MONETARY POLICY RATE AND ECONOMIC GROWTH IN NIGERIA

By:

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Abstract

This research investigated the effect of monetary policy rate on economic growth in Nigeria within the period of 1988-2019. To attain the objective of the study, multiple linear regression model comprising of independent variable (monetary policy rate, treasury bill rate, interest rate and inflation rate) and dependent variable (gross domestic product) was specified for study. An ordinary least square (OLS) Method of estimation was employed to carry out an empirical investigation using the specified model. The data was collected from Central Bank of Nigeria (CBN) Statistical bulletin of 2019. The finding shows that monetary policy rate and treasury bill rate have significant effect on economic growth in Nigeria under the study period. However, this study revealed that interest rate and inflation rate has a negative and insignificant effect on economic growth under the study period. It was recommended that the government should deepen the level of finance in the economy; this would encourage investment through provision of adequate credit facilities required for optimal performance of the real sector of the economy.

Keyword: Gross Domestic Product, Monetary Policy Rate, Interest Rate, Inflation Rate, Treasury Bill Rate, Monetary Policy.

Introduction

The Monetary Policy Rate (MPR) is the anchor rate at which the Central Bank of Nigeria (CBN) in performing its role as lender of last resort lends to Deposit Money Banks to boost the level of liquidity in the banking system. It is the policy rate which anchors the inter-bank money market and other deposit money banks' (DMBs) interest rates in the economy (Bulus: 2010). It controls either the cost of very short-term borrowing or the monetary base, often targeting an inflation rate or interest rate to ensure price stability and general trust in the Naira (Bilal, Akanimo & Ademola, 2019). Monetary policy involves the use of monetary instruments to regulate or control the volume, the cost, the availability and the direction of money and credit in an economy to achieve some macroeconomic objectives such as price stability, full employment and sustainable economic growth (Mishkin, 2013).

In Nigeria, over the years, diverse monetary policy instruments such as bank rate, open market operations, changes in reserve ratios and selective credit controls have been employed to achieve specified government objectives. With money supply, bank credit and interest rates as the usual targets, the overall effect of monetary policy instruments have been minimal as the Nigerian economy is still overwhelmingly beset with the macroeconomic problems of unemployment, low investment and high inflation episodes. The reasons for this apparent ineffectiveness of monetary policy in Nigeria are: underdeveloped financial system, gross mis-match and lack of coordination between monetary policy formulation and implementation, cash-based economy; money hoarding, poor banking habit, weak socio-political and economic institutions, corruption, and a host of other structural factors usually inherent in a developing economy (Uduakobong & Blessing, 2017).

To bring back stability in the economy, the policy framework had to refocus on restrictive monetary policy and fiscal prudence, leading to tight credit conditions, a general slowdown in the economy, and low economic growth in 2009. In delivering this mandate, the Bank of Nigeria's operational framework for monetary policy involves adjusting interest rates to achieve the target inflation in the policy horizon. By this process, the stance of monetary policy is to continuously assess risks to growth and inflation and properly position the key policy rate to restore balance between inflation and growth. Therefore, by committing to the long-term objective of price stability, the Bank's monetary policy strategy adopts a gradualist policy response approach to addressing shocks in the economy so as to minimize the output loss associated with pursuing our inflation objective and help anchor inflation expectations (Chuku, 2016).

The commercial and merchant banks were subjected to equal treatment since their operations were found to produce similar effects on the monetary policy process. In 2005 the minimum paid up capital was further raised to n 25 billion naira for all commercial banks in accordance with the recapitalization exercise. In 2006, the Central Bank of Nigeria (CBN) introduced a new monetary policy implementation framework policy rates Monetary Policy Rate (MPR) to replace the Minimum Rediscounted Rate (MRR). Specifically, this was done to dampen the volatility of interest rates in money markets and stimulate a transaction rate that would improve the transmission of monetary policy actions and ultimately to achieve a stable value of the domestic currency. An important implication of the various policies initiated above was to bring about stability in the macroeconomic policies (Awortu, 2018).

In spite of the concerted global coordination in the operations of monetary policies, the global economic performance has remained disturbing (Awortu & Timi, 2018). The global economic crisis has led to the global reduction in credit activity, caused fall of domestic product as well as the level of foreign direct investment. In Nigeria its economy has never been insulated from global structural changes, the economy has been faced with complex macroeconomic challenges such as high domestic inflation, unstable financial system and high jobless growth rate (Awortu & Timi, 2018). In spite of many, and frequently changing monetary and other macro-economic policies, Nigeria has not been able to harness her huge economic potentials for rapid economic growth and development. The debate on the effectiveness of monetary policy operations as a tool for promoting growth and development remains inconclusive, given the conflicting results of current

studies. Over the last decade, the growth impact of monetary policy has generated large volume of both theoretical and empirical literature. To put it differently, economists have developed lots of empirical studies on the effectiveness of monetary policy in achieving economic growth (Awortu & Timi, 2018).

