MONETARY POLICY INSTRUMENTS AND ECONOMIC GROWTH (1981 – 2019): THE NIGERIAN EXPERIENCE

MONETARY POLICY INSTRUMENTSAND ECONOMIC GROWTH (1981-2019): THE NIGERIAN EXPERIENCE

Kamal, Adekunle Adewunmi

Department of Banking and Finance, Federal Polytechnic, Ilaro, Ogun State, Nigeria.
kamal.adewunmi@federalpolyilaro.edu.ng
08027662246

Abstract

The nexus between monetary policy and economic growth stabilization have been a major concern in economics research context. This paper attempted to bridge the knowledge gap through investigating monetary policy instruments and economic growth(1981-2019): in Nigeria. The study employed Ordinary Least Square analysis approach and also conducted Augmented Dickey-Fuller unit root, Johansen Co-integration and Granger causality test to estimate the long-run relationship between the GDP and explanatory variables. Annual time series data on monetary policy variables and Gross Domestic Product (GDP) were sourced from Central Bank of Nigeria (CBN) statistical bulletin 2019 edition. Findings of this study revealed that bank credit to private sector, external debt and exchange rate were monetary policy instruments capable of stimulating economic growth and development in Nigeria. However, Treasury bill and interest rate have inverse and insignificant influence on Nigeria's economic growth. The study therefore recommends that: Central Bank of Nigeria needs to reconsider and apply monetary policy to boost economic growth by employing the most effective instrument such as bank credits to private sector and exchange rate in order to uphold macroeconomics objectives and sustainable economic development on a long run. Also, efforts should be put in place to ensure that commercial banks follow Central Bank's guidelines for financial intermediation.

Keywords: Monetary policy, Credits to private sector, External debt, Exchange rate and GDP.

1.1 INTRODUCTION

Monetary policy is saddled with the use of financial instruments to regulate or control volume, cost, availability and direction of money and credit in an economy to achieve macroeconomic objectives such as; price stability, full employment and sustainable economic growth (Adegbite & Alabi, 2013).It impacts macroeconomic variables such as; stability of market prices, creation of employment, increase in real national income (GDP) and stability of balance of payment in many nation. (Srithilat & Sun, 2017; Anowor & Okorie, 2016; Precious, 2014). As a technique of economic management, monetary policy is geared toward achieving the economic growth of an economy. The policy has to do with the regulation of money supply, inflationary rate, interest rate on credit, external debts and price index. According to Adigwe, Echekoba and Onyeagba (2015), despite the various monetary regimes that have been adopted by the Central Bank of Nigeria over the years, inflation still remains a major threat to Nigeria's economic growth. Nigeria has experienced high volatility in inflation rates. Since the early 1970's, there have been more than three major episodes of high inflation in excess of 30 percent. The growth of money supply is correlated with this high inflation episode because money growth was often in excess of real economic growth. In Nigeria, monetary policy appeared to have some set-backs; because of inconsistent government policy, inability to implement the formulated policies, political and economic instability, absence of workable long-term development plans, and corruption at all levels of government (Ahmad, Afzal & Ghani, 2016). The monetarists base their views on money supply as the key factor affecting the wellbeing of the economy. They believe that an increase in money supply will lead to an increase in nominal demand, and where there is excess capacity they believe that output will be increased.

Monetary policy as a technique of economics management is aimed at bringing sustainability economic growth and development. This has been the pursuit of nations, as observed by Onyewu (2012)and formal formal articulation of how money affects economic aggregates. Economic growth could be defined as the increase in the amount of goods and services in a given country at a particular time. Broadly, economics growth implies raising the standard of living of the people and reducing

inequalities of income distribution (Ufoeze *et al*., 2018). In contrast, if the economy is showing signs of overheating and inflation pressures are building, the Central Bank will be inclined to counter these pressures by tightening the economy through monetary policy to bring growth in aggregate demand below that of the economy's potential to produce for as long as is necessary to defuse the inflationary pressures and put the economy on a path to sustainable expansion. While these policy choices seem reasonably straightforward, monetary policy makers routinely face certain notable uncertainties. Economic growth is also largely attributed to real shocks that are linked to technological progress and cannot be effectively offset by monetary policy (Lucas, 2003).

