15 EFFECT OF MONETARY POLICY ON DEPOSIT MONEY BANKS PROFITABILITY IN NIGERIA

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ABSTRACT

This study investigated the effects of monetary policy on the profitability of deposit money banks in Nigeria for a period of ten (10) years spanning 2008 to 2017. A systematic collation of time series and cross-sectional data pooled into a panel data set was used to empirically determine the effects of monetary policy on the profitability of deposit money banks in Nigeria. The study adopted Johansen's multivariate co-integration procedure and the co-integration test was based on error correction model (ECM). The test for stationary or unit roots employed was the Augmented Dickey-Fuller (ADF) test performed on the variables. Hypotheses were formulated and tested using the panel regression. The study discovered that the monetary policy proxied by Monetary Policy Rate (MPR) and Cash Reserve Ratio (CRR) had significant effects on profitability of deposit money banks in Nigeria. It was recommended that Central Bank of Nigeria should adjust Monetary Policy Rate and Cash Reserve Ratio in such a way that it will allow for increased liquidity to enable the deposit money banks discharge their lending and investment functions effectively. Monetary policy should be complimentary to fiscal policy and should be used together to have complimentary results.

Keywords:***Monetary Policy, Deposit Money Banks, Profitability, Nigeria***

1.0   INTRODUCTION
1.1   Background of the Study
The Banking sector forms the basis for financial flow within an economy. They intermediate between the surplus-saving unit and the deficit-spending unit. This interaction lubricates the economy and enhances the performance of the economy towards growth and development. The level of investments and capital accumulation in an economy are largely determined by the level of banking sector development (Igbinosa&Ogbeide, 2015). It is important to note that there is a need for the government to influence employment level, the rate of inflation or economic growth and the balance of payments; in order to achieve this, it will implement some kind of monetary policy, such policies are structured or designed to influence both the supply of money and its price (Jhingan, 2006).

The responsibility of formulating monetary policy in Nigeria rests with the Central Bank of Nigeria. These policies are anchored on the fact that it can influence the Credit, Profitability, Solvency, Stability and Risk behavior of Deposit money banks, effectively and efficiently. This will in turn impact positively on households, businesses and the economy at large (Uwubanmwen & Ikponmwosa, 2015). Banks in playing their role of financial intermediation is seen as effective institution in the use of monetary policy, which relies on the control of money stock in order to influence financial and economic activities. The extent to which monetary policy influences financial and economic activities has been widely argued over the years. This is particularly relevant in the Nigeria setting where the Banking industry is struggling to have stable banks, and the money and capital market are not so developed. The Nigerian government has over the years adopted various instruments of monetary policy to regulate and control the cost, volume, availability and direction of money credit and also the performance of Deposit money banks.

Nwannebuike (2012) opined that Profitability is the driven factor for deposit money banks activities. Profitability is the state or condition of yielding a financial profit or gain (Business dictionary). Banks engage in a variety of products and services for the achievement of profit or to be profitable. The commonest and most important of these activities is lending to borrowers, who are basically raisers of funds. These fund raisers are expected to payback the Principal and an amount known as Interest on the funds given to them, this interest in all bank services forms the bedrock of profitability in the banking sector. Proxies for measuring profitability include Return on Equity (ROE), Profit after Tax, Sales Volume.

The link between monetary policy and bank profitability has gained prominence following the great financial crises of 2008. Also there is a widespread agreement that central banks aggressive response at the early stages of the crises was critical for helping prevent a financial and economic meltdown. One of such side effects is the negative effect of a low interest rate structure on bank profitability and hence on the soundness of the banking

sector. To this effect this work intends to investigate the effects of CBN Monetary policy on the Profitability of Deposit money banks taking Monetary Policy Rate (MPR), and Cash Reserve Ratio as Proxies for measuring Monetary Policy and Return on Equity (ROE) and Profit after Tax as Proxies for measuring Bank Profitability.

Rao (2006) classified monetary policy as targets: and as targets they are distinct from objectives, and are anomalously proximate goals. These targets are either operating targets or intermediate targets, intermediate are variable, although thought to affect the ultimate objective of monetary policy and are not controlled directly by the Central bank. Although Central banks cannot use monetary policy instruments directly to intermediate target, they can use them to affect operating targets, such as cash reserve and short-term interest rates, which influence movement in intermediate variables.