Monetary policies can only produce desired results if a highly integrated and monetized economy with an effective networking system is available. However, the Nigerian economy as at present lacks the fundamentals to make this work. The Central bank of Nigeria uses various instruments to achieve its stated objectives and these instruments include: Open Market Operation (OMO), Required Reserve Ratio (RRR), Bank Rate, Liquidity Ratio, Selective Credit Control and Moral suasion. Over the years, there have been various monetary policy regimes in Nigeria (tight and loose) with the overall aim of stemming inflationary pressures. In addition, the Nigerian economy has also witnessed times of expansion and contraction with an unsustainable growth pattern. The country suffers from the institutional and market failures that keep countries perpetually keeps its citizenry poor (Ajibola & Adeyemi, 2017). As a result, this study is aimed at examining economic growth impact of monetary policy rate in Nigeria. The broad objective of this study is to evaluate the effect of monetary policy rate and economic growth in Nigeria.

Literature Review

Conceptual Review

According to Kovanen, (2015), monetary policy rate referred to the process by which changes in MPR is transmitted to interest rates as interest rate passed through. This process is simply the rate or process at which the official Central Bank rate is transmitted to other interest rates. Monti and Klein (2016) analyzed a conventional model for the effects of monetary policy rate on market rates. The frame work assumes that if markets are perfectly competitive then the interest rate pass through will be full symmetrical and swift in response to monetary policy rate. The model assumes the absence of information asymmetry, switching cost and perfect competition in financial markets so doing making the full pass through a long run phenomenon while deviations from long run equilibrium occurs only in the short run. Although, the reality in most markets is that perfect market condition hardly exists as markets generally exist under conditions of imperfect market

situations, high switching and menu cost and absence of perfect information. Regardless, some studies have found this model to be realistic and true in its assumptions.

According to Hofmann and Mizen (2014), and Fuertes and Heffernan (2015) studies reflected changes in monetary policy rates in asymmetric and non-linear adjustment. Kwapil and Scharler (2016), Aydim (2007), Marotta (2016), Kovanen (2014) studies concluded that the interest rate pass through is weak and incomplete. Weth (2002) found interest rate pass through to be weak in the short run but fully complete in the long run. Crespo-Cuaresma, Egert, and Reininger (2014) studies found interest rate pass through to be fully complete in short term. Four major theories exist in the literature to explain the flexibility of interest rates in the short run. These major theories include; the agency cost theory (Stiglitz & Weiss, 2015), the adjustment costs (Cottarelli & Kourelis, 2015), the switching costs (Klemperer, 2016) and the risk sharing cost (Fried and Howitt, 1980). Almost all empirical studies on interest rate pass through center on investigation of the degree and speed of adjustment of banking rates to changes in money market rates with some degree of variability in terms of short term and long term adjustment of market rates to monetary policy rates. Bernoth and Von Hagen (2014) studies of interest rate pass through consider the impact of future money market rates on current retail rate setting with the central focus on the search market productivity.

The term monetary policy has been defined by experts from many perspectives. According to CBN (2006), 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. Also CBN (2009), defined monetary policy as combination of measures designed to regulate the value, supply and cost of money on an economy in consonance with the expected levels of economic activities. The Wikipedia encyclopedia (2015) defines monetary policy as the process by which the monetary authority of a country controls the supply of money, often targeting an inflation rate or interest rate to ensure price stability and general trust in the currency. Monetary policy is maintained through actions such as increasing interest rate, or changing the amount of money banks need to keep in vault.

Economic growth refers to increase in a country's potential GDP, although this differs depending on how national product has been measured. Economic growth must be sustained for a developing economy to break the circle of poverty. Countries usually pursue fiscal policy to achieve accelerated economic growth. Muritala and Taiwo (2011) defined a country economic growth as a long term rise in capacity to supply increasing diverse economic goods to its population, this growth capacity based on advancing technology and the institutional and ideological adjustment that is demand. In other words, economic growth refers to increase in a country's potential Gross Domestic Product (GDP), although this differs depending on how national product has been measured.

