VOL. 18 NO. 7
ISSN: 2276-0732
SEPTEMBER, 2020

African Scholar Publications & Research International

African Scholar Journal of Mgt. Science and Entrepreneurship (JMSE-7)

Impact of Monetary Policy on Economic Growth of Nigeria

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Abstract

This study determined the effect of monetary policy on economic growth of Nigeria. The study employed data on prime lending rate, maximum lending rate and inter-bank call rate as monetary policy variables while the gross domestic product at current prices is used as a measure of economic growth. The data is quarterly data from Q1 2010 to Q3 2018 which is currently the maximum available data on quarterly GDP. The multiple linear regression analysis was used to fit the relationship between monetary policy variables and the growth of Nigerian economy. The interest rates are the independent variables while GDP is the dependent variable. The study found that only maximum lending rate has significant effect on economic growth in Nigeria. This study contributes to the divergent results on the effect of monetary policy on economic growth. The current findings lead to the conclusion that the monetary policy has significant effect proxied by the maximum lending rate has significant effect on economic growth. The study therefore recommends that the monetary authority should channel their policies towards improving other interest rates channels for effective monetary policy mechanism.

Keyword: *monetary policy, economic growth, inter-bank rate, prime maximum lending rate.*

Introduction

Monetary policy refers to discretionary control of money supply by Central Banks with a view of achieving desired economic objectives. It consists of actions of monetary authorities designed to influence the behavior of the monetary sector towards achieving monetary and price stability. The goal of monetary policies in most countries include maintenance of balance of payments equilibrium, price stability, output growth, sustainable development and promotion of employment (Ayodeji and Oluwole, 2018).

Interest rate is the primary instrument of price stability target of monetary policy as the interest rate channel is recognized by most economists as the most effective channel of monetary policy transmission (Adekunle, *et al*, 2018). Monetary policy has been found to influences macroeconomic variables such as employment creation, gross domestic product growth, price stability, equilibrium in the balance of payment in developing country (Precious, 2014).

Economic growth is the increase in the amount of goods and services in a country at a time resulting in increase in real per capita income of a country over time. Economic growth implies raising the standard of living of the people and reducing inequalities of income distribution (Ufoeze, *et al,* 2018).

Interest rates refers to the price for money and credit. It is the rate charged by suppliers of money and credit. Those borrowers for investment and consumption spending pay interest for the use of credit, as such increase in interest rates discourages burrowers from borrowing from banks and a reduction in interest rate encourages borrow from banks.

Monetary policy contributes to sustainable growth through the maintenance of price stability. Monetary policy uses tries to effectively check money supply with a view to maintaining price stability in the medium to long term. Evidence in extant literature suggest that sustainable long-term growth is associated with lower price levels and thus high inflation is damaging to long-run economic performance. Monetary policy has substantial impact on financing conditions. The impact include the costs, availability of credit and banks' willingness to assume specific risks. Monetary policy also influences future expectations of the future direction of economic activity and inflation, thus affecting the prices of goods, asset prices, exchange rates as well as consumption and investment.

An expansionary monetary policy decision cuts interest rate, lowers the cost of borrowing, resulting in higher investment activity and the purchase of consumer durables. The expectation that economic activity will strengthen may also prompt banks to ease lending policy, which in turn enables business and households to boost spending. When interest-rate is low, stocks become attractive to buy thereby raising households' financial assets and tend to cause currency to depreciate because the demand for domestic goods rises when imported goods become more expensive. The combination of these factors raises output and employment as well as investment and consumer spending. Interest rate channel is the primary monetary policy mechanism at work in conventional macroeconomic models (Kuttner & Mosser, 2002). Monetary policy affects interest rates, costs and level of borrowing and aggregate demand (Mishkin, 2012). Several studies on the impact of monetary policy on economic growth are abound. These studies employ different variables and proxies of monetary policy and economic growth without different results. This study tries to use the interest rate channel of monetary policy to determine the effect on Nigerian economic growth.

Objectives of the Study

The main objective of this study is to ascertain the impact of monetary policy on economic growth of Nigeria. the specific objectives are:

1. To ascertain the effect of maximum lending rate on the growth of Nigerian economy.
2. To determine the effect of prime lending rate on the growth of Nigerian economy
3. To ascertain the effect of inter-bank call rate on the growth of Nigerian economy.

LITERATURE REVIEW

This study is anchored on the theory of Demand-side economics which posits that economic growth and full employment are most effectively created by high demand for products and services. According to this theory, output is determined by effective demand and high consumer spending leads to business expansion, resulting in greater employment opportunities. These spending on output is shaped by the existing interest rate with is also pegged on the monetary policy rates.

Abata, Kehinde & Bolarin (2012) assessed how fiscal and monetary policies influence economic growth and development in Nigeria and argued that curbing the fiscal indiscipline of Government will take much more than enshrining fiscal policy rules in our statute books. The study found that there exist a mild long-run equilibrium relationship between economic growth and fiscal policy variables in Nigeria and suggests that some powerful pro-stability stakeholders strong enough to challenge government fiscal recklessness will need to emerge, for any meaningful progress towards fiscal prudence on the part of Government to occur.

