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MONETARY POLICY VOLATILITY AND PERFORMANCE OF BANKING INDUSTRY IN NIGERIA: SIGNS FROM THE COVID-19 PANDEMIC

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ABSTRACT

Health volatility due to the Covid-19 pandemic presented a new-fangled trial to the banking industry with a spillover effect of monetary policy volatility, which extremely affected the performance of the banking industry in Nigeria. It has become a matter of concern to assess monetary policy volatility and performance of the banking industry in Nigeria. The paper used annual time series data that spanned the period of 2008 to 2020. The paper employed Autoregressive Distributed Lag (ARDL) and Exponential Generalized Autoregressive Conditional Heteroskedasticity (EGARCH) as its techniques of estimation. Based on the ARDL result, it was exposed that monetary policy volatility had a negative impact on the activities of the banking industry in

Nigeria within the study time. In addition, according to the EGARCH test result, the paper generalized that monetary policy volatility had constantly been accompanied by a new volatility. Therefore, as a result of the universal financial predicament experienced in 2008, this caused a higher monetary policy volatility in 2020 in the face of Covid-19. The paper observed that a rise in monetary policy volatility led to a decline in the performance of the banking industry in Nigeria within the study period, and the current monetary policy volatility led to its uncertain volatility in the period ahead. The paper recommended based on the findings that banks through the Central Bank of Nigeria should employ tactical monetary policy strategies to reduce monetary policy volatility during the Covid-19 pandemic toward enhancing the performance of Nigeria's banking industry.

Keywords: Financial volatility, profitability, banks, Covid-19 pandemic.

INTRODUCTION

The occurrence of the coronavirus disease (Covid-19) pandemic metamorphosed into destruction athwart worldwide economic and monetary dislocation, as it appears as the leading ordeal for monetary policy volatility in the banking industry and the world economies since the 2008–2009 global financial crisis (Stiller & Zink, 2020). Currently, the banking sector in the Nigerian economy faces a protracted era of insecurity in financial sustainability as the Covid-19 pandemic took place across Africa, changing economic situations and living conditions. The extraordinary degree of the Covid-19 pandemic compels banks and the teeming population in Nigeria to reconsider and reimagine the way their everyday activities are carried out. Therefore, Nigerian banks face an inevitable crisis because the occurrence of the disease for a long drawn-out period has led to an immediate monetary policy volatility due to the lockdown policy and social distancing control to manage the increase of the pandemic (World Bank, 2020).

Particularly, health unpredictability due to Covid-19 brings about spillover effects on the financial systems in Nigeria and a consequential monetary policy volatility in the banking industry. As a result of the eruption of Covid-19, financial institutions such as banks in Nigeria fear a rising threat of crisis without government intervention

(International Monetary Fund, 2020). Several extant literature such as Abere and Adesanya (2020) and Barua and Barua (2020) stated that the Covid-19 pandemic devastated banks as most banks in the country faced a wider set of risks, for instance, exchange rate, interest rate, liquidity, credit, market, and reputational risks amongst others.

Banks predictably deal with a wide series of risks. Nevertheless, the pandemic caused an exceptional decrease in their profitability ratio due to liquidity crisis, credit constrict, rises in non-performing assets and failure to pay tariff, dropping proceeds from loans and investments, reduced trade interest rates, and worsening infectious bank runs (Cecchetti & Schoenholtz, 2020). Additionally, the Covid-19 pandemic degenerates monetary policy volatility in emerging economies where banks attend to millions of persons and firms with fairly fewer financial and economic powers below a weaker policy setting and belligerent market struggle (Wilson, 2020). Therefore, the Covid-19 pandemic, mostly in emerging economies like Nigeria, has led to a mass default of loans, reduction in savings by clients to sustain their day-by-day living, diminished accessibility of loanable funds, and dejected new investment demands (Lagoarde-Segot & Leoni, 2013).

