought to address these research gaps.

The results of regression analysis showed that open market operation had a significant influence on financial performance of commercial banks in Nigeria. The study therefore rejected H<sub>01</sub> that open market operation does not have significant effect on the financial performance of commercial banks in Nigeria and concluded that open market operations have significant effect on the financial performance of commercial banks in Nigeria. Also, the findings implied that monetary policy reforms significantly mediated the relationship between open market operations, and financial performance of commercial banks in Nigeria which the most unique findings of the study.

#### 6. Conclusion

Based on the findings, the study made the following conclusions: first, the study concluded that monetary policies instruments are critical to the growth and expansion of banking sector in Nigeria and many countries. The financial performance of banking sector players is heavily influenced by the monetary policy instruments adopted by Central Bank as shown by the study findings. The study further concluded that financial performance of stable banking sector remains steady even though monetary policy instruments change which impact on the operating environment of industry players. The study finally concluded that the monetary policy reforms play a significant role in ensuring the operating environment in the banking sector to remain buoyant to enhance the financial performance of industry players.

#### **Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

#### References

Adebayo, O., & Olalekan, O. (2012). An Analysis of the Impact of Mergers and Acquisitions on Commercial Banks' Performance in Nigeria. *Pakistan Journal of Social Sciences*,

- 9, 139-149. https://doi.org/10.3923/pjssci.2012.139.146
- Agboluaje, M. A., Fasanya, I. O., & Onakoya, A. B. O. (2013). Does Monetary Policy Influence Economic Growth in Nigeria? *Asian Economic and Financial Review, 3,* 635-646.
- Agha, H. (2014). Impact of Working Capital Management on Profitability. *European Journal*, 10, No. 1.
- Ahumada, L. A., & Fuentes, J. R. (2004). Banking Industry and Monetary Policy. *Central Banking Analysis and Economic Policies Book Series*, *7*, 1-26.
- Ajayi, F. O., & Atanda, A. A. (2012). Monetary Policy and Bank Performance in Nigeria: A Two-Step Cointegration Approach. *African Journal of Scientific Research*, *9*, 462-476.
- Akanbi, T. A., & Ajagbe, F. A. (2012). Analysis of Monetary Policy on Commercial Banks in Nigeria. *African Journal Business Management, 6,* 12038-12042. https://doi.org/10.5897/AJBM11.1843
- Al-Jarrah, I. M., Ziadat, K. N., & El-Rimawi, S. Y. (2010). The Determinants of the Jordanian's Banks Profitability: A Cointegration Approach. *Jordan Journal of Business Administration*, 6, 247-261.
- Andiries, A. M., & Capraru, B. (2013). Impact of Financial Liberalization on Banking Sectors' Performance from Central and Eastern European Countries. *PLOS ONE, 8,* e59686. <a href="http://www.plosone.org">http://www.plosone.org</a>
  <a href="https://doi.org/10.1371/journal.pone.0059686">https://doi.org/10.1371/journal.pone.0059686</a>
- Apere, T. O., & Karimo, T. M. (2015). Monetary Policy and Performance of the Nigerian Banking Sector. *African Journal of Sciences*, *5*, 70-80.
- Bassey, K. J. (2015). Money Supply Growth and Unemployment Rate in Nigeria: Investigating a Long-Run Relationship Using Asymmetric ARDL Approach. *West African Journal of Monetary and Economic Integration*, 17, 45-60.
- Bentum, W. (2012). *The Determinants of Profitability of the Commercial Banks in Ghana during the Recent Years of Global Financial Crisis.* Master Thesis, Aarhus University.
- Breusch, T., & Pagan, A. (1979). A Simple Test of Heteroskedasticity and Random Coefficient Variation. *Econometrica*, 47, 1287-1294. https://doi.org/10.2307/1911963
- Central Bank of Nigeria (2015). *A Case Study of Distressed Banks in Nigeria*. Central Bank of Nigeria (2018) Statistical Bulletin.
- Chigbu, E. E., & Okonkwo, O. N. (2014). Monetary Policy and Nigeria's Quest for Import Substitution Industrialisation. *Journal of Economics and Sustainable Development, 5*, 99-105.
- Chipote, P., & Makhetha-Kosi, P. (2014). Impact of Monetary Policy on Economic Growth: Case Study of South Africa. *Mediterranean Journal of Social Sciences*, 5, 76-84.
- Collins, H. (2010). *Creative Research: The Theory and Practice of Research for the Creative Industries* (p. 38). AVA Publications.
- Cooper, D. R., & Schindler, P. S. (2003). *Business Research Methods* (8th ed.). McGraw Hill.
- Crowther, D., & Lancaster, G. (2008). Research Methods: A Concise Introduction to Research in Management and Business Consultancy. Butterworth-Heinemann.
- Ekpung, G. E., Udude, C. C., & Uwalaka, H. I. (2015). The Impact of Monetary Policy on the Banking Sector in Nigeria. *International Journal of Economics, Commerce and Management*, *3*, 1015-1031.
- Enyioko, N. (2012). Impact of Interest Rate Policy and Performance of Deposit Money