Ufoeze, *et al* (2018) investigated the effect of monetary policy on economic growth in Nigeria using the Ordinary Least Squared technique, the unit root and co-integration tests. The findings of the study revealed that long run relationship exists among natural log of the GDP, monetary policy rate, exchange rate, money supply, investment and lending rate. The findings also reveal that monetary policy rate, interest rate, and investment have insignificant positive effect on economic growth in Nigeria. Money supply was found to have 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 concluded that monetary policy can be effectively used to control Nigerian economy and thus a veritable tool for price stability and improve output.

Osakwe, Ibenta & Ezeabasili (2019) examined the effect of monetary policy on the performance of the Manufacturing sector in Nigeria using monetary policy rate, Treasury bills rate, Cash reserve requirement and money supply as explanatory variables and the Manufacturing sector output as dependent variable. The study is an ex-post facto research design that used secondary data obtained from the CBN Statistical Bulletin and covered a period of 32 years. The study employed Augmented Dicker Fuller stationarity and Autoregressive Distributive Lag (ARDL). The results of the study found that monetary policy tools have significant effect on the manufacturing sector output in Nigeria in the short run only. The study thus concludes that monetary policy tools may not be a long run policy instrument for the growth of the manufacturing sector output in Nigeria but rather short run instruments and recommended that money supply and treasury bills can be used in the short run as policy instruments to maintain macroeconomic stability in Nigeria with reference to the manufacturing sector.

Omolade & Ngalawa (2017) examined the role of exchange rate regimes in determining the nature of relationship between monetary policy transmission mechanisms and manufacturing output growth in oil producing economies in Africa with emphasis on Libya and Nigeria. The study employs structural variance decomposition approach (SVAR). The result shows that that exchange rate regime has some influences on the monetary policy transmission mechanism and its effectiveness on the manufacturing output growth in the two oil exporting countries. Oil price shocks was also found to affect the monetary policy instrument of both countries greatly. The study concluded that flexible exchange rate appears to create enabling environment for monetary policy instrument to influence manufacturing output growth positively in the face of oil price shock.

Agu (2018) studied Monetary Policy Tools and Economic development in Nigeria using time series data from 1986-2016 drawn from Central Bank of Nigeria (CBN) statistical bulletin. The study employed Johansen Co-integration Test, Augmented Dickey Fuller (ADF) for Unit Root Test and Error Correction Mechanism (ECM). The results of the study reveal that monetary policy tools had a negative relationship with Economic Growth in Nigeria and that there is short run relationship among some variables with two Co-integrating vectors. The results also found that only Interest rate exerted significant impact on economic growth in Nigeria while other variables did not. The study recommended that CBN/monetary authorities should tighten money supply either by increasing the Cash Reserve Requirements (CRR) of banks, raising the Liquidity Ratio of banks and mopping up excess liquidity from the system through increased OMO operations.

Kamaan (2014) quantitatively measured the effect of monetary policy on economic growth in Kenya using vector auto regressions (VARs) in which each variable is in turn explained by its own lagged, current and past values. Findings in the study reveals that one standard deviation monetary policy shock proxied by the central bank rate (CBR) has a negative and insignificant effect on the output in the first two months which then becomes positive and insignificant in the next four months. The study also found that a one standard deviation shock of the interbank rate to inflation is positive and significant for the first two and a half months and continues to be positive but insignificant upto the sixth month. The study recommended formulation of policies that will reduce interest rates to desirable levels to spur economic growth and still seek to achieve low levels of inflation in Kenya.

Adigwe, Echekoba & Onyeagba (2015) examined the impact of monetary policy on the Nigerian economy using the Ordinary Least Square Method (OLS) and data between 1980 and 2010. The findings in the study shows that monetary policy exerts a positive impact on GDP growth and negative impact on the inflation rate. The recommendations are that monetary policy should facilitate a favourable investment climate through appropriate interest rates, exchange rate and liquidity management mechanism and the money market should provide more financial instruments that satisfy the requirements of the ever-green sophistication of operators.

Onyeiwu (2012) examined the impact of monetary policy on the Nigerian economy using Ordinary Least Squares Method (OLS) and data between 1981 and 2008. The result of the study reveals that monetary policy had a positive impact on GDP growth and Balance of Payment but negative impact on inflation rate. The study recommended that monetary policy should facilitate a favourable investment climate through appropriate exchange rate, interest rates and liquidity management mechanism and that money market should provide more financial instruments that satisfy the requirement of the ever-growing sophistication of operators

Ayodeji & Oluwole (2018) examined the impact of monetary policy on economic growth in Nigeria. the study used Money Supply (MS), Interest Rate (IR), Exchange Rate (ER), and Liquidity Ratio (LR) as proxy for monetary policy and Gross Domestic Product at constant prices as economic growth variable. The study employed unit root test and Error Correction Model as analytical tools. The results of the study reveal that money supply and exchange rate had positive and insignificant impact on economic growth while interest rate and liquidity ratio had negative but significant impact on economic growth. The study also found a long run relationship between monetary policy and economic growth in Nigeria. A uni-directional causality between money supply and economic growth, economic growth granger causing liquidity ratio and exchange rates was observed, while a bi-directional causality was observed to exist between interest and economic growth. The study recommended that partial autonomy should be replaced with full autonomy for the central banks of Nigeria which is subjected to government interference.