This postulation isbuttressed existing studies proposing that monetary policy constitute a limited influence or not really capable of driving economic growth in a long run(Asongu, 2014; Arestis, 2007). The results of both theoretical and empirical literature on the role of monetary policy instrument in stimulate economic growth has not universally generalizable and remain variant, inconsistent and remain inconclusive (Twinoburyo & Odhiambo, 2017; White, 2013) among others. However, ambiguity notion about monetary policy and economic growth in developing countries has not been settled. Some studies suggested that a monetary policy impetus to spur growth is likely to be inflationary, having a countervailing effect (Berg *et al*., 2013). Likewise, weak connection between monetary policy, inflation and economic growth was reported in developing countries to be precise (Twinoburyo & Odhiambo, 2017; Monteil, Adam & O'Conell, 2012). In addition, some studies confirm a weakening relationship between money supply and policy objectives (International Monetary Fund [IMF, 2014]; White, 2013). In some instances, the appropriateness and relevance of monetary policy has been questioned, particularly for some developing countries with large informal sectors, a poorly integrated financial sector, and low financial development and where the fiscal policy plays the dominant role in the economy. How monetary instruments can be of help to stabilize Nigerian economy is of immense concern to policy makers, academics and hence, the questfor this study.

As a matter of fact, could better economic growth and development be attributed to appropriate monetary policy or ineffectiveness of monetary policy instruments is as a result of decline in economy? What measures are to be considered if monetary policy would be effective in bringing about sustainable growth vis-á-vis Nigerian economy? Basically, results from the empirical studies in Nigeria on linkage between monetary policy instruments and economic growth remain inconsistent, variant or even sparse information still exist on studies conducted with the inclusion of previous year data and yet universally generalized. For instance, Onwuteaka, Okoye and Molokwu (2019), studied effect of monetary policy and economic growth in Nigeria within 1980-2017: an ARDL analysis approach. It was reported that M_2, interest rate on credit, infrastructure and external debt were statistically significant on economic growth while other variables used in the study were all found to be statistically insignificant in explaining the growth rate of the Nigerian economy. Likewise, Ufoeze *et al*., (2018) investigated the effect of monetary policy on economic growth in Nigeria (1986-2016) using OLS technique and also conducted the unit root and co-integration tests. Logarithm of GDP was used against monetary policy rate, M_2, exchange rate, lending rate and investment. It was revealed that revealed that monetary policy, interest rate and investment constitute statistically not significant having positive influence on Nigeria economic growth. While, M_2 has significant positive effect on Nigeria economy.

Meanwhile, in order to determine the effectiveness of monetary policy instrument on Nigerian economy, it becomes imperative to make an in-depth look at monetary policy instrument variables capable of boosting economic growth in Nigeria. Considerable attention have been devoted to evaluate monetary policy instruments and their effects on economic growth. Most studies we have on monetary policy instruments were concentrated most especially on money supply, inflation where as, other monetary variables such as bank credit to private sector, treasury bills were sidelined and less studied. However, bank credits to private sector received little attention in spite of the fact that it is an important monetary variable capable to propel economic growth of a nation. Against this backdrop, this study is of keen interest to bridge the gap by investigating monetary policy instruments and economic growth (1981-2019): the Nigerian experience using Treasury bill, external debt, exchange rate, credit to private sector and interest rate as variables of monetary policy while Gross Domestic Product was used to measure the economic growth of Nigeria.