In Nigeria, as identified by Ajayi and Atanda (2012), The Monetary policy rate (MPR) was adopted by the monetary policy committee as a replacement for the minimum rediscount rate (MRR) in 2006, shortly after the recapitalization in 2004. They further emphasized that the reason was to influence interest rate in line with the monetary policy conditions. Recently in its final monetary policy committee meeting for 2017, the CBN held its main interest rate, the Monetary policy rate (MPR) unchanged at 14%, Cash reserve ratio still at 22.5%

1.2 Statement of Problem

Banks must make profit at the end of each financial year to stay in business. This invariably means that profit is essential for every financial intermediary involved in financial intermediation, especially Deposit Money Banks. It is perhaps the evidence of their liquidity and safety of customer's funds and this also has great impact on the country's economy. This profit is also affected by the monetary policy rate and the amount of cash reserve as proposed by the Central Bank in their CBN regulation (Uwubanmwen & Ikponmwosa, 2016).

The recent review on the monetary policy rate and the cash reserve ratio was geared towards checking the rate at which inflation was growing. As identified by the Monetary Policy Committee (MPC) the review will cause individuals, households and suppliers of funds to increase their propensity to save and also reduce the rate at which deposit money banks disburses loans. The review on the cash reserves will reduce the amount of idle cash in deposit money banks vaults and also check the Deposit money bank's lending. This Monetary policy tools used by the apex bank is intended to contract the supply of money in the bid to check the persistent growth in Inflation (MPC, 2016).

In spite of this, the review seems to have deterred investments and has hampered industrial growth due to high cost of capital. Small and medium scale industry (SME's) can no longer access funds easily and this has consequently posed serious danger to the economy as banks which studies have shown to be the livewire of the economy can no longer effectively discharge their role as a result of such

stringent policy, thereby adversely affecting their profitability.

1.3   Objectives of the Study

The General objective of this study is to determine the effect of monetary policy on the profitability of deposit money banks in Nigeria. However, this study specifically seeks to:

1. Investigate the effect of monetary policy rate (MPR) on deposit money bank's profit after tax
2. Examine the effect of monetary policy rate (MPR) on deposit money bank's return on equity (ROE)
3. Investigate the effect of cash reserve ratio (CRR) on deposit money bank's profit after tax.
4. Ascertain the effect of cash reserve ratio (CRR) on deposit money bank's return on equity (ROE)

1.4   Research Hypotheses

This Research work is anchored on the following Null hypotheses (H_0)

H_{01}: Monetary policy rate (MPR) does not have any significant effect on deposit money bank's profit after tax.

H_{02}: Monetary policy rate (MPR) does not have any significant effect on deposit money bank's return on equity (ROE).

H_{03}: Cash reserve ratio (CRR) does not have any significant effect on deposit money bank's profit after tax.

H_{04}: Cash reserve ratio (CRR) does not have any significant effect on deposit money bank's return on equity (ROE).

1.5   Justification of the Study

The justification for banks in the sample includes:

i.   The five banks have been rated the topmost five banks in Nigeria by the Fitch rating (2014). These banks have also made the list of the first 25 and 500 banks in Africa and the world respective

ii. The banks under review have been largely homogenous to the extent that their ownership structures are significantly unaffected by the spate of mergers and acquisitions that characterized the revolution in commercial banking in Nigeria since 2004 and 2011.

iii. The five banks relatively account for over fifty percent of the total deposit liability in the industry. As at December 2011, the total deposit in the industry was about N10.99 trillion, out of which the five selected banks accounted for N6.17 trillion, representing 56.13% of the total deposit.

iv. And recently, have been the top rating banks in Nigeria and also rated among top 500 banks in the world as evidenced by the 2017 Bankers magazine, financial times group brand finance.