Aslam & Awan (2018) investigated the impact of monetary policy on Pakistan's economic growth using time series data for the period 1972-2015. Real gross domestic product, gross capital formation, employed labour force, broad money, foreign direct investment, exports and GDP deflator. Multiple regression and correlation technique were used to analyze the data. The study found that monetary policy has significant effect on money supply, inflation rate, gross capital formation, employment, saving and foreign direct investment.

The study recommended that central banks should be given free hand to formulate and execute monetary policy.

Srithilat & Sun (2017) examined the impact of monetary policy on economic development using annual time series data from 1989-2016. The unit root testing result, the Johansen Cointegration and Error Correction Model were employed to analyze the association between variables. The results of the study show that interest rate, inflation rate and money supply negatively affect the real GDP per capita in the long run and only the real exchange rate has a positive sign. There is also short run causality between money supply, real exchange rate and real GDP per capita.

RESEARCH METHOD

This study employed data for prime lending rate, maximum lending rate and inter-bank call rate as monetary policy variables while the gross domestic product at current prices is used as a measure of economic growth. The data is quarterly data from 2010 to 2018, currently the maximum available data on GDP. The multiple linear regression analysis was used to fit the relationship between monetary policy variables and the growth of Nigerian economy. The interest rates are the independent variables while GDP is the dependent variable. The model of relationship between monetary policy and economic growth is presented below.

Economic growth =*f*(monetary policy)

GDP=*f*(MLR, PLR, IBCR)

$GDP = \beta_0 + \beta_1 MLR + \beta_2 PLR + \beta_3 IBCR + \varepsilon$

Where β_0 is the intercept of the regression model

β_1, β_2 and β_3 are rates of change of MLR, PLR and IBCR on GDP respectively.

ε is the error term associated with the model.

The significance of the variables are tested at 5% level of significance.

RESULTS AND DISCUSSION OF FINDINGS

The results of the model of monetary policy on economic growth of Nigeria is presented in tables below.

Table 1: Summary Statistics

OVERALL FIT

R Square	**0.838043**
Adjusted R Square	0.82237
Standard Error	2369.199
Observations	35

The summary statistics for the model of monetary policy and economic growth is presented in table 1. The R-square value of 0.83804 shows that 83.80% of the changes in economic growth is attributable to interest rates.

Table 2: Model Adequacy Result

	df	*SS*	*MS*	*F*	*p-value*	*sig*
Regression	3	9E+08	3E+08	53.46957	2.33E-12	yes
Residual	31	1.74E+08	5613105			
Total	34	1.07E+09				

Table 2 presents the analysis of variance result for test of model adequacy. A comparison of the level of significance to the p-value of the test shows that the model is good in fitting the relationship between monetary policy and economic growth in Nigeria.

Table 3: Test of Significance of Variables

	coeff	*std err*	*t stat*	*p-value*	*lower*	*upper*	*vif*
Intercept	-31463.5	10560.34	-2.97941	0.005572	-53001.5	-9925.58	
PLR	189.036	633.3298	0.29848	0.767329	-1102.65	1480.721	1.084152
MLR	1947.536	162.496	11.98513	3.59E-13	1616.123	2278.948	1.067141
IBR	115.6529	62.72969	1.843671	0.074809	-12.2851	243.591	1.023243

Table 3: presents the results for test of significance of variables. The (variance inflation factor (VIF) tests the presence of multicollinearity among variables. The VIF values being less than 10 shows absence of multicollinearity among independent variables. The test of significance of variables reveals that only maximum lending rate has significant impact on the growth of the economy as its p-value is less than 0.05. Prime lending rate and inter-bank call rate were

however found not to have significant impact on the growth of the economy, as their respective p-values are greater than 0.05 level of significance. This study used interest rates determined by the banking channels and guided by the monetary policy.

The findings in this study confirms the earlier findings of Agu (2018) who found that only Interest rate exerted significant impact on economic growth in Nigeria while other variables did not. The study of Ayodeji & Oluwole (2018) found interest rate to have negative but significant impact on economic growth. Ufoeze, et al (2018) found interest rate to have insignificant positive effect on economic growth in Nigeria while Onyeiwu (2012) The result of the study reveals that monetary policy had a positive impact on GDP growth in Nigeria. These and many more findings exist in literature.

CONCLUSION

This study ascertained the effect of monetary policy on economic growth in Nigeria. The results found that only maximum lending rate has significant effect on economic growth in Nigeria. This study contributes to the divergent view on the effect of monetary policy on economic growth. The current findings lead to the conclusion that the monetary policy transmits to economic growth through the maximum lending rate channel. The study therefore recommends that the monetary authority should channel their policies towards improving other interest rates channels for effective monetary policy mechanism.

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