2.1   LITERATURE REVIEW

2.2   Conceptual Review

The term monetary policy has been defined by experts and institutions from many perspectives. According to CBN (2016), monetary policy concept was defined as "Any policy measure designed by the federal government through the CBN to control cost availability and supply of credit. It also referred to as the regulation of money supply and interest rate by the CBN in order

to control inflation and to stabilize the currency flow in an economy. Monetary policy is the deliberate use of monetary instruments (direct and indirect) at the disposal of monetary authorities such as central bank in order to achieve macroeconomic stability. Monetary policy is essentially the tool for executing the mandate of monetary and price stability. Monetary policy is essentially a programme of action undertaken by the monetary authorities, generally the central bank, to control and regulate the supply of money with the public and the flow of credit with a view to achieving predetermined macroeconomic goals (Dwivedi, 2005) as cited (Ufoeze *et al.*, 2018). Monetary policy is one of the tools of controlling money supply in an economy of a nation by the monetary authorities in order to achieve a desirable economic growth. Governments try to control the money supply because most governments believe that its rate of growth has an effect on the rate of inflation. Hence, monetary policy comprises those government actions designed to influence the behavior of the monetary sector. Monetary policies are effective only when economies are characterized by well-developed money and financial markets like developed economies of the world. This is where a deliberate change in monetary variables influences the movement of many other variables in the monetary sector. However, economic growth is a sustained rise in the output of goods, services and employment opportunities with the sole aim of improving the economic and financial welfare of the citizen's Economic growth as an increase in a country's productive capacity, identifiable by a sustained rise in real national income. The economic growth is an important issue in economics and is considered as one of the necessary conditions to achieve better outcomes on social welfare, which is the main objective of economic policy. It is an essential ingredient for sustainable development. Economic growth in a country is proxy by Gross Domestic Product (GDP). Thus, in this study, it is conceptualized as the monetary value of all goods and services produced in an economy over a specified period, usually one year (Andabai, Ikeora & Anah, 2019).

2.3   Theoretical Review

There are various theories postulated on monetary policy instrument and economic growth. Therefore, Keynesian Theory and Monetarist Theory were the theories in which this study rest on.

Keynesian general theory was postulated amidst depression economy in United Kingdom in the year 1936. Keynesian theory is of the view that an increase in money supply leads to a fall in interest rate to induce the public to hold additional money balances. Therefore, decrease in interest rate could be promote investment. However, increase in investment resulted to rise in income level/output multiplier which can promote economy and macroeconomics objectives. Hence, monetary policy affect nation economy invariably through their influences on investment and interest rate. Meanwhile, Keynesian transmission mechanism is considered with a highly detailed building up of aggregate demand coupled with a detailed specification of portfolio adjustment process that connect pivotal role to interest with a inverse connection between monetary policy and fiscal demand. Basically, the role of money was emphasized by the Keynesian monetary mechanism, rather it involve an ancillary linkage of money with aggregate demand through the interest rate as it was shown below;
OMO-R-MS-r-I-GNP
Where; OMO is denoted by Open Market Operation
R indicate Commercial Bank Reserve
MS indicate Stock of Money
r = Interest rate
I denote Investment
GNP indicate Gross National Product

For better clarification, there is an open market acquisition of government securities by Central Bank of Nigeria when the economy is at equilibrium at the initial state, Open Market Operation (OMO) will cause an increase in commercial banks reserve (r) and propel the bank reserve. Banks then operate to recover desired ratio through an extension of new loan or by expanding bank credits in another way. Meanwhile, new loan cause new demand deposits, thereby bring about an increase in the money supply. Fall in general level of interest rate (r) is associated with rise in money supply. Decline in interest rate affect deposit money banks performance, stimulate investment and ensure profit envisaged by business personnel's. Successive round of final demand spending by GNP is as a result of induced investment expenditure to rise by a multiple of the ithnitial change in investment. Also, an increase in general level of interest rate is caused by decline in money supply thereby increasing commercial banks profitability (Jhingan, 2010). However, monetarist theory came to the fore in the 1950s, drawing its cornerstone from the QTM and assuming that velocity in the quantity theory of money is generally stable, which implies that nominal income is largely a function of the money supply. Monetarist upheld the principle of trade-off between inflation and output but reformulated the Philips curve in terms of real wage and not nominal wages (Gottschalk, 2005). Equilibrium in labour market is obtained at natural rate and assumptions of sticky wages prevail. The nominal rigidities in wages and prices imply that monetary policy affects real income in the short run (stabilization); an increase in money stock would have temporary increase in real output (GDP) and employment in the short run, but no impact in long run due to