- Banks in Nigeria. Global Journal of Management and Business Research, 12, 23-30.
- Fadare, S. O. (2010). Recent Banking Sector Reforms and Economic Growth in Nigeria. Middle Eastern Finance and Economics, 8, 146-160.
- Hifza, M. (2011). Determinants of Insurance Companies Profitability. An Analysis of Insurance Sector of Pakistan. *Academic Research International*, *1*, 315-321.
- Islam, A. M. (2010). *Monetary Policy and Money Supply Process in Bangladesh: An Analytical Review.* Institute of Governance Study BRAC University, Dakar.
- Keynes, J. M. (1936). The General Theory of Employment, Interest and Money. Macmillan.
- Khan, W., & Sattar, A. (2014). Impact of Interest Rate Changes on the Profitability of Four Major Commercial Banks in Pakistan. *International Journal of Accounting and Financial Reporting*, *4*, 142-154. <a href="https://doi.org/10.5296/ijafr.v4i1.5630">https://doi.org/10.5296/ijafr.v4i1.5630</a>
- Kigandi, E. O. (2014). Effects of Macroeconomic Factors on Commercial Banks' Profitability in Kenya: Case of Equity Bank Limited. *Journal of Economic and Sustainable De*velopment, 5, 46-56.
- Kimani, J. (2013). Assessment of Effects Monetary Policies on Lending Behaviour of Commercial Banks in Kenya.
- Kolapo, T. F., Ayeni, R. K., & Oke, M. O. (2012). Credit Risk and Commercial Banks Performance in Nigeria: A Panel Model Approach. Australian Journal of Business and Management Research, 2, 31-38.
- Lipunga, A. M. (2014). Determinants of Profitability of Listed Commercial Banks in Developing Countries: Evidence from Malawi. Research Journal of Finance and Accounting, 5, 41-49.
- Macharia, E. (2013). The Effects of Global Financial Crisis on the Financial Performance of Commercial Banks Offering Mortgage Finance in Kenya. *International Journal of Social Sciences and Entrepreneurship, 1*, 688-701.
- MacKathy, J. (2016). Effect of Cash Reserve Ratio on the Financial Performance of Commercial Banks s and Their Engagement in Corporate Social Responsibility in Ghana. *The Journal of Finance*, *4*, 1-12.
- Majed, A. K., Said, M. A. A., & Firas, N. D. (2012). The Relationship between ROA, ROE and ROI Ratios with Jordanian Insurance Public Companies Market Share Prices. *International Journal of Humanities and Social Science*, 2, 115-120.
- Maux, L. L. (2015). Banks as Accelerators of the Circulation of Money. *Eastern Economic Journal*, 41, 537-546.
- Meshak, K. M., & Nyamute, W. (2016). Effect of Monetary Policy on the Financial Performance of Commercial Banks Listed on the Nairobi Security Exchange. *International Journal of Finance and Accounting*, 1, 74-87. <a href="https://doi.org/10.47672/ajf.181">https://doi.org/10.47672/ajf.181</a>
- Mugenda, O. M., & Mugenda, A. G. (2003). Research Methods, Quantitative and Qualitative Approaches. ACT.
- Mulwa, K. G. (2015). The Effect of Monetary Policy on the Financial Performance of Commercial Banks in Kenya.
- Muric, M. (2010). The Transmission Mechanism of Monetary Policy and Channels of Monetary.
- Muya, T. W., & Gathogo, G. (2016). Effect of Working Capital Management on the Profitability of Manufacturing Firms in Nakuru Town, Kenya. *International Journal of Economics, Commerce and Management, 4*, 1082-1105.
- Ngure, I. M. (2014). The Effect of Interest Rates on Financial Performance of Commercial

