Monetary Policy and Deposit Money Banks Total Sectoral Credit Allocation in Nigeria.

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Abstract
The paper examined monetary policies and Deposit money banks total sectoral credit allocation in Nigeria between 1988 to 2016. It has been observed that in spite of changes in monetary policies, the total amount of total sectoral credit allocation by deposit money banks have not been commensurate with sectoral needs. The study aimed at identifying impact of monetary policies on deposit money banks sectoral credit allocation. The data for the study were sourced from the Central Bank of Nigeria statistical Bulletin. The e-views statistical technique involving Augmented Dickey Fuller Unit Root tests, johansen co-integration test, vector error correction test alongside the OLS estimations were employed. Findings revealed the existence of long-run relationship between monetary policies and deposit money banks sectoral credit. Also, of all the monetary policy instruments (mpr, lr, crr and ltd) used, monetary policy rate (mpr) and cash reserve ratios (crr) were the policy tools that impact significantly on deposit money banks total sectoral credit. It was recommended among others that authorities should use expansionary measures to enlarge the amount of banks credit made available to sectors, while mpr and crr should be used to moderate the volume.

Keywords: *monetary policy rate, liquidity ratio, cash reserve ratio, loan-to deposit ratio, banks total sectoral credit*

1.0 Introduction

Growth of economies, no doubt, is majorly dependent on the degree of development of their various sectors in an economy. However, sectoral development to a great extent is a function of credit availability, which is one of the primary responsibilities of Deposit Money Banks. Banks in developed or developing countries play vital and effective roles in financing economic projects via their lending activities. Economic and Financial literatures on the importance of credit development, availability and roles the banking industry plays in ensuring sustainable economic growth cannot be overemphasized.

Credits, according to the 1990 Prudential Guidelines refers to aggregate of all loans, advances, overdrafts, commercial papers, bankers acceptances, bills discounted etc and other loss contingencies connected with a bank's credit risks. According to Osada and Saito (2010), credit development or availability of credit can foster economic growth by rising savings, improving efficiency of loanable funds and promoting capital accumulation. Availability of credit allows farms to increase production, output and efficiency, which in turn increases the profitability of banks through interest earned (Agada, 2010). Thus, it is on literature that credits are obtained by various economic agents to enable them meet operating expenses.

According to Ajie (2000), credit and its allocation has become a vital function in banking operations because of its direct effect on economic growth and business development. This is being pursued in most countries particularly the developing ones like Nigeria, where banks and

their credit allocation activities have been usefully integrated into government policy formulation in the National economic development process. Deposit Money Banks mobilize deposits from the surplus units and channels same to deficit economic units by way of loans and advances (credit) for productive purposes. This credit allocation function is very relevant to all sectors in the economy both private and public sectors because it is one of their major sources of finance. In Nigeria the process has immensely contributed to the growth of the economy.

However, the way and manner in which banks discharge this all important function, as well as the quantum of credits made available for disbursement to various sectors of the economy (example Production, General commerce, Services and others) are invariably determined by the country's monetary policies. Monetary Policy which is the bane of this paper is a conscious action undertaken by the monetary authorities to change or regulate the availability, quantity, cost or direction of credit in any economy, in order to attain stated economic objectives. According to Onoh (2002), through the monetary policy framework, the Central Bank of Nigeria exercises control over the Deposit Money banks' tendency to raise, sometimes unnecessarily, the level of money supply. Credit availability and allocation to economic sectors are highly influenced by monetary policies. Olokoyo (2011) opined that Deposit money banks decisions on the quantum or amount of loans to lend out are influenced by factors such as liquidity ratio, interest rate, etc. Not only does the policy affect the direction of credit, the amount held by banks as reserves are also greatly affected. Ayodele (2014) observed that these activities affect the banks in their operations and thus influence the cost and availability of loanable funds. The nature of monetary policy (whether expansionary or contractionary) programmes of a country like Nigeria at any point in time, influences the aggregate amount, quantity or volume of loans or credit to be allocated to each sector(s) of the economy.
As pointed out in Onoh (2002), Monetary policies influence Deposit Money Banks' capacity to create credit and as well the availability of such credits for productive purposes. This is done by varying the liquidity ratio, monetary policy rate, cash reserve ratio, imposing special deposits, compelling banks to acquire or sell securities or treasury bills through Open Market Operations etcetera, all in a bid to enhance the effectiveness and efficiency of credit allocation functions of Deposit Money Banks and achieve stated economic objectives in Nigeria among other several economic objectives.