countervailing effect of an increase in the general price. Money supply in the long run is inflationary, thus theory assumed long-run monetary neutrality. There is substantial evidence found in even recent literature to support this (Nogueira, 2009). Symbolically, theFiguratively, concept of money transmission mechanism can be summarized as; OMO-MS-spending-GNP. The arguments of monetarist dwell on old quantity theory of money. Variation in money supply will directly affect prices, output or national income (GNP) if speed of money in circulation is constant.

2.4   Empirical Review

Andabai, Ikeora and Anah (2019) examined the impact of monetary policy on economic growth in Nigeria; for the period 1990-2017. Secondary data were collected from the Central Bank of Nigeria Statistical Bulletin. The study used Gross Domestic Product as proxy for economic growth and employed as the dependent variable; whereas, monetary policy rate, liquidity rate and Treasury Bills respectively were used as the explanatory variables to measure monetary policy. Hypotheses formulated were tested using Ordinary Least Square (OLS) techniques. The study revealed a significant impact of Treasury Bills on Gross Domestic Product in Nigeria. Liquidity ratio had a significant impact on Gross Domestic Product in Nigeria. Monetary policy rate had a significant impact on Gross Domestic Product in Nigeria. The coefficient of determination indicated that about 62% of the variations in private sector of the economy can be explained by changes in monetary policy variables. The study concluded that monetary policy had impacted significantly on private sector growth in Nigeria. The study recommended that policy makers should strong economic policies that will maintain and stabilize the economy. CBN should lay down strict prudential guidelines to stabilize and strengthen the economy. The CBN should review the Monetary Policy Rate downwards so as to reduce the cost of credit and increase the flow of investible funds to the economy.

Ufoeze, Odimgbe, Ezeabalisi and Alajekwu (2018) investigatedthe effect of monetary policy on economic growth in Nigeria.The natural log of the Gross Domestic Product was employed as the explainedvariable against monetary predictors variables; monetary policy rate, M_2, real exchange rate, lending rate and investment. The time series data is the market-controlled period covering 1986 to 2016. The study adopted an Ordinary Least Squared technique and also conducted the unit root and co-integration tests. It was showed that long-run relationship exists between the variables. It was also revealed that interest rate, monetary policy rate and investment is statistically insignifiant with a positive effect on Nigeria economic growth. Money supply however has significant positive effect on growth in Nigeria. Exchange rate has significant negative effect on GDP in Nigeria. Money supply and investment granger cause economic growth, while economic growth causes interest rate in Nigeria. On the overall, monetary policy explains 98% of the changes in economic growth in Nigeria. Thus, the study established that monetary policy can be used to control macroeconomics objectives that can ensure price stability and increase national output.

Nwoko, Ihemeje, and Anumadu (2016) examined the extent to which the Central Bank of Nigeria Monetary Policies could effectively be used to promote economic growth, covering the period of 1990-2011. The influence of money supply, average price, interest rate and labour force were tested on Gross Domestic Product using the multiple regression models as the main statistical tool of analysis. Studies show that CBN Monetary Policy measures are effective in regulating both the monetary and real sector aggregates such as employment, prices, level of output and the rate of economic growth. Empirical findings from this study indicate that average price and labour force have significant influence on Gross Domestic Product while money supply was not significant. Interest rate was negative and statistically significant. It is therefore, recommended that Central Bank Monetary Policy could be an effective tool to encourage investment, reduce unemployment, reduce lending rate and stabilize the economy of Nigeria.