Most customers increase their use of digital and online banking activities after the Covid-19 shock (Abere & Adesanya, 2020). Nevertheless, with the advancement of online transactions, the banking industry was fast to respond to volatility in monetary policy and dwindling levels of profitability ratio. The Central Bank of Nigeria (CBN) reduced the interest rate to curb the spillover effect of the Covid-19 shock (World Bank, 2020). The banking industry in the Nigerian economy had a series of experiences of volatility before the outbreak of Covid-19. "The economy had for long experienced financial crisis in 2008 accompanied with volatility in oil prices. The resultant effect of the financial crisis and volatility in oil prices led to declining GDP growth rate, high inflation rate and unemployment rates, and fluctuation in exchange rates" (Abere & Adesanya, 2020).

In the face of the Covid-19 outbreak, monetary policy authority through CBN embarked on reduction in electronic bank charges to protect the rights of consumers and improve their banking habits. Despite this policy, the banking sector performance in the Nigerian economy had not been encouraging due to the decline in cash reserve requirement (CRR) by 27.5% (World Bank, 2020). This is worrisome

as the CRR is expected to enable banks enhance local currency deposits with CBN (World Trade Organization - WTO, 2020). For the fact that CRR determines the financial strength of banks, its deterioration by Covid-19 ratcheted monetary issues on banks due to dwindling banks' profitability ratios like return on equity and return on assets (WTO, 2020).

In the literature, a considerable number of studies had been carried in this area of research interest. However, based on the extant studies reviewed, many were focused on financial crisis and efficiency in the profit banks with little to no attention on monetary policy volatility and performance of the banking industry with evidence from the Covid-19 pandemic. Generally, previous studies such as Barua and Barua (2020) cut across the international border. Therefore, this study is motivated to fill the gap by examining monetary policy volatility and performance of the banking industry in Nigeria.

LITERATURE REVIEW

There is a dearth of existing studies on monetary policy volatility and performance of the banking industry in Nigeria in relation to the Covid-19 pandemic. Nevertheless, the paper of Abere and Adesanya (2020) examined the financial crisis and efficiency of profit in First Bank of Nigeria. Their study used time series data for the period of 1981–2017. Ordinary Least Squares (OLS) was employed to analyze the data. The result showed that financial crisis had no significant impact on profit efficiency of the bank. Similarly, Barua and Barua (2020) assessed Covid-19 implications for banks in Bangladesh with evidence from an emerging economy. The paper utilized a state-designed strain testing model. It was revealed that the pandemic led to a fall in risk-weighted asset values, capital adequacy ratios, and interest income at the individual bank and sectoral levels.

In the same way, Andrieș and Urus (2016) examined the financial crisis and profit efficiency of European banks. The paper used panel regression technique of analysis. It considered 783 commercial banks in Europe for the period of 2004–2010. The result revealed that financial crisis had a significant negative impact on profit efficiency of the selected commercial banks. The paper concluded that a rise in financial crisis led to a decrease in profit efficiency of European banks.

Likewise, Stijn and Weetle (2014) analyzed the financial crisis and global financial integration in cross-border banking for the period of 1995 to 2003 across 137 commercial countries. The paper employed the Probit model and Ordinary Least Squares (OLS) method. It was revealed that financial crisis had a significant negative effect on banking structures and network in cross-border banking. The paper deduced that a rise in financial crisis brought about the decrease in banking structure and networks in cross-border banking.

Almanaseer (2014) investigated the financial crisis and profitability of Islamic banks in Bahrain, Kuwait. The paper used pooled data that spanned the period of 2005–2012. It employed OLS as its estimation technique. It was found that financial crisis had no significant impact on Islamic banks' profitability. The study concluded that a rise in financial crisis caused a rise in Islamic banks' profitability. Similarly, in assessing monetary policy shock and volatility in exchange rate volatility in Nigeria, Babatunde and Olufemi (2014) employed Classical Least Squares and Error Correction Model (ECM). The paper showed that real exchange rate and nominal exchange rate were not stable due to monetary policy shock in the Nigerian economy.

In the same way, Andrew and Syvanus (2013) examined the financial crisis and performance of the banking sector in South Africa. The study used time series annual data for the period of 2000–2010. It employed the Tobit model. It was revealed that financial crisis had a negative impact on the performance of the banking sector in South Africa. It was concluded that a rise in financial crisis led to a decrease in the South African banking sector's performance.

Kristína (2015) investigated the global financial crisis and banking sector in Visegrad countries. The paper utilized secondary data. The data were sourced from 34 of the largest commercial banks in Visegrad countries over the period of 2007–2012. The paper used panel data multiple regression as its estimation method. It was revealed that there were large differences in profitability among banks due to global financial crises.