- Banks in Kenya. An M.sc. Project, The Department of Business Admin, University of Nairobi.
- Njoroge, J. M. (2016). Determinants of Profitability of Commercial Banks in Kenya.
- Nkegbe, P. K., & Yazidu, U. (2015). Banks Performance in Ghana: Trends and Determinants. *Global Journal of Development Studies*, *12*, 33-52. https://doi.org/10.4314/gjds.v12i1-2.3
- Ntow, G. M., & Laryea, A. E. (2012). A Financial Performance Comparison of Foreign vs Local Banks in Ghana. *International Journal of Business and Social Science*, *3*, 82-87.
- Nwoko, N. M., Ihemeje, J. C., & Enumadu, E. (2016). The Impact of Monetary Policy on Economic Growth of Nigeria. *African Research Review, 10,* 192-206. https://doi.org/10.4314/afrrev.v10i3.13
- Obidike, P. C., Ejeh, G. C., & Ugwuegbe, S. U. (2015). The Impact of Interest Rate Spread on the Performance of Nigerian Banking Industry. *Journal of Economics and Sustainable Development*, *6*, 131-139.
- Okonkwo, O. N., Godslove, K. E., & Mmaduabuchi, E. F. (2015). Monetary Policy and the Manufacturing Sector in Nigeria. SSRG International Journal of Economics and Management Studies, 2, 17-25.
- Okoye, V., & Eze, R. O. (2013). Effect of Bank Lending Rate on the Performance of Nigerian Deposit Banks. *International Journal of Business and Management Review, 1,* 34-43.
- Okpara, G. C. (2010). Monetary Policy and Stock Market Returns: Evidence from Nigeria. *Journal of Economics, 1*, 13-21. <a href="https://doi.org/10.1080/09765239.2010.11884920">https://doi.org/10.1080/09765239.2010.11884920</a>
- Olagunju, A., Adeyanju, O. D., & Olabode, O. S. (2011). Liquidity Management and Commercial Banks' Profitability in Nigeria. *International Research Journal of Finance and Accounting*, *2*, 24-38.
- Ongure, V. O., & Kusa, G. B. (2013). Determinants of Financial Performance of Commercial Banks in Kenya. *International Journal of Economics and Financial Issues, 3*, 237-252.
- Onoh, J. O., & Timothy, R. N. (2017). Monetary Policy and Credit Delivery in Commercial Banks-Evidence from Nigeria. *International Journal of Social Sciences and Management Research*, 3, 19-47.
- Onouorah, A., Sahib, I. O., Oyathelemi, E., & Friday, O. I. (2011). The Impact of Monetary Policy on Micro-Economy and Private Investment in Nigeria. *Research Journal of Finance and Accounting*, *2*, 65.
- Otalu, J. A., Aladesanmi, K. A., & Olufayo, M. B. (2014). Monetary Policy and Commercial Banks Performance in Nigeria: An Assessment of Credit Creation Role. *The International Journal of Business & Management*, *2*, 45-51.
- Otuori, O. H. (2013). Influence of Exchange Rate Determinants on the Performance of Commercial Banks in Kenya. *European Journal of Management Sciences and Economics*, 1, 86-98.
- Pastory, D., & Mutaju, M. (2013). The Influence of Capital Adequacy on Asset Quality Position of Banks in Tanzania. *International Business and Economics Research Journal*, *5*, 15-19. https://doi.org/10.5539/ijef.v5n2p179
- Ponce, A. T. (2011). What Determines the Profitability of Banks? Evidence from Spain. Pablo de Olavide University.
- Ranciere, R., & Tornell, A. (2016). Financial Liberalization, Debt Mismatch, Allocative Efficiency and Growth. *American Economic Journal*, *8*, 1-44.