However, the underperformance or poor performance of some sectors of the economy in recent times have been attributed to unavailability of credits or loanable funds. This has equally raised doubts regarding the effectiveness, efficacy and/or potency of monetary policy in stimulating Deposit Money Banks Credit to various sectors of the economy. Some of the policies do not favour increases in the volume of Deposit money banks loans and advances, especially the Minimum Rediscount Rate, (Ogunyemi 2013). This paper therefore sets out to examine whether monetary policy programmes have significant impact on the volume or quantity of credit allocation by Deposit Money Banks in Nigeria.

2.0 Conceptual Review

Monetary policies play significant role in the realization of various macro-economic policies or objectives of government of any nation. In developing countries like Nigeria, its potency on the influence of direction of cost and volume of credit within the economy is not in doubt. It essentially influences the behaviour of the monetary sector. Nzotta (2014) noted that changes in the behaviour of the monetary sector influence various monetary variables. He further

observed that monetary policy in force at any point in time, affects the level of money supply either by way of expansion or contraction.
Monetary policy, according to Uzoaga in Okereke, Sanni, Anyanwu & Ogunbiyi (2009) refers to the management of the expansion and contraction of the volume of money in circulation for the specific purpose of achieving certain desired national objectives. It influences the cost and availability of credit or alternatively at controlling the supply of money with a view to counteract undesirable trend in the economy. The level of interest rate and/or cost of obtaining fund in the market, for example, through banks are, to a large extent detected by the monetary policies in operation.

Mordi (2009) observed that monetary policy is a blend of measures and or set of instruments designed by the monetary authorities to regulate the value, supply and cost of money consistent with the absorptive capacity of the economy or the expected level of economic activity without necessarily generating undue pressure on domestic prices and the exchange rate. These are aimed at introducing a measure of stability and stimulating growth. Koshy (2009) noted that monetary policy generally boils down to adjusting the supply of money in the economy to achieve some combination of inflation and output stabilization.
The implementation of the monetary policy framework is usually affected through structures provided by the financial intermediaries, especially deposit money banks. In Nigeria, the Central Bank of Nigeria issues banks the broad targets to be achieved and the monetary and/or banking policy to be pursued. These are in form of guidelines which prescribed what the banks are expected to do, to ensure sound banking system. These frameworks are made possible through instruments like open market operations, minimum rediscount rate (MRR now Monetary Policy Rate – MPR), Cash reserve ratios, liquidity ratios, special deposits, etc. It is worthy of note that some of these instruments are direct while some are indirect.

However, the transmission mechanism of monetary policy is not without its attendant effect on the amount, size and or level of total credit allocated to various sectors in the economy. Monetary policies affect the liquidity state of banks, profit position as well as the amount of loanable funds available for sectoral borrowings. According to Ireland (2008), there are number of ways in which policy actions get transmitted to the real economy. For instance, if the monetary authorities initiate contractionary policy; borrowing cost rises, businesses in various sectors are less likely to invest. This will consequently bring about increases in the cost of borrowing from deposit money banks. The hike in rate (say monetary policy) also makes banks less profitable in general as investors would be unwilling to borrow and vice-versa.
Banks credit channels savings into investment thereby encouraging economic growth. Therefore, the availability of credit allows the role of intermediation to be carried out, which is important for the growth of an economy. Nzotta (200) observed that among the factors that determine credit availability or lending in Nigeria includes monetary policies, economic condition, risk and profitability of banks, credit needs etcetera.
The recent tradeoff between the dwindling liquidity position of banks as noted by Akanji (2010) (warranting the reduction in cash reserve ratio by Central Bank of Nigeria) and the need for increased sectoral credits for business development therefore calls for re-examination of the potency monetary policies in stimulating the amount(s) or quantum of deposit money banks total credit made available for sectoral allocation.