2.0   LITERATURE REVIEW
2.1   Conceptual Review

Monetary policy is defined in the Central Bank of Nigeria Brief as "the combination of measures designed to regulate the value, supply and cost of money in an economy, in consonance with the expected level of economic activity." (CBN) Brief

1996/2003. Wrightsonan (1976) also viewed monetary policy as a deliberate effort by the monetary authorities (Central Bank) to control the money supply and credit conditions for the purpose of achieving certain broad economic objectives. Put differently, monetary policy refers to the actions of the Central Bank to regulate the money supply which could be through discretional monetary policy instruments such as the open market operation(OMO), discount rate, reserve requirements, moral suasion, direct control of banking system credit, and direct regulation of interest rate (Loayza, &Schmidt-hebbel, 2002).It can be described as the art of controlling the direction and movement of credit facilities in pursuance of stable price and economic growth in an economy (Chowdhury, Hoffman &Schabert, 2003). Monetary policy is a major economic stabilization weapon often use by the apex bank to regulate and control the volume, cost of availability and direction of money and credit in an economy in order to achieve some specified macroeconomic policy objectives.

The objectives and goals that the central bank seeks to achieve generally are low inflation (usually targeted), protection of value of currency, full employment and sustainable economic output (economic growth). Monetary policy covers the monetary aspect of the general economic policy which requires a high level of co-ordination between monetary policy and other instruments of economic policy of the country.

The control of the money supply allows the Central Bank to either adopt "a tight money" (contractionary) monetary policy or an "easy money" (expansionary) monetary policy. And thus in the short to medium-run to affect the fluctuation in output in the economy. In order to achieve this, they can use either a contractionary or stringent or tight monetary policy or an expansionary or money ease policy Ugwanyi (1997). The overall effect of an expansionary monetary policy is to increase the supply of money or reduce the cost of money in the economy so as to stimulate an increase in economic activities and cause the general public to have more money in their hands. While a contractionary stringent or tight monetary policy is used to reduce the supply of money or increase cost of money in the economy primarily through banks and other financial institution by constraining the growth or ability of the deposit money banks to grant further credits, in a bid to control inflation and price level.

2.2 Theoretical Review
2.2.1 Classical Theory
The classical theory states that the main function of money is to act as a medium of exchange. It is to determine the general level of prices at which goods and services will be exchanged. This relationship between money and the price level is explained in terms of the quantity theory of money. The widely accepted approach to monetary economics was known as the quantity theory of money, used as part of a broader approach to micro and macro issues referred to as classical economics from the works of Irving fisher who lay the foundation of the quantity theory of money

through his equation of exchange. The classical theory of money states that the price level is a function of the supply of money. The classical school evolved through concerted efforts and contribution of economists like Jean Baptist Say, Adam Smith, David Richardo, Pigu and others who shared the same beliefs. The classicists believed that there was always full employment in the economy. At the same time, they recognized the existence of unemployment in the event of downward rigidity of money wages; a situation which could be corrected by an expansionary monetary policy.

If the quantity of money is doubled, the price level will also double and the value of money will be one half. Fisher's theory also known as equation of exchange is stated thus,

$MV = PT$ …………......... (1)

Where:
M= actual money stock or money supply, V= the transaction velocity of circulation of money, P= the average price level, T= the real volume of all market transactions made during a period of time. Fisher posited that the quantity of money (M) times the velocity (V), must equal average price level (P) times the aggregate transaction (T). The equation equates the demand for money (PT) to the supply of money (MV). In the equation, T is better replaced with Q "quantity of goods involved" hence the Fisherian equation can be written as $MV = PQ$............... (2) Fisher further stated that the average price in the economy (P) multiplied by the amount of transaction (T) when divided by the money

stock (M) gives us a volitional element called the average turnover of money or money velocity (V),that is $PT/M = V$.

2.2.2 Keynesian Theory
Keynes did not agree with the classical view that the supply of money influenced the price level directly and that the economy always stayed at full employment level.

In 1936, John Maynard Keynes published his "General Theory of Employment, Interest and Money" and initiated the Keynesian Revolution. However, the role of money in an economy got further elucidation from (Keynes, 1930 P. 90) and other Cambridge economists who proposed that money has indirect effect on other economic variables by influencing the interest rate which affects investment and cash holding of economic agents. Keynes maintained that monetary policy alone is ineffective in stimulating economic activity because it works through indirect interest rate mechanism. In the Keynesians theory, monetary policy plays a crucial role in affecting economic activity. It contends that a change in the supply of money can permanently change such variables as the rate of interest, the aggregate demand, and the level of employment, output and income. In a situation of unemployment, Keynes advocated a cheap monetary policy. So when the supply of money is increased, its first effect is on the rate of interest which tends to fall.