There is no research without limitations, and the essence of any research is to add to the existing body of knowledge. Looking at the related available studies in this area of research interest such as Kristína (2015) and Andrew and Syvanus (2013), much attention

has been given to financial crisis, in which monetary volatility is not an exception, and its link to the performance of the banking sector without little attention given to the impact of the Covid-19 pandemic in recent times. The bid to fill this gap motivated this paper to examine monetary policy volatility and performance of the banking industry in Nigeria with evidence from the Covid-19 pandemic.

METHODOLOGY

Theoretical Framework

This paper is anchored on the financial intermediation theory propounded by Modigliani and Miller (1958). The theory affirmed that rising risks, by ever-increasing control and lowering the equity-to-asset ratio, results in an advanced expected return as financial institutions take more risks when expected returns rise; if not, increasing risks have no monetary benefits. This means that if monetary policy volatility and manage level rise, it would lead to a higher anticipated return in the form of return to equity, return to asset, and net interest margin for financial institutions. Otherwise, if monetary policy volatility is not appropriately restricted, it makes no financial sense to banks as it reduces profitability ratio.

The modeling framework for the financing theory is expressed as shown in Equation (1):

$$P = \pi_0 + \lambda_1 R + \lambda_2 C \quad (1)$$

where P represents the higher expected return (profitability), R is the growing risk (monetary policy volatility), and C signifies the growing risk control (monetary policy volatility control). π represents the autonomous component of the modeling framework, while λ refers to the derivate parameter of monetary policy volatility control. This means that based on the modeling framework in Equation (1), monetary policy volatility and the amount of monetary policy volatility control determine the performance of the banking industry.

Model

Autoregressive Distributed Lag (ARDL) model was used to explain the short run and long run impacts of monetary policy volatility on the

performance of the banking industry in Nigeria while the Exponential Generalized Autoregressive Conditional Heteroskedasticity (EGARCH) model was used to account for the conditional volatility. In structuring the ARDL model for the paper, the functional form of the model is presented in Equation (2):

$$Y=F\ (X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9) \tag{2}$$

where X_1 represents monetary policy volatility, X_2 represents cash reverse ratio, X_3 represents interest rate, X_4 represents monetary policy rate, X_5 represents central bank credit, X_6 represents domestic credit, X_7 represents demand deposit, X_8 represents loan to deposit ratio, and X_9 represents liquidity ratio as the independent variables. Meanwhile, total profitability ratio (Y) of banks measured by return on asset was used as the proxy for the performance of the banking industry in Nigeria.

The ARDL model was employed to examine the impact of monetary policy volatility on the profitability of Nigerian banks. The ARDL model based on the functional form presented above in Equation (2) is represented as shown in Equation (3):

$$\begin{aligned} LY = \alpha_0 &+ \sum_{i=1}^{p} \delta_i \Delta LY_{t-1} + \sum_{k=0}^{p} \beta_k \Delta X1_{t-k} + \sum_{k=0}^{p} \beta_k \Delta LX2_{t-k} + \sum_{k=0}^{p} \in_k \Delta LX3_{t-k} \\ &+ \sum_{l=0}^{p} \gamma_l \Delta LX4_{t-l} + \sum_{l=0}^{p} \gamma_l \Delta LX5_{t-l} + \sum_{l=0}^{p} \gamma_l \Delta LX6_{t-l} + \sum_{l=0}^{p} \gamma_l \Delta LX7_{t-l} \\ &+ \sum_{l=0}^{p} \gamma_l \Delta X8_{t-l} + \sum_{l=0}^{p} \gamma_l \Delta LX9_{t-l} + \lambda_1 LY_{t-1} + \lambda_3 LX1_{t-1} + \lambda_4 LX2_{t-1} \\ &+ \lambda_5 LIX3_{t-1} + \lambda_6 LX4_{t-1} + \lambda_7 LX5_{t-1} + \lambda_8 LX6_{t-1} + \lambda_9 LX7_{t-1} + \lambda_{10} LX8_{t-1} \\ &+ \lambda_{11} LX9_{t-1} + \mu_t \end{aligned} \tag{3}$$