Theoretical Framework
The theoretical framework of this paper is drawn from Milton Friedman theory or the Monetarist theory which held that "only money matters' and such monetary policy is a more

potent instrument of stabilization. The Monetarist Economist recognize that money is not just a close substitute for a small class of financial assets but rather a substitute for large spectrum of financial and real asset. Given an equilibrium position, an increase in money supply raises the actual proportion of money relative to the desired proportion. The monetarist argument centres 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), (Jhingan 2004).

It is on literature that potency of monetary policy cannot be effectively achieved without the presence of a good intermediation process which are more especially undertaking by the banking sector. Financial intermediation activities were created to fulfill specific needs of both savers and borrowers and to reduce the inefficiencies that would arise if users of fund are to get loans or credits only by borrowing directly from savers.
Banks intermediation process engenders the availability of credit or loans and advances required for different purposes by economic agents. Thus, Nwanyanwu (2008) observed that the banking sector helps to make these credits available by mobilizing surplus funds from savers who do not have immediate needs of such to investors who have brilliant ideas on how to create additional wealth in the economy but lack the necessary capital to execute the ideas. Therefore, it is instructive to note that the banking sector stands out in many developing countries, as the sector is virtually the only financial means of attracting private savings on a large scale, which is further extended to borrowers as credit (Adeniyi, 2006). However, this is without a policy that guides and/or set out the bank's lending philosophy and objectives including the modalities for implementation, which directly or indirectly affects the overall amount of credit(s) made available to investors or economic agents for investment/productive purposes.

The regulatory authorities plays catalytic role by using direct control not only to control overall credit expansion but also to determine the proportion of bank loans and advances to "high priority sector" and "other", (Akpansung and Babalola 2008). In order to ensure that no viable investment is starved of fund because money matters, sectorial distribution of bank credit is often meant to stimulate the productive sectors and consequently lead to economic growth.

Empirical Review

Much has not been done empirically in the area of monetary policy and Deposit Money Banks sectoral credit allocation but similar works in this regard were reviewed. Amidu and Harvey (2010) examined whether bank credit was constrained by monetary policy in Ghana with the objective to determine monetary policy factors that influence bank credit. The analyses were carried out using data from database of International Financial Statistics. The Ordinary Least Square model was used for estimations after investigating the time series properties of the variables. Bank credit was proxied by freely allocated bank loan that is assumed to be more sensitive to changes in monetary policy. Changes in money supply and Central Bank prime rate were variables for monetary policy. Their findings showed that Ghananian banks' credits are affected significantly by the country's economic activities and changes in money supply. Furthermore, it was affirmed in the study that a positive relationship exist between the Central Bank prime rate and the Ghananian bank credit.

Ogunyomi (2011) in a study "the impact of monetary policy on Commercial Banks loans and Advances in Nigeria: An Empirical Investigation (1975 – 2009); observed that out of the five

explanatory variables, it was only broad money supply (M_2) that was positively related to the volume of commercial bank loans and advance as well as statistically significant.
Ashamu, Abiola and Oyende (2011) examined the effect of monetary policy instruments on Bank credit in Nigeria between 1990 to 2010; with the specific objective to determine the influence of money supply, interest rate, minimum rediscount rate on bank credit. Time series analysis was conducted to observe the movement of these policy instruments as against the movement in bank loans and advances. A multiple regression test was employed and the result revealed that only interest rate and exchange rate proved to have significant impact on bank credit. The signs of money supply conforms to economic theories but not statistically significant. They were of the view that monetary authorities should rely more on the use of money supply, interest rate and exchange rate having all passed a priori test, while minimum rediscount rate should be reexamined.