The monetary mechanism of Keynesians emphasizes the role of money, but involves an indirect linkage of money with

aggregate demand via the interest rate as symbolically shown below:

OMO   R   MS   r   I GNP

Where: OMO = Open Market Operation, R = Commercial Bank Reserve, MS = Stock of Money, r = Interest Rate, I = Investment, GNP = Gross National Product

Where the economy is initially at equilibrium and there is open market purchase of government securities by the Central Bank of Nigeria (CBN), this open Market Operation (OMO) will increase the commercial banks reserve (R) and raise the bank reserves. The bank then operates to restore their desired ratio by extending new loans or by expanding bank credit in other ways. Such new loans create new demand deposits, thus increasing the money supply (MS).

2.2.3 Monetarist Theory

The Modern Monetary theory holds a completely different view. The monetarist theory was propounded by Milton Friedman in 1956. They believe that when the central bank purchases securities in open market, it sets in motion substitution and wealth effects, as the public portfolio consists of a wide variety of assets such as bonds, equities, savings, mortgage, etc. These effects will ultimately increase aggregate money demand and expand output. Monetarists like Friedman (1956, 1963) emphasized money supply as the key factor affecting the wellbeing of the economy. Thus, in order to promote steady of growth rate, the money supply should grow at a fixed rate, instead of being regulated and altered by the monetary authorities. The monetarist introduces an additional factor in the determination of interest rate, which is price expectation; an increase in supply of money has a liquidity effect on income effect and price effect.

The monetarist conception of money transmission mechanism can be summarized below:

OMO   MS   Spending   GNP

The monetarist argument centers on the old quantity theory of money. If velocity of money in circulation is constant, variation in money supply will directly affect prices and output or income (GNP), M. L. Jhingan, (Monetary Economics 6th Edition, P. 418 – 419). The monetarist postulates that change in the money supply leads directly to a change in the real magnitude of money. Describing this transmission mechanism, Friedman & Schwartz (1963) say an expansive open market operation by the Central Bank, increases stock of money, which also leads to an increase in commercial bank reserves and ability to create credit and hence increase money supply through the multiplier effect. In order to reduce the quantity of money in their portfolios, the bank and non-bank organizations purchase securities with characteristics of the type sold by the Central Bank, thus stimulating activities in the real sector.

2.3 Empirical Review

Gertler and Gilchrist (1994) conducted a study that specifically looked at how bank business lending responds to monetary

policy tightening. They found that bank's lending does not decline when policy is tightened. They concluded that the entire decline in total lending comes from a reduction in consumer and real estate loans.

Punita and Somaiya (2006) carried out a study on the impact of monetary policy on the profitability of banks in India between 1995 and 2000. The monetary variables were banks rate, lending rates, cash reserve system and statutory ratio, and each was regressed on banks profitability independently. Lending rate was found to exact positive and significant influence on banks' profitability, which indicates a fall in lending rates will reduce the profitability of the banks. Also, bank rate, cash reserve system and statutory ratio were found to have negative and significant effect on the profitability of banks. Their findings were the same when lending rate, bank rate, cash reserve system and statutory ratio were pooled to explain the relationship between banks profitability and monetary policy instruments in the private sector.

Amidu and Wolfe (2008) examined the constrained implication of monetary policy on bank lending in Ghana between 1998 and 2004. Their study revealed that Ghanaian banks' lending behaviour is affected significantly by the country's economic support and change in money supply. Their findings also support the finding of previous studies that the Central Bank prime rate and inflation rate negatively affect bank lending. Prime rate was found statistically significant while inflation was insignificant. Based on the firm level characteristics, their study revealed that bank size and liquidity significantly influence bank's ability to extend credit when demanded.