Exponential Generalized Autoregressive Conditional Heteroskedasticity (EGARCH) was utilized in this paper to account for the current volatility in monetary policy and its conditional volatility in periods ahead. The EGARCH model is depicted as shown in Equation (4):

$$\log(y_t) = \gamma + \sum_{i=1}^{q} z_t \left| \frac{u_{t-i}}{\sqrt{y_{t-i}}} \right| + \sum_{i=1}^{p} \vartheta_i \log(y_{t-i}) \tag{4}$$

In modifying Equation [4], all other exogenous variables except ϑ_t are considered as constant. This is represented as depicted in Equation (5):

$$\log(y_t) = \gamma + \sum_{i=1}^{p} \vartheta_t \log(y_{t-i}) + \sum_{i=1}^{q} z_t \left| \frac{u_{t-i}}{\sqrt{y_{t-i}}} \right| \quad (5)$$

Equation [5] is therefore transformed as shown in Equation [6]:

$$\log X1_t = \gamma + \alpha \log X1_{t-1} + \mu_{t-1}^2 \quad (6)$$

where a represents the coefficient of X_1 while X_1 signifies monetary policy volatility.

Data

The paper utilized time series annual data for the period of 2008–2020. The data were collected from the CBN Statistical Bulletin 2020. X_1 represents monetary policy volatility, X_2 signifies cash reverse ratio, X_3 represents interest rate, X_4 means monetary policy rate, X_5 represents central bank credit, X_6 stands for domestic credit, X_7 is demand deposit, X_8 implies loan to deposit ratio, and X_9 refers to liquidity ratio as the independent variables while Y stands for total profitability ratio of banks being the proxy for performance of the banking industry in Nigeria.

Method of Analysis

The paper used the ARDL and EGARCH models. The steps to carry out ARDL include:

i. None of the variables must be I(2).
ii. Creation of unrestricted ECM.
iii. Form the lag structure.
iv. The errors of the model must be successively independent.
v. The model must be dynamically stable.
vi. Conduct a Bound test.
vii. Construct a long run estimate.
viii. Construct a short run estimate.

The steps for the EGARCH model are as follows:

i. Test for the ARCH effect with no serial correlation in the variables.
ii. Estimate GARCH.
iii. Estimate EGARCH.

RESULTS AND DISCUSSION OF FINDINGS

Table 1

Descriptive Statistics

Table 1 indicates 13 observations for all the variables. The Jarque-Bera Statistic had its probability values less than 0.05. This showed the variables of interest in the model were not normally distributed, and thus required the need to check for unit roots in the variables.

Variable	Mean	Std	Max	Min	Skewness	Jarque-Bera	Probability
Y	1.56	0.03	358.81	204.45	1.26	5.95	0.14
X_1	2.56	0.98	1.00	0.00	0.00	0.00	0.00
X_2	4.67	0.44	23.50	12.45	0.50	7.56	0.02
X_3	8.45	2.98	4.93	1.45	0.11	4.60	0.01
X_4	3.45	1.78	14.00	13.50	1.10	9.66	0.03
X_5	2.45	0.29	992.27	456.34	0.17	5.82	0.00
X_6	3.67	1.11	18.06	5.67	0.02	4.76	0.01
X_7	8.50	2.40	168.93	123.45	0.14	6.04	0.02
X_8	3.67	1.34	87.21	34.56	0.81	4.57	0.03
X_9	2.78	1.23	104.9	19.34	1.27	5.56	0.04

Table 2 shows the presence of unit root in the variables. This is because the variables of interest maintained stationarity at level [I(0)] and first difference [I(1)].

Table 3 displays the cointegrated equation coefficient of (-0.83). This implied that 83% of the total deviation of the variables in the short run would be restored in the long run within one year. The long run form of the ARDL model showed that a unit rise in monetary policy volatility (X1) led to a 0.010000 unit decrease in the total profitability ratio (Y) of deposit money banks in Nigeria measured by return on asset. This indicated that the performance of the banking industry responded negatively to monetary policy volatility in Nigeria.