3.1   METHODOLOGY

This study employed descriptive research design to examine the effect of monetary policy instrument on the growth of Nigerian economy because it permitted the researcher to test specific hypotheses about the direction and magnitude of influences of variables such as Treasury bill, external debt, exchange rate, bank credits to private sector and interest rate have on gross domestic product. This study employed time series data; hence data for this study were obtained from secondary sources mainly from Central Bank of Nigeria (CBN) statistical bulletin 2019 edition. The choice of secondary data was due to: it is faster, reduces time wastages in data gathering, frequently available for re-analysis, it is non-reactive, it also offers a comprehensive background and readily improves one's learning curve. Meanwhile, Anowor and Okorie (2016) employed error correction model approach to examine the impact of monetary policy on economic growth in their study.

In addition, Ufoeze *et al.*, (2018), adopted panel least square of simple regression analysis because, data sets on the variables have both time series and cross-sectional dimensions. Due to the assumed linearity nature of the model specified, ordinary least square (OLS) method was employed based on its BLUE (best, linear, unbiased, estimator) properties and to obtain the intercept and coefficients of the model. The essence of this technique is due to its unique feature compared with other techniques of estimation of models. The measure of economic growth for this study is Gross Domestic Product with monetary policy instrument variables which includes; Treasury bill, external debt, exchange rate, bank credits to private sector and interest rate. Econometrics views (E-views) software version 9.0 was adopted for the econometric and statistical analysis of the data. Furthermore, in order to test the stated hypotheses, model for this study was adapted from the study of Andabai *et al.*, (2019), with slight modification. The model was based on the theoretical proposition that monetary policy instrument could serve as a panacea to ensure Nigeria economic growth. Therefore, this study model was stated as;

$$GDP = f\ (TB,\ EXD,\ EXCHR,\ BCPS,\ INTR)\ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\text{(i)}$$

Hence, econometrics form of the model is;

$$GDP = \beta_0 + \beta_1 TB + \beta_2 EXD + \beta_3 EXCHR + \beta_4 BCPS + \beta_5 INTR + \mu\ \ldots\ldots\text{(ii)}$$

Where; GDP = Gross Domestic Product; TB = Treasury bill; EXD= External debt; EXCHR = Exchange rate; BCPS = Bank credit to private Sector; INTR = interest rate; β_0 = Constant term, $\beta_1 - \beta_5$ = Coefficient of explanatory variables; μ = error term. Based on a priori expectation, monetary policy instruments is expected to have a positive effect on Nigerian economic growth, in such a way that the monetary policy instruments authority utilizes them to mobilize economic growth. Thus: $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 > 0$, $\beta_4 > 0$ and $\beta_5 > 0$.

3.2   RESULTS AND DISCUSSION

This section revealed secondary data gathered solely on the scientific purpose to validate/refute the already stated hypotheses. It also presents the data collected and analyzed these data using the appropriate model constructed in the model specification. However, conclusion from the study test and findings were drawn related to the research hypotheses.

The summary statistics of variables used was presented in table 4.1 below. From the table, it was shown that external debt (EXD) has the lowest mean value of 14.81440 and bank credits to private sector (BCPS) has the highest mean value of 5340.539 billion naira. Mean value of Gross Domestic Product (GDP), Treasury bill, interest rate, exchange rate and gross domestic products was estimated to 879.3473, 17.62256, 94.25879 and 30559.51 respectively. Also, value of skewness and kurtosis of variables in the model was estimated. Skewnessmeasurethesymmetryofthehistogramwhilethekurtosisisameasureofthetailshapeofthehistogram.Thebenchmarkforsymm etricaldistributioni.e.fortheskewnessishowclosethevariableistozerowhile inthecaseofkurtosis,whenitisthree iscalledmesokurticbutvalueslowerthanthat iscalledplatykurticandaboveisreferredtoasleptokurtic.Jarque-Beratestisagoodnessoffitwhichtestwhethersampledatahave theskewnessandkurtosismatchinganormaldistribution.Itisateststatisticisalwaysnon-negative,itisthemeasureofskewnessandkurtosisvaluewithin0and3respectivelywithanormaldistribution.Theestimated Jarque-Beraresultsconfirmedthenormalcydistributionassumptionofthemodel,hencethevariableshaveanormaldistribution,hence, itisanindicationthat it isfeasibletobeforecastedwithhigheraccuracy.Also, interestratehastheleaststandarddeviationwiththevalueof4.852signalingthatINTR isthemoststablevariableamongallthevariablesevaluated inthisstudy. Whereas, bank credits to private sector has the highest standard deviation with the value of 7994.584 indicating that it is the most volatile variable. In addition, normality test shown that the interest rate and exchange rate is normaly distributed because probability value of their Jarque-Bera statistic is greater than 0.05.