Amassoma, Wosa&Olaiya (2011) they also analyzed the impact of monetary policy on macro-economic variables in Nigeria for the period 1986 to 2009 using the simplified ordinary least squared technique conducted with the unit root and co-integration test. They found that monetary policy has a significant effect on interest rate but it was insignificant in its effect on price instability. They concluded with the recommendation that there is need to align monetary policy with fiscal policy so as to maximize the growth potential of monetary policy.

Nwoko, Ihemeji&Anumadu (2011) investigated the impact of monetary policy on the economic growth of Nigeria covering the period of 1990 to 2011. They used multiple regression models as a main statistical tool for analyses. Results showed that CBN Monetary policy measures are effective in regulating both the monetary and real sector aggregates such as employments, prices, level of output and the rate of economic growth.

Uwubanmwen and Ikponmwosa (2015) examined the influence of monetary policy in determination of bank profit in Nigeria. They adopted a dynamic framework involving the Augmented Dickey Fuller (ADF), root unit testing, Johansen Co-integration procedure, Granger causality technique and an error correction model. Results reveal that monetary policy has a significant impact on bank's profitability in Nigeria. Particularly; monetary policy

rates, money supply, bank credit and investment. The impact of exchange rate was found to be positive and weak.

Based on the literatures reviewed monetary policy as an instrument of the CBN is targeted at guiding banks towards a direction the monetary authority envisions it to be. Most of the literatures on Monetary policy reviewed have focused their attention on monetary policy as it affects banks loan and advances, economic growth with insignificant number of literatures on banks profitability hence, a gap this research work seeks to fill. Moreover, there are few or insignificant literatures on the relationship between monetary policy and banks profit after tax / return on equity, which is an area this study seeks to further investigate.

3.0   METHODOLOGY
3.1   Data and Analysis
This study adopted an expo facto research design. As a result of being objective, the population for this study is the entire deposit money banks in Nigeria because the research is directed to deposit money banks in Nigeria. A sample was drawn from the entire population which constitutes five (5) deposit money banks in which include Zenith Bank, First Bank, Guarantee Trust Bank, Access Bank and United Bank for Africa, which according to Fitch rating (2014) have been rated the top five performing banks in Nigeria. The study adopted a purposive sampling technique, Secondarydata was collected and used for the analysis and test of hypothesis formulated for this study. The secondary data for a period of ten (10) years spanning from (2008-2017) was used

reason being that the study wants to see how Nigerian banks profitability has been affected by monetary policy over the years, from the period of financial meltdown (2008) to (2017). Data for this study was collected from the documented information of National Bureau of Statistics, Central Bank of Nigeria, and the published annual financial statements of the five selected banks for a period of ten (10) years.

3.1.2   Unit Root Test
This study adopted the Augmented Dickey Fuller Test (ADF) for the testing procedure for unit root based on the following formula. ADF is applied to the model.

$$\Delta y_t = \alpha + B_{1t} + B_2 y_{t-1} + \sum_{C=1}^{p} \Delta y_{t-1}\, \alpha + E_t$$

Where α is a constant, B1 is the lag of the autoregressive process. The unit root test is carried out under the null hypothesis.
H_0: B2 0   against
H_1: B2 < 0

The Dickey Fuller's (DF) test statistics is
$$DF= \frac{B2}{S(B2)}$$
If DF is less than the critical value, then the null hypothesis is rejected and no unit root is present.

3.1.4   Variables of the Study
Monetary Policy Rate (MPR), Cash Reserve Ratio (CRR) as Proxies for monetary policy Profit after tax, Return on Equity (ROE) as Proxies for Banks profitability.

3.1.3 Model Specification

Model one: $PAIT = \alpha + \beta(MPR) + e$.

Model two: $ROE = \alpha + \beta(MPR) + e$.
Model three: $PAIT = \alpha + \beta(CRR) + e$.
Model four: $ROE = \alpha + \beta(CRR) + e$.

Where:
PAIT= Profit after Interest and Tax, ROE= Return on Equity, MPR = Monetary Policy Rate, CRR= Cash Reserve Ratio, α = Intercept, β = Beta, e = Error term.
Decision criterion is to accept H0: if p value is greater than 0.05 level of significance.

3.4 Data Presentation and Analysis

Table 1: Profit after Tax, Return on Equity, Cash Reserve Ratio and Monetary Policy Rate (2008 – 2017).