Ajayi and Atanda (2012) carried out a study on "monetary policy and Bank Performance in Nigeria. A two-step Co-integration approach". They used bank loans as the dependent variable whereas minimum policy rate, cash reserves ratio, liquidity ratio, inflation rate and exchange rate were used as the independent variable. The study showed that bank rate, inflation rate and exchange rate were used as the independent variables. The study showed that bank rate, inflation rate and exchange rate are total credit enhancing while liquidity and cash reserve ratio exert negative effect on banks total credit. However, cash reserve ratio and exchange rate were found to be significant at 5% critical value. Also revealed by their study was the existence of no co-integration among the variables. The study concluded that monetary policy are not effective to stimulate credit in the long-run, while banks total credit is more responsive to cash reserve ratio.

Yu Hsing (2014) writing on monetary policy transmission and bank lending in South Korea and Policy implications using the three stage least square method, observed that the supply of bank loans has a positive relationship with the lending rate and real banks deposits and a negative relationship with the Central bank policy rate, the exchange rate and government bond. The study suggested that expansionary monetary policy through a lower policy rate or open market purchase of government bonds to increase bank deposits/reserves would increase bank loan supply. However, the study failed to provide a co-integration, causality and stationarity study on the data used.
The "Effects of Monetary Policy on the Commercial Banks lending in Nigeria" 1988 – 2008 by Ayodele (2014), using vector Error correction Mechanism of ordinary least square econometric technique revealed that exchange rate and interest rate significantly influenced banks lending while liquidity ratio and money supply exert negative effect on commercial banks' loan and advances. Thus, the study concluded that monetary policy are not effective to stimulate commercial bank loans and advances in the long-run, while banks total credit is more responsive to cash reserve ratio.

Alex (2014) carried out a study on the effect of monetary policy on the Nigerian Deposit Money Bank System using the Ordinary Least Square Method. Variables used included total loans and advances (TLA) as dependent variable, while liquidity ratio, cash reserve ratio, monetary policy rate and average exchange rate are independent variables. The result revealed that monetary policy rate reveal the most significant effect on commercial bank loans and advances. However, the study failed to establish the stationarity of the data used, the existence of relationship and the nature of such (long-run) as well as the state of causality among the variables under study.

Ekpung, Udude and Uwalaka (2015) investigates the effect of monetary policy on Banking sector performance in Nigeria between 1970 to 2006 with the objective to ascertain the factors that influence banking sector performance using bank's deposit liabilities as proxy for bank performance. The study employed the OLS regression technique. Results showed that overall; monetary policy has a significant effect on the banks deposit liabilities. Meanwhile, on individual basis, we discovered that Deposit Rate (DR) and Minimum Discount Rate (MDR) had a negative influence on the banks deposit liabilities in Nigeria, whereas Exchange Rate (EXR) had a positive and significant influence on the banks deposit liabilities in Nigeria. They asserted that that monetary policy plays a vital role in determining the volume of bank's deposit liabilities in Nigeria.

Dare and Okeya (2017) assessed empirically the impact of monetary policy on the performance of commercial banks in Nigeria. The paper specifically adopted United Bank for Africa (UBA) Plc as a case study. The study made use of a panel cross sectional data covering the period from 2009 to 2014. Multiple linear regression technique was employed to test the relationships inherent in the explanatory and dependent variables. The estimated model expresses banks' operating performance as a function of monetary policy represented by Monetary Policy Rate (MPR), Cash Reserve Requirement (CRR) and Liquidity Ratio (LR) while Return on Assets (ROA) is used as a proxy for banks' credit performance. The study found out that there is a positive but statistically insignificant relationship between MPR and ROA in the chosen bank. The analysis further indicated negative and statistically insignificant relationships between CRR, LR and ROA. They study concluded that the rationale for the statistically insignificant relationships observed might not be far from the commercial banks low rate of compliance with monetary policy guidelines.