#### https://doi.org/10.1257/mac.20130190

- Schneider, M., & Tornell, A. (2004). Balance Sheet Effects, Bailout Guarantees and Financial Crises. *The Review of Economic Studies, 77*, 883-913. https://doi.org/10.1111/j.1467-937X.2004.00308.x
- Sehrish, G., Faiza, I., & Khalid, Z. (2011). Factors Affecting Bank Profitability in Pakistan. *The Romanian Economic Journal*, 14, 61-87.
- Simiyu, R. S., Rono, B. K., & Wachilonga, L. K. (2014). Assessment of the Relationship between Interest Rate Spread and Performance of Commercial Banks Listed in Nairobi Securities Exchange. *International Journal of Financial Economics*, *3*, 98-112.
- Solomon, O. (2013). *The Impact of Monetary Policy on Bank Performance in Nigeria*. https://www.independent.academia.edu
- Udeh, S. N. (2015). Impact of Monetary Policy Instruments on Profitability of Commercial Banks in Nigeria: Zenith Bank Experience. Research Journal of Finance and Accounting, 6, 190-206.
- Wainaina, G. (2013). Effect of Macroeconomic Factors on Commercial Banks Lending to Agricultural Sector in Kenya. MBA Project University of Nairobi.
- Waweru, E. (2013). *The Effect of Monetary Policy on the Financial Performance of Commercial Banks in Kenya*. MBA Project University of Nairobi.
- Whisman, M. A., & McClelland, G. H. (2005). Designing, Testing and Interpretting Interactions and Moderator Effects in Family Research. *Journal of Family Psychology, 19*, 111-120. https://doi.org/10.1037/0893-3200.19.1.111
- World Bank (2018). World Bank Annual Report: Commercial Banks' Return on Asset (ROA) and Return on Equity (ROE) for Nigeria.
- Younus, S., & Akhtar, M. (2009). The Statutory Liquidity Ratio as a Monetary Instrument in Bangladesh. IMF Occasional Paper No. 234, Washington DC: International Monetary Fund.

### **Appendix I: See Table A1**

Table A1. Net interest margin of commercial banks in Nigeria from 2010-2017.