However,theAugmentedDickey-Fuller/stationarity test test was presented in table 4.2. Stationarity test is conductedtoascertain ifthevariablesunderconsiderationwerestationary.Thefollowingdecisionrulewastaken;iftheabsolutevalueoftheADFtest isgreaterthanthecriticalvalueat5%levelofsignificanceattheorderorzero,oneortwo,itshowsthatvariablesunderconsiderationhaveaun itrootorotherwise. Stationarity test result indicated that Treasury bill is stationary at level and at first difference. Also, critical

values of Gross Domestic Product, external debt and bank credits to private sector were greater than the ADF statistical values at level and have a unit root at first difference [I(1)]. While interest rate and exchange rate were stationary at level.

From the regression analysis in table 4.3, it was revealed that independent variables such as external debt, exchange rate and bank credits to private sector have positive with statistically significant effect on Gross Domestic Product which was used as an indicator of Nigerian economy. Meanwhile, Treasury bill and interest rate was estimated to have insignificant inverse relationship with GDP. The R-squared value indicated that the model has goodness of fit 99% of changes in the dependent variable are explained by monetary policy instrument variables used as the independent variables in the model. The Durbin-Watson statistics have the value of 1.088 is within the two critical values of 1.5<d<2.5 therefore it shows that there is no evidence of serial auto-collinearity in the data. The adjusted coefficient of determination (Adj.R^2) of determination revealed that 99% of change in monetary policy instruments have an effect on Nigeria economy. This implies that monetary policy instruments variables evaluated in this study could be an effective tools capable to propel and ensure economic growth and development in Nigeria. Interestingly, the probability value of F-statistics showed that the overall regression is statistically significant at 1%, 5% and 10% level of significance indicating that monetary policy instruments used have statistical significant impact on economic growth in Nigeria. This support the result of the Adjusted R^2 and further confirmed that independent variables have good influence on Nigeria GDP. This findings was in tandem with findings reported by Andabai, Ikeora and Anah (2019); Anowor and Okorie (2016) who found out that monetary policy have significant impact of Nigeria Gross Domestic Product. The result was in consonance with economic literature as monetary policy among other objectives is geared towards achieving the macroeconomic objectives of sustained economic growth and price stability.

Meanwhile, Johansen co-integration approach was also employed to test for long-run relationship among the variables. The framework provides a number of co-integrating equations and estimates of all co-integrating vectors in the multivariate case. The Johansen co-integration test result presented in table 4.4 indicated that the likelihood ratio were conducted to establish the number of co-integrating relationship in each of the equation. Test results indicated the existence of two co-integrating equations at 1% and 5%. Therefore, if can be said that long-run relationship exist between variables of monetary policy instrument used and economic growth in Nigeria. However, co-integration test displayed in the first panel of table 4.4, the trace statistic is greater than the critical value with a probability value of 0.0000 which is lesser than 0.05. Thus, the null hypothesis of no co-integrating vectors is rejected indicating that the variables were co-integrated. It can therefore be said that long-run relationship exist between dependent and independent variables evaluated i.e. monetary policy is positively related to Nigeria economic growth and development when maintained appropriately as it is considered as a techniques of economic management that can ensure economic sustainable growth (Twinoburyo & Odhiambo, 2018; Onwuteaka *et al*., 2019).