The review so far has shown that while some of the empirical reviews provided mixed result, such as monetary policy not been effective in stimulating banks total credit the existence of no co-integration among others. Others failed to establish whether a significant relationship exist between monetary policies and banks total credit, no empirical evidence of stationarity and causality etc. This study therefore aims to fill the above gap with the view to ascertain the true state of relationship between monetary policies and deposit money banks total sectoral credit allocation in Nigeria.

Methodology

Secondary data spanning 1988 – 2016 was used. The time series secondary data were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin. The analysis involved the Augmented Dickey Fuller (ADF) unit root for stationarity, Johansen Co-integration for long-run relationship. The Vector Error Correction Model (VECM) test and the Ordinary Least Square estimates for short-run deviations

The analysis was conducted based on the specified model below:

The functional relationship is given as

BJSC = f(MPR, LR, CRR, LTD,) ---------- (1)

Transforming into mathematical estimation, we have

$BTSC = a_0 + a_1MPR_t + a_2LR_t + a_3CRR_t + a_4LTD_t + \mu_t$

Where:

a	=	Constant or intercept of
$a_1 – a_4$	=	slope
BTSC	=	Deposit Money Banks Total Sectoral Credit Allocation
MPR	=	Monetary Policy Rate

LR	=	Liquidity Ratio
CRR	=	Cash Reserve Ratio
LTD	=	Loan to Deposit Ratio
μ	=	error term
t	=	time

4.0 Estimations and interpretation of results

Unit Root Tests

Table 1: Augmented Dickey Fuller Unit Root Test

	ADF	Critical Values			Order of
Variable	t-statistic	1%	5%	10%	Integration
BTSC	-6.005939	-3.724070	-2.986224	-2.632604	1(1)
MPR	-6.730762	-3.724070	-2.986225	-2.632604	1(1)
LR	-5.086508	-3.725070	-2.986225	-2.632604	1(1)
CRR	-3.462617	-3.788030	-3.012363	-2.646119	1(1)
LTD	-4.316685	-3.724070	-2.986225	-2.632604	1(1)

Source: E-views 9.0 Output

The table above tested the stationarity of the time series data at 5% level of significance. The essence is to determine the consistency of the said data overtime and be cautious of spurious regression problem. The ADF Unit root tests revealed that the logged bank total sectoral credit (BTSC) and the monetary policy variables (MPR, LR, CRR and LTD) were all stationary at first difference 1(1) or integrated at order 1(1). Banks total sectoral credit was logged so as to bring it to same level with other policy indicators used.

Long-Run Relationship

Table 2: Johansen Co-integration Tests.

Date: 07/15/18 Time: 06:13
Sample (adjusted): 1992 2016
Included observations: 22 after adjustments
Trend assumption: Linear deterministic trend
Series: BTSC CRR LR LTD MPR
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.735430	75.68463	69.81889	0.0128
At most 1 *	0.595660	43.44335	47.85613	0.1221
At most 2 *	0.388827	20.80589	29.79707	0.3699
At most 3*	0.234272	8.496528	15.49471	0.4139
At most 4*	0.070337	1.823316	3.841466	0.1769

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: E-views 9.0 Output

The Mackinnon – Haugh – Michelis trace test shows that trace statistic have value greater than the critical value which indicates a rejection of the null hypothesis at 0.05 level of significance; thus, confirming the existence of long-run relationship between monetary policies and deposit money banks total sectoral credit.

Vector Error Correction Estimates

The ECM estimated the long-run causality model between monetary policies and deposit money banks total sectoral credit allocation. The ECM estimates in appendix 2 shows that error correction for BTSC is appropriately and properly signed with a negative coefficient of -0.182692. This result indicates that 18.27% of disequilibrium is corrected every year by changes in monetary policies.