Year	First Bank		Zenith Bank		GTBank		UBA		Access Bank		Monetary Policies	
		ROE %	PAT ₦'000	ROE %	PAT ₦'000	ROE %	PAT ₦'000	ROE %	PAT ₦'000	ROE %	CRR	MPR
2008	56,798.20	3.48	97,125.24	6.19	87,966.03	5.98	13,288.56	1.52	42,652.69	0.22	4.0	8.0
2009	60,223.44	3.69	102,547.52	6.53	94,469.40	6.42	13,775.76	1.60	46,534.93	0.23	5.0	9.5
2010	55,610.33	3.41	121,604.20	7.75	111,429.04	7.57	14,473.20	1.58	49,857.34	0.25	3.0	6
2011	39,672.00	2.43	102,540.60	6.53	94,319.94	6.41	13,449.00	1.46	44,614.97	0.22	4	7
2012	83,289.00	5.10	82,649.60	5.26	76,485.78	5.20	9,351.80	0.98	36,626.75	0.17	8	12
2013	76,853.00	4.71	95,318.00	6.07	85,545.51	5.81	5,121.00	0.60	26,211.84	0.15	12	12
2014	81,361.00	4.99	99,455.00	6.34	89,170.78	6.06	20,486.00	2.42	39,941.13	0.23	14	12
2015	2,816.00	0.17	105,663.00	6.73	94,308.12	6.41	18,035.00	2.13	65,868.77	0.31	32	13
2016	56,798.20	3.48	129,652.00	8.26	126,836.79	8.62	15,885.00	1.88	64,026.14	0.30	20	11
2017	60,223.44	3.69	177,933.00	11.33	161,284.00	10.96	12,839.00	0.88	53,238.82	0.25	22.5	14

Source: Financial Statement of Banks, CBN& National Bureau of Statistics

Test for stationary nature of the variables was carried out using Augmented Dickey-Fuller (ADF) test. The result showed that all the variables are stationary at level, and also stationary at first difference.

$Y_t = Dt + Z_t + e_t$.

Where:
D_t = is the deterministic component (trend, seasonal component, etc.)
Z_t = is the stochastic component.
e_t = is the stationary error process.

Table 2 ADF Unit Root Test for Stationarity at 5% levels
Null Hypothesis: Variables has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		4.147414	0.0012
Test critical values:	1% level	5.102417	
	5% level	6.254170	
	10% level	4.541471	

*MacKinnon (1996) one-sided p-values.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Variables	2.21411	0.332141	6.35241	0.0012
C	6.65214	7.214111	2.12415	0.0001

S.E. of regression	124.1411	Akaike info criterion	2.21214
Sum squared resid	12141411	Schwarz criterion	6.24110
Log likelihood	412.124	Hannan-Quinn criter.	6.32140
Durbin-Watson stat	1.95		

Source: E-view 10 output.

When variables produce a stationary series, co-integration among them in the long run is feasible.

Table 3 Johansen Co-Integration Result

Hypothesized No. of CE (s)	Eigen Value	Trace Statistics	0.05 Critical Value	Prob**	Max-Eigen Statistics	0.05 Critical Value	Prob**
None*	1.21410	12.2140	13.32414	0.0012	12.21410	9.25141	0.0012
At most 1	1.24141	0.24140	2.24141	0.007	0.00019	3.25410	0.0001

Max-eigen test indicate co-integrating equation at 5% level

Trace test indicates 1 co-integrating equation (s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

Source Compiled from E-view 10.

Johansen Co-integration test confirmed that a long run relationship exists between variables.

Table 4   Data Analysis for Hypothesis One

Dependent Variable: PAT

Method: Panel Least Squares

Date: 09/19/18   Time: 02:16

Sample: 20082017

Periods included: 10

Cross-sections included: 5

Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	24.48685	1.620601	15.10974	0.0000
MPR	0.244280	0.331005	0.737996	0.0091

R-squared	0.721219	Mean dependent var		25.43191
Adjusted R-squared	0.679380	S.D. dependent var		6.990443
S.E. of regression	.523153	Akaike info criterion		6.775480
Sum squared resid	2367.584	Schwarz criterion		6.851960
Log likelihood	-167.3870	Hannan-Quinn criter.		6.804604
F-statistic	0.544638	Durbin-Watson stat		2.517208
Prob(F-statistic)	0.009110			

Source: E-view 10 output.