Result of obtained in this study corroborate with findings reported by Fasanya, Onakoya and Agboluaje (2013) but contrary to findings of Ayodeji and Oluwole (2018) who reported that monetary policy constitute a fairly insignificant impact on Nigeria economy. Nevertheless, Granger causality test presented in table 4.5 shown that causal relationship exist runs between Treasury bill, external debt, exchange rate and Nigeria's Gross Domestic Product. Meanwhile, no evidence of causal relationship was estimated between interest rate, bank credits to private sector and Gross Domestic Product.

3.3 Findings and Interpretation of Results

Findings of this study has shown that monetary policy variables constitute significant effect on economic growth in Nigeria. From the five hypotheses tested, three hypotheses of significance was accepted for external debt, exchange rate and bank credits to private sector on Gross Domestic Product. Thus, it can therefore be deduced that; there is positive statistical significant relationship between exchange rate, external debt and bank credits to private sector on GDP. Meanwhile, inverse statistical insignificant relationship run between interest rate and Treasury bill under the period of study.

4.1 Conclusion

This study examined the monetary policy instruments and economic growth (1981-2019) as monetary policy is considered as techniques of economic management that can bring about sustainable economic growth which have been the pursuit of many nations. From the results, this study revealed that bank credit to private sector, external debt and exchange rate were

monetary policy instruments capable of stimulating economic growth and development in Nigeria. Conclusively, Treasury bill and interest rate was estimated to have inverse insignificant influence on Nigeria economic growth under the study period.

5.1   Recommendations

Based on the findings of this study, the following recommendation were drawn;

Firstly, Central Bank of Nigeria need to reconsider and apply monetary policy to boost economic growth by employing the most effective instrument such as bank credits to private sector and exchange rate in order to maintain the economic stability and economic development in the long run. Therefore, this study recommends that monetary authorities in stabilizing the Nigerian economy should give priority attention to exchange rate and bank credits to private sector as it will produce a more desired result in terms of economic stabilization.

In the light of the above, the issue of broad monetary policy instruments should be critically looked into by the monetary authorities especially in Nigeria because it can be sometimes dangerous for the economy; rather efforts should be put in place to ensure that Deposit Money Banks follow Central Bank's guideline for financial intermediation.

Likewise, monetary policies should be used to create a favourable investment climate by facilitating the occurence of market based interest rate and exchange rate regimes that attract both domestic and foreign investments, create jobs and revive private sector.

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APPENDICES

Table 4.1   Summary Statistics of Variables used for the Analysis

	GDP	TB	EXD	INTR	EXCHR	BCPS
Mean	30559.51	879.3473	14.81440	17.62256	94.25879	5340.539
Median	6897.482	465.5358	1.652800	17.55000	102.1052	530.3733
Maximum	144210.5	3665.250	112.8667	31.65000	306.9206	24922.94
Minimum	144.8312	5.782000	0.000000	8.920000	0.610025	8.570000
Std. Dev.	41655.36	1105.227	26.33618	4.851729	92.86517	7994.584
Skewness	1.292604	1.210659	2.233242	0.253537	0.806529	1.263559
Kurtosis	3.429122	3.044660	7.523892	3.624551	2.846207	3.058189
Jarque-Bera	11.15960	9.530257	65.67451	1.051679	4.266615	10.38328
Probability	0.003773	0.008522	0.000000	0.591059	0.118445	0.005563
Sum	1191821.	34294.55	577.7618	687.2800	3676.093	208281.0
Sum Sq. Dev.	6.59E+10	46418056	26356.59	894.4925	327709.7	2.43E+09
Observations	39	39	39	39	39	39