Causality Tests

Pairwise Granger Causality Tests
Date: 04/15/16 Time: 06:14
Sample: 1988 2014
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
CRR does not Granger Cause BTSC	25	0.39442	0.6792
BTSC does not Granger Cause CRR		0.45675	0.6398
LR does not Granger Cause BTSC	25	1.84668	0.1837
BTSC does not Granger Cause LR		0.74907	0.4856
LTD does not Granger Cause BTSC	25	1.03739	0.3727
BTSC does not Granger LTD		1.18914	0.3151
MPR does not Granger BTSC	25	0.08250	0.9211
BTSC does not Granger Cause MPR		3.73316	0.0419

Source: E-views 9.0 Output

This was carried out using the Pairwise granger causality tests. The results (see appendix I) show that granger runs uni-directionally from banks total sectoral credit (LBTSC) to monetary policy rate (MPR), and uni-directionally from cash reserve ratio (CRR) to liquidity ratio (LR).

Diagnostic Results

The estimated parameters of the model were examined for consistency, efficiency and reliability using selected diagnostic test as shown below:

Table 3: Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.702137	Prof. F(4,22)	0.0570
Obs*R-squared	8.894963	Prob. Chi-Square(4)	0.0638
Scaled explained SS	4.368798	Prob. Chi-Square(4)	0.3584

Test Equation:
Dependent Variable: RESID^2

Method: Least Squares
Date: 07/15/18 Time: 06:09
Sample: 1988 2016
Included observations: 29

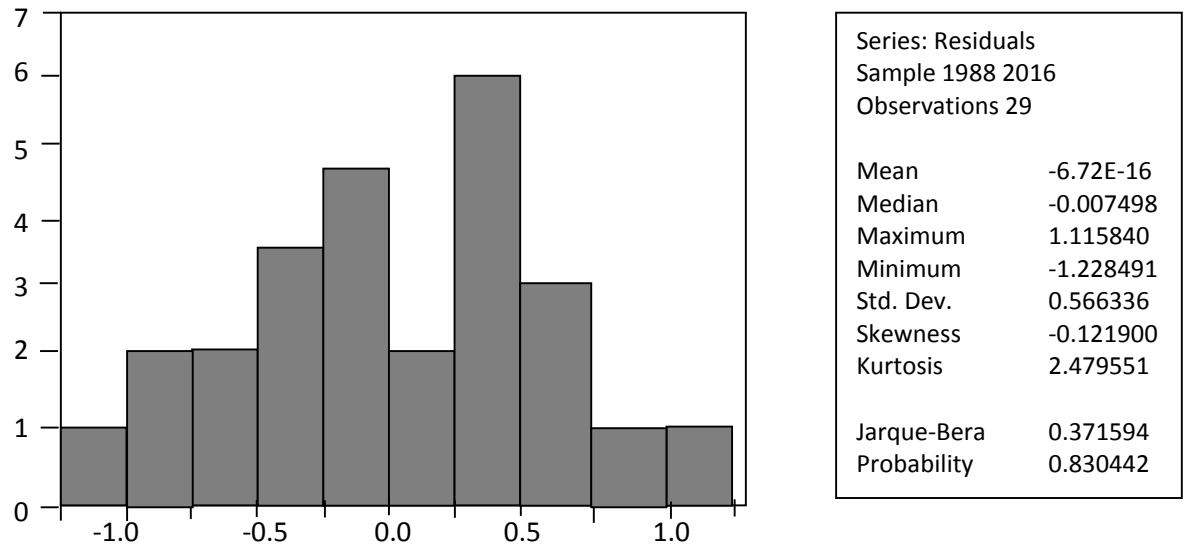
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.572157	0.728253	0.785656	0.4404
CRR	-0.070928	0.023659	-2.997970	0.0066
LR	0.006127	0.008935	0.685715	0.5001
LTD	-0.006415	0.006603	-0.971443	0.3419
MPR	0.024516	0.017314	1.415974	0.1708