Decision: Since p value (0.009 < 0.05), we hereby reject the null hypothesis and conclude that Monetary Policy Rate significantly affect Profitability of banks.

Table 5   Model Summary for Hypothesis Two

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.518a	.471	.495	77414100154.5414	1.51

a. Predictors: (Constant), MPR

b. Dependent Variable: Return on Equity

Source: SPSS version 23 output.

Table 6   Coefficients for Hypothesis Two

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	641416329	41003109		1.210	.011
INT-RATE	4.211	67541411	.144	2.141	.000

a. Dependent Variable: Return on Equity

Source: SPSS version 23 output.

Decision: Since p value (0.001 < 0.05), we hereby reject the null hypothesis and conclude that Monetary Policy Ratesignificantly affect Return on Equity.

Table 7   Model Summary for Hypothesis Three

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.717a	.771	.525	14741100.54	2.01

a. Predictors: (Constant), CASH RESERVE RATIO

b. Dependent Variable: PROFITABILITY

Source: SPSS version 23 output.

Table 8   Coefficients for Hypothesis Three

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	714116329	14123109		1.210	.001
CRR	1.141	1.210	.071	2.21	.009

a. Dependent Variable: PROFITABILITY

Source: SPSS version 23 output.

Decision: Since p value (0.009 < 0.05), we hereby reject the null hypothesis and conclude that Cash Reserve Ratiohas significant effect onProfitability.

Table 9   Data Analysisfor Hypothesis Four
Dependent Variable: ROE
Method: Panel Least Squares
Date: 09/19/18   Time: 02:53
Sample: 20082017
Periods included: 10
Cross-sections included: 5
Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	.212879	0.703286	-1.383333	0.0010
CRR	.287403	0.046099	34.43433	0.0001
R-squared	0.671093	Mean dependent var		22.74161
Adjusted R-squared	0.580283	S.D. dependent var		5.057929
S.E. of regression	1.008003	Akaike info criterion		2.892998
Sum squared resid	48.77139	Schwarz criterion		2.969479
Log likelihood	-70.32495	Hannan-Quinn criter.		2.922122
F-statistic	1185.723	Durbin-Watson stat		2.457662
Prob(F-statistic)	0.000001			

Source: E - View 10 Output.

Decision:The p value of 0.001 is lower than 0.05, we hereby conclude that Cash Reserve Ratiohas significant effect on Return on Equity, and hereby reject the null hypothesis.

1.0   FINDINGS

The empirical results emanating from the analysis indicates that monetary policy has a significant effect on bank profitability proxied by banks Profit after Tax (PAT) and Return on Equity (ROE).Further established, the findings of hypotheses 1 shows that Monetary Policy Rate (MPR) has a significant effect on banks Profit after Tax (PAT), with a p value of 0.009, R being the determinant of correlation shows that the ability of Monetary Policy Rate to

determine Profitability is about 72%. This study revealed that a unit change in Monetary Policy Rate account for about 4.14unit change in Profitability of banks. This study revealed that Monetary Policy Rate has a significant effect onProfitability.

Findings of hypotheses 2 shows that Monetary Policy Rate (MPR) has a significant effect also on banks Return on Equity (ROE), with a p value of 0.001, R square as shown in model summary is about 51%, this implies that the ability of MPRdetermine Return on Equity is about 51%. Findings from analysis of hypotheses two shows that a unit change in MPRaccount for about 3.14 unit change in Return on Equity of banks. This study revealed that MPR significantly affect Return on Equity.

The Findings of hypotheses 3 shows that Cash Reserve Ratio (CRR) has a significant effect on banks Profit after Tax (PAT), with a p value of 0.001, R square as shown in model summary is about 77%, this implies thatthe ability of Cash Reserve Ratio to determineProfitability is about 77%.Findings from analysis of hypotheses three showsthat a unit change in Cash Reserve Ratioaccount for a significant change in Profitability of banks. This study revealed that Cash Reserve Ratiohas a significant effect on Profitabilityof banks.