Table 4.2   ADF Unit Root/Stationarity Test

Variables	Order of Stationarity	Augmented Dickey-Fuller test statistic	1% Level Critical Value	5% Level Critical Value	10% Level Critical Value	Order of Integration	Decision
GDP	At level	3.061394	-3.621023	-2.943427	-2.610263	I(0)	Not Stationary
	1st difference	0.626510	-3.621023	-2.943427	-2.610263	I(1)	Stationary
TB	At level	-1.432657	-3.632900	-2.948404	-2.612874	I(1)	Stationary
	1st difference	-2.655923	-3.639407	-2.951125	-2.614300	I(1)	Stationary
EXD	At level	4.116989	-3.626784	-2.945842	-2.611531	I(0)	Not Stationary
	1st difference	2.610606	-4.234972	-3.540328	-3.202445	1(1)	Stationary
INTR	At level	-2.388445	-3.615588	-2.941145	-2.609066	I(1)	Stationary
	1st difference	-5.209083	-3.626784	-2.945842	-2.611531	I(0)	Not Stationary
EXCHR	At level	1.393597	-3.615588	-2.941145	-2.609066	I(1)	Stationary
	1st difference	-4.263488	-3.621023	-2.943427	-2.610263	I(0)	Not Stationary
BCPS	At level	4.451326	-3.615588	-2.941145	-2.609066	I(0)	Not stationary
	1st difference	-0.592007	-3.639407	-2.951125	-2.614300	I(1)	Stationary

Source; Author's computation using E-views 9.0

Table 4.3 Regression Analysis

Dependent Variable: GDP
Method: Least Squares
Date: 09/14/20   Time: 09:06
Sample: 1981 2019
Included observations: 39

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3002.749	2419.804	1.240906	0.2234
TB	-2.224459	2.463222	-0.903069	0.3730
EXD	106.8144	55.26177	1.932880	0.0519
INTR	-174.7187	136.2611	-1.282235	0.2087
EXCHR	91.50544	18.12644	5.048176	0.0000
BCPS	4.191382	0.368873	11.36268	0.0000

R-squared	0.993062	Mean dependent var	30559.51
Adjusted R-squared	0.992010	S.D. dependent var	41655.36
S.E. of regression	3723.356	Akaike info criterion	19.42328
Sum squared resid	4.57E+08	Schwarz criterion	19.67921
Log likelihood	-372.7539	Hannan-Quinn criter.	19.51510
F-statistic	944.6317	Durbin-Watson stat	1.088358
Prob(F-statistic)	0.000000		

Table 4.4 Johansen-Cointegration Test Results

Date: 09/14/20   Time: 09:15
Sample (adjusted): 1983 2019
Included observations: 37 after adjustments
Trend assumption: Linear deterministic trend
Series: GDP TB EXD INTR EXCHR BCPS
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 *	0.896008	168.5156	95.75366	0.0000
At most 1 *	0.624074	84.76826	69.81889	0.0020
At most 2 *	0.524757	48.56886	47.85613	0.0428
At most 3	0.321881	21.04346	29.79707	0.3549
At most 4	0.157851	6.671453	15.49471	0.6161
At most 5	0.008475	0.314895	3.841466	0.5747

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.896008	83.74734	40.07757	0.0000
At most 1 *	0.624074	36.19941	33.87687	0.0259
At most 2	0.524757	27.52539	27.58434	0.0509
At most 3	0.321881	14.37201	21.13162	0.3353
At most 4	0.157851	6.356558	14.26460	0.5679
At most 5	0.008475	0.314895	3.841466	0.5747

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 4.5   Granger Causality Test Results
Pairwise Granger Causality Tests
Date: 09/14/20   Time: 09:18
Sample: 1981 2019
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
TB does not Granger Cause GDP	37	0.29124	0.7493
GDP does not Granger Cause TB		6.59260	0.0040
EXD does not Granger Cause GDP	37	2.57927	0.0915
GDP does not Granger Cause EXD		3.07812	0.0599
INTR does not Granger Cause GDP	37	0.27185	0.7637
GDP does not Granger Cause INTR		1.31534	0.2825
EXCHR does not Granger Cause GDP	37	8.59662	0.0010
GDP does not Granger Cause EXCHR		5.30708	0.0102
BCPS does not Granger Cause GDP	37	0.71029	0.4991
GDP does not Granger Cause BCPS		14.3846	3.E-05