R-squared	0.329443	Mean dependent var	0.308858
Adjusted R-squared	0.207524	S.D. dependent var	0.382841
S.E. of regression	0.340810	Akaike info criterion	0.850590
Sum squared resid	2.555326	Schwarz criterion	1.090560
Log likelihood	-6.482969	Hannan-Quinn criter.	0.921946
F-statistic	2.702137	Durbin-Watson stat	1.889873
Prob(F-statistic)	0.056990		

Source: E-views 9.0 Output

The probability value is greater than 5% level of significance; hence, we conclude that the variances are not large and constant overtime.

Table 4: Normality Test



Source: E-views 9.0 Output

From the above result, the Jargue-Bera Probability value of 0.830442 is > 5% level of significance; hence, we conclude that that parameters are normally distributed.

Table 5: Multicollinearity Test

Variance Inflation Factors
Date: 07/15/18 Time: 06:09
Sample: 1988 2016
Included observations: 29

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1.730775	123.2834	NA
CRR	0.001827	7.464239	1.691013
LR	0.000261	40.38667	1.558702
LTD	0.000142	43.099622	1.464175
MPR	0.000978	14.52240	1.117851

Source: E-views 9.0 Output

The estimated centred VIF values that are less than 10 indicated that the model is free of multicolinearity problem.

Table 6: Estimated OLS Regression Results

Dependent Variable: BTSC
Method: Least Squares
Date: 07/15/18 Time: 06:08
Sample: 1988 2016
Included observations: 29

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.771840	1.315589	3.627151	0.0015
CRR	0.110686	0.042740	2.589765	0.0167
LR	-0.000232	0.016142	-0.014349	0.9887
LTD	-0.003408	0.011929	-0.285716	0.7778
MPR	-0.176086	0.031278	-5.629691	0.0000

R-squared	0.628839	Mean dependent var	2.837919
Adjusted R-squared	0.561355	S.D. dependent var	0.929594
S.E. of regression	0.615672	Akaike info criterion	2.033373
Sum squared resid	8.339158	Schwarz criterion	2.273343
Log likelihood	-22.45053	Hannan-Quinn criter.	2.104728
F-statistic	9.318362	Durbin-Watson stat	1.693615
Prob(F-statistic)	0.000146		

Source: E-views 9.0 Output

From the above table the autocorrelation test revealed that the Durbin – Watson statistic of 1.693615 tends to 2 than 0. This indicates that the absence of significant autocorrelation. In other words, autocorrelation is weak.

Discussion of Results

The paper examined monetary policies and deposit money banks total sectoral credit allocation in Nigeria. This is in a bid to determine the impact and nature of relationship the former have

on the latter. The secondary data collected from the Central Bank of Nigeria statistical bulletin were from the period between 1988 to 2014.

The Unit root test carried out on the collected data using the Augmented Dickey Fuller showed that all the variables were integrated at order 1(1). This confirms that the data were consistent overtime and could be relied upon for estimation. Based, on the stationarity, the Johansen Co-integration test shows that trace test indicates I co-integrating equations at the 0.05 level of significance; thus, confirming the existence of long-run relationship between monetary policies and deposit money banks total sectoral credit. This is in tandem with the studies of Ayodele (2014). Granger causality was observed to run uni-directional from deposit money banks total sectoral credit to monetary policy rate and as well from cash reserve ratio (Crr) to liquidity ratio. This is an indication that monetary policies granger causes banks total sectoral credit allocation.