Lastly the findings of hypotheses 4 shows that Cash Reserve Ratio (CRR) has a significant effect on banks Return on Equity (ROE) with a p value of 0.001, R square as shown in analysis is about 58%, this implies that that the ability of Cash Reserve Ratio to determine Return on

Equity is about 58%. Findings from analysis of hypotheses four revealed that a unit decline in Cash Reserve Ratio account for about 0.28 unit change in Return on Equity. This study revealed that Cash Reserve Ratio significantly affect Return on Equity.

This study is consistent with the research of Uwubanmwen and Ikponwosa (2015), where theResults reveal that monetary policy has a significant impact on bank's profitability in Nigeria. Particularly; monetary policy rates, money supply, bank credit and investment.

The study is in contrast with the results of Udeh (2015)that cash reserve ratio, liquidity ratio and interest rate did not have significant impact on the profit before tax of Zenith Bank Plc. However, minimum rediscount rate was found to have significant effect on the profit before tax of the bank, the paper concluded that a good number of monetary policy instruments do not impact significantly on profitability of commercial banks in Nigeria.

This study reveals that Monetary Policy Rate and Cash Reserve Ratio has significant effect on Profitability of Deposit Money Banks, MPR and CRR enhanced Profitability in Nigeria. This implies that with adequate and efficient monetary policies, the performance of deposit money banks will be greatly improved.

2.0   CONCLUSION AND RECOMMENDATIONS

The study of monetary policy and how it affects the profitability of deposit money

banks in Nigeria has really drawn much attention in the field of research. This is as a result of monetary policy being a contemporary problem in the banking sector as it is being continuously adjusted to suit the fluctuating economy. In view of this, this study sought to examine it in a way so as to incorporate the new changes in view of the ever-changing and dynamic financial environment.

Monetary policies when aligned with fiscal policies can go a long way in achieving economic growth and development. The overall effect of monetary policy on bank profits will also depend on the impact of monetary policy on macroeconomic conditions. In particular, it will crucially hinge on the efficacy of monetary policy in boosting aggregate demand at the zero lower bound and in adverse balance-sheet conditions. Both factors would tend to undermine its effectiveness. (See e.g. Borio, 2014; Bouis, Rawdanowicz, Renne, Watanabe, & Christensen, 2013).

Having examined the effect of monetary policy on deposit money banks profitability in Nigeria and based on the findings of this study, the following are recommended to be adopted in other to tackle the problems of monetary policy.

i. The Central Bank of Nigeria (CBN) should adjust the monetary policy rate and cash reserve ratio in such a way that it will allow for an increase liquidity to enable the commercial banks to discharge their lending and investment functions effectively to the public.

ii. The monetary authorities should adopt the use of one stringent monetary policy at a time. Stringent monetary policies affect money supply and reduces investment rate. The review of monetary policies should be done with a more considerate review of the Nigerian industrial sector (especially the small and medium scale industries), so as to ascertain how to peg its monetary policies to not be disastrous to the industrial sector and to the general economy.

iii. Monetary policy should be complimentary to fiscal policy, and should be used together in other to be able to achieve uniform results and not have deviating outcomes on different sectors and the economy. The CBN and the Ministry of finance should work more closely to objectively articulate policies in the same economic direction.

iv. There is the need for Deposit money banks to diversify their business activities to enable them make profits when thereis monetary policies not favourable put in place by the monetary authorities. By relying solely on their banking activities,deposit money banks may not be able to make sufficient profit to meet its operating expenses, pay its employees and pay shareholders dividends.

v. The CBN should ensure that more regulations and supervision are carried out on the banks regularly so as to avoid having manipulated financial reports in banks, because manipulated financial reports may portray banks to be healthy, and result in CBN fixing monetary

policy at rates where it may be detrimental to the operations of this banks.

vi. Since the problem of inflation targeting remains the issue CBN faces while trying to adjust monetary policy, CBN should review the performance of different sectors and the inflation level simultaneously so as to adjust the monetary policy at a point where it does not bring about an increase in rate of inflation while also not hindering and affecting the operation of banks, other institutions and businesses.

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