BANK NAME	2017	2016	2015	2014	2013	2012	2011	2010
Access Bank Plc	131537.00	166017.00	175071.00	169813.00	77724.00	100234.00	97617.00	65787.00
Citibank Nigeria	27720.00	24994.00	25764.00	17597.00	15520.00	15406.00	17634.00	17933.00
Diamond Bank Plc	98284.00	96543.00	109400.00	109600.00	104628.00	89322.00	55650.00	49883.00
Eco bank	116560.00	123995.00	114556.00	110940.00	167602.00	134808.00	28173.00	28554.00
Fidelity Bank Plc	71464.00	61928.00	60864.00	48826.00	30812.00	36810.00	30519.00	26540.00
First Bank of Nigeria Plc	331522.00	304442.00	265023.00	243854.00	230115.00	226607.00	172292.00	54017.00
First City Monument Bank Plc	70525.00	69534.00	63937.00	72634.00	56134.00	43339.00	32063.00	21934.00
Guaranty Trust Bank Plc	246663.00	195400.00	159947.00	142392.00	136939.00	130686.00	101678.00	82369.00
Skye Bank Plc			50915.00	63275.00	61698.00	44502.00	44822.00	37665.00
Stanbic IBTC Bank Plc	78009.00	53340.00	43860.00	46658.00	34802.00	31603.00	29764.00	26370.00
Standard Chartered								
Sterling Bank Plc	50180.00	55990.00	51243.00	47655.00	42433.00	39886.00	38554.00	34287.00
Union Bank of Nigeria Plc	66669.00	65039.00	55683.00	52056.00	57421.00	62795.00	59664.00	82352.00
United Banks of Nigeria Plc	325657.00	263970.00	233969.00	196680.00	185700.00	150003.00	121422.00	117745.00
Unity Bank Plc	38516.00	49476.00	43092.00	45451.00	30143.00	25263.00	22551.00	16663.00
Wema Bank Plc	19767.00	18650.00	17720.00	18552.00	12524.00	11768.00	12470.00	5842.00
Zenith Bank Plc	257991.00	240179.00	224582.00	206503.00	189263.00	156757.00	125613.00	91546.00

### Appendix II: See Table A2

Table A2. Monetary policy instruments in Nigeria from 2010-2017.

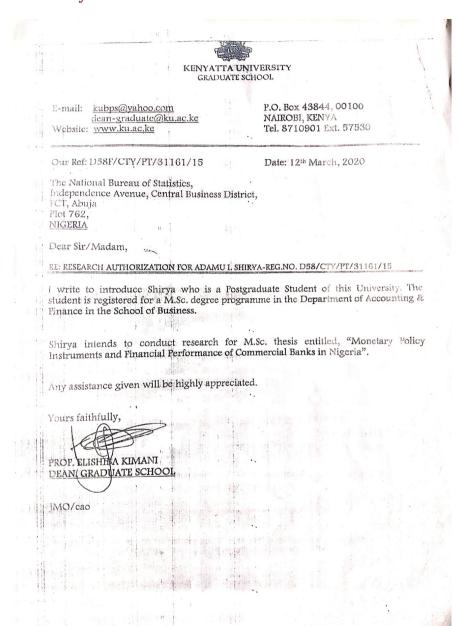
Year	OMO (N billions)		MP-Reform (%)
2010	270.75		21.86
2011	2362.44		23.21
2012	1717.40	5448.90	24.61
2013	7099.50		24.9
2014	8422.70		25.91
2015	5159.89		26.84
2016	7859.62		28.55
2017	11346.48		30.99

#### Appendix III: List of Commercial Banks in Nigeria

- 1) Access Bank Plc.
- 2) Citibank Bank Plc.
- 3) Diamond Bank Plc.
- 4) Ecobank Nigeria Plc.
- 5) First Bank Nigeria Plc.
- 6) First City Monument Bank Nigeria Plc.
- 7) Fidelity Bank Plc
- 8) Guaranty Trust Bank Plc.
- 9) Heritage Bank Limited.
- 10) Keystone Bank Plc.
- 11) Providus Bank Plc.
- 12) Skye Bank Plc.
- 13) Stambic IBTC Bank Plc.
- 14) Standard Chartered Bank Limited.
- 15) Sterling Bank Plc.
- 16) Suntrust Bank Nigeria Limited.
- 17) Union Bank of Nigeria Plc.
- 18) United Bank of Africa.
- 19) Unity Bank Plc.
- 20) Wema Bank Plc.
- 21) Zenith Bank Plc.

Source: CBN (2019).

# Appendix IV: Research Authorization Letter from Kenyatta University



# Appendix V: Research Authorization Letter from the National Bureau of Statistics Abuja Nigeria