The ARDL result for long run relationship showed that a naira increase in cash reserve ratio (X_2) led to a 21.00584 rise in the total profitability ratio (Y) of deposit money banks in Nigeria. This implied that cash reserve ratio had a positive impact on the performance of

the banking industry in Nigeria within the study period. The long run form of the ARDL model showed that a rise in interest rate (X_3) led to a 35.56 decrease in the total profitability ratio (Y) of deposit money banks in Nigeria. Therefore, interest rate had a negative impact on the performance of the banking industry in Nigeria within the study period.

Table 2

Unit Root Test Results

Variables	ADF Statistic at level	ADF Statistic at first difference	Critical values of 5% at level	Critical values of 5% at first difference	p-values at level	p-values at first difference	Order of integration
Y	-2.79	-4.74	-3.14	-3.18	0.09	0.00	I(1)
X_1	0.00	0.00	0.00	0.00	0.00	0.00	I(0), I(1)
X_2	-1.53	-3.62	-3.18	-2.01	0.48	0.00	I(1)
X_3	-0.04	-5.93	-3.14	-3.58	0.94	0.01	I(1)
X_4	-1.33	-4.35	-3.14	-2.96	0.58	0.01	I(1)
X_5	-0.95	-4.07	-3.18	-3.18	0.73	0.01	I(1)
X_6	-0.81	-4.65	-3.14	-3.18	0.78	0.00	I(1)
X_7	-6.30	-10.22	-3.18	-3.21	0.00	0.00	1(0),1(1)
X_8	-0.14	-3.92	-3.18	-3.26	0.92	0.02	1(1)
X_9	-0.03	-3.86	-3.14	-3.18	0.94	0.05	1(1)

The long run form of the ARDL model showed that an increase in monetary policy rate (X_4) led to a 12.56 rise in total profitability ratio (Y) of deposit money banks in Nigeria. Therefore, a rise in monetary policy rate had a positive impact on the performance of the banking industry in Nigeria within the study period. The long run form of the ARDL model showed that a naira rise in central bank credit (X_5) led to a 0.75 rise in the total profitability ratio (Y) of deposit money banks in Nigeria. This indicated that credit from the central bank had a positive impact on the performance of the banking industry in Nigeria within the research period.

Based on the long run association result using the ARDL model, a naira rise in domestic credit (X_6) led to a 2.11 naira rise in the total profitability ratio (Y) of deposit money banks in Nigeria. This implied that domestic credit had a positive impact on the performance of the banking industry in Nigeria within the study period. The long run form of the ARDL model showed that a naira increase in demand

deposit (X_7) led to a 3.44 rise in the total profitability ratio (Y) of deposit money banks in Nigeria. Therefore, demand deposit had a positive impact on the performance of the banking industry in Nigeria within the research period.

The ARDL model result also revealed that a naira rise in loan to deposit ratio (X_8) led to a 16.78 rise in the total profitability ratio (Y) of deposit money banks in Nigeria. This meant that loan to deposit ratio had a positive impact on the performance of the banking industry in Nigeria within the research period. The long run form of the ARDL model showed that a rise in liquidity ratio (X_9) led to a 2.33 naira decrease in the total profitability ratio (Y) of deposit money banks in Nigeria. Therefore, liquidity ratio had a negative impact on the performance of the banking industry in Nigeria within the study period.

Table 3

Estimated ARDL Result

Dependent Variable: D(Y)				
Short Run Form of ARDL				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CointEq(-1)*	-0.83	0.01	-72.14	0.00
Long Run Form of ARDL				
Y	-0.01	0.100	-0.10	0.05
X_1	21.01	4.42	4.75	0.04
X_2	-35.57	11.05	-3.22	0.08
X_3	12.56	3.60	3.49	0.07
X_4	0.75	0.10	7.78	0.02
X_5	2.11	1.01	2.08	0.02
X_6	3.44	0.65	5.29	0.03
X_7	16.78	2.68	6.27	0.02
X_8	-2.33	0.41	-5.73	0.03
C	-551.78	223.02	-2.47	0.13
R-squared	0.99			
Adjusted R-squared	0.96			
Durbin-Watson stat	1.59			

The coefficient of determination R^2 was 0.99. This implied that 99% of the total variation of total profitability ratio (Y) were explained by all the independent variables while the remaining 1% was unexplained as

captured by the error term. Adjusted R-squared of 0.957888 indicated that 96% of the systematic variation in total profitability ratio (Y) were explained by monetary policy volatility (X_1), cash reverse ratio (X_2), interest rate (X_3), monetary policy rate (X_4), central bank credit (X_5), domestic credit (X_6), demand deposit (X_7), loan to deposit ratio (X_8), and liquidity ratio (X_9).