The Vector Error Correction Estimates indicate that ECM is appropriately signed with -0.182692. This depicts that about 18.26% of disequilibrium is corrected every year by changes in monetary policies.
The OLS regression result estimate showed that from the model equation only cash reserve ratio (Crr) have a positive relationship with banks total sectoral credit allocation, whereas liquidity ratio, loan-to-deposit ratio and monetary policy rates have inverse relationship with bank total sectoral credit. A unit increment in crr will result in a corresponding increase in BTSC by 0.110686 units. This fails the a priori expectation test. An increase in the cash reserve ratio, ordinarily is expected to lead to a decrease in the amount of loanable funds. Similarly, the result also show that a unit increase in loan-to-deposit ratio will equally cause banks total sectoral credit allocation to decrease by -0.003408 units. This equally is not in conformity with our a priori expectations. Increase in loan-to-deposit ratios is expected to yield corresponding increase in BTSC allocation. However, monetary policy rate (MPR) and liquidity ratio turned out to be the only policy instruments that conform to our expectations. Here, the result revealed that increases by a unit in the rates, will lead to decreases in BTSC allocation by 0.176086 and 0.003408 units respectively. An increase in mpr leads to corresponding increase in lending rates which consequently raises the cost of capital.

On the test of individual contribution of significance of individual variables, MPR and CRR turned out to be the only parameters that have significant impact on deposit money banks total sectoral credit allocation as their probability values (0.0167 and 0.000) are less than 0.05 or 5% level of significance. The adjusted R^2 depicts that monetary policies (tools) account for about 56% changes in banks total sectoral credit allocation in Nigeria. The F-statistic probability is less than the 0.05 level of significance. This signifies that the parameters jointly impact on BTSC allocation. This makes our model a good fit.

The positive relationship exhibited by crr undoubtedly may be linked to the fact that in this era of bank marketing where deposits keep mounting by the day, the relative little percentage of crr will not affect banks total sectoral credit allocation. Where crr goes up and deposit liabilities remain same, sectoral credits can be affected such that some loans will be liquidated to meet crr. But the reverse is the case as more often deposits are mobilized by deposit money banks. This increases bank balance sheet, loans stocks amongst others, hence, the positive relationship crr has on deposit money banks total sectoral credit allocation. This could be the reason why liquidity ratio have no significant impact on BSTC allocation. On the other hand, the inverse relationship of loan-to-deposit ratio in relation to total sectoral credit allocation could be traced

to the fact that banks sometimes are aversed to lending to sectors for instance the production or manufacturing sector except the already few established ones. Deposit base may increase, yet they are not keen and willing to allocate credit to various sectors of the economy. This makes it imperative that no matter the amount of increases in this ratio, which undoubtedly are not commensurate with amount allocated, inverse relationship tends to subsist. This perhaps, may explain reason, why the instrument is of no significant effect.

Conclusion and Recommendations

The paper investigated relationship and impact of monetary policies on deposit money banks total sectoral credit allocation. An important issue which has raised concern is the relationship and extent of impact monetary policies have on deposit money banks total sectoral credit allocation. It is ordinarily expected that monetary policies drives sectoral growth and development through deposit money bank total sectoral credit allocation but in Nigeria this situation seems like a mirage. Hence, given the Johansen cointegration test and the OLS regression estimates, the paper attests and establishes that there is a long-run relationship between monetary policies and deposit money banks total sectoral credit allocation. Also, that monetary policy has significant effect on banks total credit allocation, but given the VECM, monetary policies weakly granger causes BTSC.

- The current tempo at using the monetary policy rate as basis for regulating and moderating deposit money banks loans to various sectors should be reviewed and made less stringent for a positive significant impact.
- Given the positive relationship and significant effects of the cash reserve ratio, it is advisable that the authorities should always ensure that the ratio is maintained at a considerate or optimal level commensurate with sectoral need for funds.
- Policies that boarder on liquidity ratio and loan-to-deposit ratios should be revisited and ways fashioned out to make them significant.
- Authorities should use expansionary monetary policies to expand the volume of deposit money banks total sectoral credit whilst using MPR and cash reserve ratio to moderate the volume of credit.
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