Table 4

ARDL Bound Co-integration Test

F-Bounds Test		Null Hypothesis: No level relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	94.63	10%	1.85	2.85
K	8	5%	2.11	3.15
		2.5%	2.33	3.42
		1%	2.62	3.77

Based on Table 4, F-statistic of 94.63 was greater than all the lower bound and upper bound critical values at 1%, 2.5%, 5%, and 10% levels of significance. Therefore, the variables employed in this paper had a long run relationship among them.

Table 5

Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	2.52	Prob. F(2,2)	0.28
Obs*R-squared	9.31	Prob. Chi-square(2)	0.08

Furthermore, from Table 5, since the probability of the Chi-square value of 0.080 was greater than 0.05, the study failed to reject the null hypothesis and concluded that there was no serial correlation in the short run and long run models.

According to Table 6, since the probability value of the heteroskedasticity test, which was 0.20, was greater than 0.05, the study failed to reject the null hypothesis and concluded that there was no heteroskedasticity in the short run and long run models.

Table 6

Heteroskedasticity Test Breusch- pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	2.80	Prob. F(8,4)	0.17
Obs*R-squared	11.03	Prob. Chi-square(8)	0.20
Scaled explained SS	0.77	Prob. Chi-square(8)	0.80

Table 7

Ramsey RESET Test

Ramsey RESET Test			
	Value	df	Probability
t-statistic	0.400898	3	0.7153
F-statistic	0.160720	(1, 3)	0.7153
Likelihood ratio	0.678437	1	0.4101

From Table 7, since the probability value of the Ramsey RESET test was greater than 0.05, the study failed to reject the null hypothesis and concluded that there was no specification error in the short run and long run models.

Table 8

Multicollinearity Test: Variance Inflation Factors (VIF)

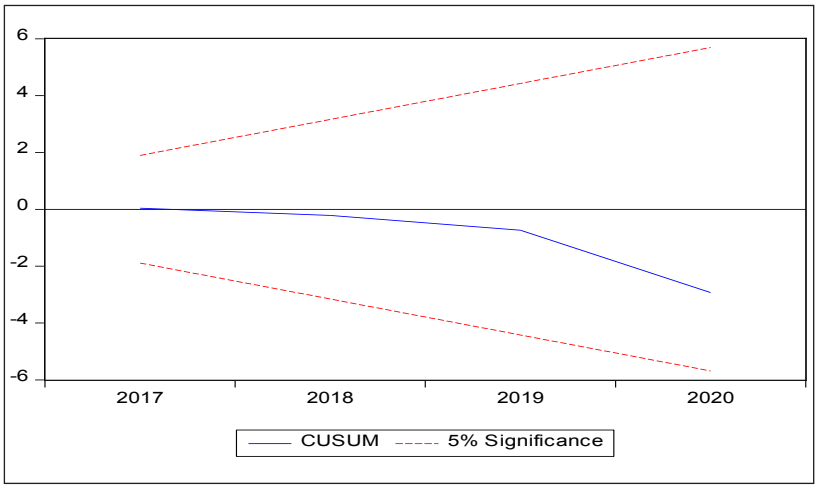
Variance Inflation Factors			
	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
C	71655.73	3160.07	NA
X_1	17.96	227.88	57.30
X_2	147.44	70.72	6.74
X_3	34.35	218.21	11.11
X_4	0.00	100.78	24.39
X_5	0.00	1761.52	121.96
X_6	0.66	817.30	1.86
X_7	4.61	1289.50	8.64
X_8	0.18	28.22	4.37

Source: Researcher's computation using EViews version 10 (2021)

Based on Table 8, since the uncentered VIF and centered VIF were greater than 10, the study accepted the null hypothesis and rejected the alternative hypothesis and concluded that there was multicollinearity in the short run and long run forms of the ARDL model within the research period. Nevertheless, multicollinearity in the context of this paper was a natural problem given the 'Do Nothing Approach' of Blanchard (1967) to solve this econometric problem.

Figure 1

Stability Test: CUSUM Test



The result of the CUSUM test in Figure 1, which is the necessary condition for stability of a model, showed that the blue lines were inside the dotted red lines, and it indicated that the model was dynamically stable at 5% level of significance.

Table 9 indicates that there was no serial correlation in the variables. This implied the assurance to estimate the GARCH model.

Table 9

ARCH Effect Test Results

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	2.52	Prob. F(2,2)	0.28
Obs*R-squared	9.31	Prob. Chi-square(2)	0.08

Table 10

EGARCH Test Result

Dependent Variable: X_1				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
X_1	0.043	1.43	0.03	0.98
X_2	-0.27	0.86	-0.31	0.76
X_3	-0.75	0.09	-8.51	0.00
X_4	-0.07	0.39	-0.17	0.86
	Variance Equation			
C	190.49	218.22	0.87	0.38
RESID(-1)^2	0.06	0.11	0.55	0.58
GARCH(-1)	0.55	0.65	0.84	0.40
X_1	12.96	7.08	1.83	0.07

The EGARCH test result in Table 10 described the monetary policy volatility (X_1) situation in Nigeria. In Nigeria, X_1 has always been followed by other volatilities. Unusually, as a result of the global financial crisis experienced in 2008, this caused a higher monetary policy volatility in 2019. Given the estimated value of GARCH (-1) as 0.55, which was positive, this result agreed with the paper that expected a positive sign, whereby the current X_1 led to its conditional volatility in the period ahead.

CONCLUSION AND RECOMMENDATIONS

The paper examined monetary policy volatility and performance of the banking industry in Nigeria. The paper utilized ARDL and EGARCH as its techniques of estimation. Based on the findings, it was concluded that a rise in monetary policy volatility led to a decline in the performance of the banking industry in Nigeria within the research period. The paper also concluded that an increase in cash reserve ratio led to a rise in the total profitability ratio of deposit money banks in Nigeria. A rise in interest rate led to a decrease in the total profitability ratio of deposit money banks in Nigeria. A rise in monetary policy rate led to a rise in the total profitability ratio of deposit money banks in Nigeria. This implied that a rise in monetary policy rate had a positive impact on the performance of the banking

industry in Nigeria within the study period. A rise in credit from the central bank led to an increase in the total profitability ratio of deposit money banks in Nigeria. Therefore, credit from the central bank had a positive impact on the performance of the banking industry in Nigeria within the research period.

Furthermore, a rise in domestic credit led to a rise in the total profitability ratio of deposit money banks in Nigeria. Therefore, domestic credit had a positive impact on the performance of the banking industry in Nigeria within the study period. A rise in demand deposit led to a rise in the total profitability ratio of deposit money banks in Nigeria. This indicated that demand deposit had a positive impact on the performance of the banking industry in Nigeria within the research period. An increase in loan to deposit ratio led to a rise in the total profitability ratio of deposit money banks in Nigeria. Therefore, loan to deposit ratio had a positive impact on the performance of the banking industry in Nigeria within the study period. A rise in liquidity ratio led to a decrease in the total profitability ratio of deposit money banks in Nigeria. Consequently, liquidity ratio had a negative impact on the performance of the banking industry in Nigeria within the study period.

Based the EGARCH test result, the paper concluded that monetary policy volatility had constantly been followed by other volatilities. As a result of the global financial crisis in 2008, this caused a higher monetary policy volatility in 2019 in the face of the Covid-19 pandemic. The paper also deduced that the current monetary policy volatility led to its conditional volatility in the period ahead. Based on the findings, it is recommended that the banking industry through CBN should employ tactical monetary policy strategies to reduce monetary policy volatility during the Covid-19 pandemic toward enhancing the performance of the banking industry in Nigeria. Financial institutions should make feasible and plausible interest rate policy, monetary policy rate, and liquidity ratio toward achieving the performance of the banking industry in Nigeria. Finally, financial institutions such as the banking industry through CBN should utilize an effective and efficient policy framework to enhance cash reverse ratio, credit from the central bank, domestic credit, demand deposit, and loan to deposit ratio in order to boost the performance of Nigeria's banking industry.

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