According to Ogundipe and Oluwatobi (2010), economic growth must be sustained for a developing economy to break the circle of poverty. Economic growth can be defined as the steady process by which the productive capacity of the economy is increased over time to bring about rising levels of national output and income (Todaro and Smith, 2005). However, it is pertinent to note that growth is concerned solely with quantitative and measurable attributes (Ogboru, 2006). Furthermore, Lipsey and Chrystal (2007) regarded economic growth as the engine for generating long-term increase in the overall standard of living. This justifies why every economy aims at achieving economic growth annually. Economic growth is also defined as the increase in the market value of the goods and services produced by an economy over time. It is conventionally measured as a percent rate of increase in real gross domestic product (IMF, 2012).

Economic growth is a measure of aggregate economic progress at a national level. It reflects the process of the year-to-year increase in the total value of goods and services produced in a domestic economy, as well as the income generated within it (Chidimma, Nwannebuike & Martha-Lucia, 2019). The universal measure for the observation of the evolution of economic growth is the actual (real) Gross Domestic Product (GDP) per capita. Long-term economic growth is usually a gradual process in which the real GDP per capita grows at a rate of a few per cent per year (Acemoglu, 2007). Economic growth refers to an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth can be measured in nominal terms, which include inflation, or in real terms, which are adjusted for inflation. It is the

increase in inflation-adjusted market value of the goods and services produced by an economy over time.

Likewise, it is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP. Of more importance is the growth of the ratio of GDP to population (GDP per capita, which is also called per capita income). An increase in growth caused by more efficient use of inputs (such as physical capital, population, or territory) is referred to as intensive growth. GDP growth caused only by increases in the amount of inputs available for use is called extensive growth (Acemoglu, 2017). In economics, economic growth typically refers to growth of potential output, i.e., production at full employment. As an area of study, economic growth is generally distinguished from development economics. The former is primarily the study of how countries can advance their economies. The latter is the study of the economic development process particularly in low-income countries (Acemoglu, 2017). Growth is usually calculated in real terms i.e., inflation-adjusted terms to eliminate the distorting effect of inflation on the price of goods produced. Measurement of economic growth uses national income accounting. Since economic growth is measured as the annual percent change of gross domestic product (GDP), it has all the advantages and drawbacks of that measure (Chidimma *et al*., 2019).

Theoretical Review

The current study relies on Keynesian theory. The Keynesian Economists think of monetary policy as working primarily through interest rate. Keynesian economics is sometimes referred to as "depression economics," as Keynes's General Theory was written during a time of deep depression not only in his native land of the United Kingdom but worldwide (1936). In Keynesian transmission mechanism, an increase in the money supply leads to a fall in interest rate to include the public to hold additional money balances. Consequently, a fall in interest rate may stimulate investment. The increased investments also increase the level of income or output through the multiplier, which may stimulate economic activities. Thus, monetary policy affects economic activity indirectly through their impact on interest rates and investment. Therefore, the Keynesian

transmission mechanism is characterized by a highly detailed sector building up of aggregate demand and a detailed specification of portfolio adjustment process that attaches central role to interest as an indirect link between monetary policy and fiscal demand.

Empirical Evidence

Empirical evidence and results of various studies show a mixed trend on the monetary policy rate and economic growth in Nigeria. While some established a negative relationship between monetary policy rate and economic growth in Nigeria, other found a positive relationship.

Cecilia, Okoye and Molokwu (2019) examined the effect of monetary policy on economic growth in Nigeria using secondary data covering the period of 1980-2017 that were sourced from the Central Bank of Nigeria statistical bulletin. The model's estimates were estimated via multiple econometric model of the ordinary least square to ascertain the effect of money supply, credit in the economy, interest rate on credit, infrastructure, inflationary rate, external debts, price index on growth in Nigeria. The results show that money supply, interest rate on credit, infrastructure and external debt were statistically significant in explaining its impacts 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. The study recommends among others that for effective operation of the monetary policy measures in the Nigerian economy, the Central Bank of Nigeria should be granted full autonomy on its monetary policy functions. Partial autonomy should be replaced with full autonomy for the central banks in the developing economies at large which is invariably subjected to government interference and its politics.

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.

Eugene (2019) investigated the dynamic relationship between monetary policy on economic growth in Nigeria. Data for the study were collected from secondary sources. The variables on which data are collected include; real GDP, Broad money supply (BMS), Cash reserves ratio (CRR), Monetary policy rate (MPR), Liquidity ratio (LQR). The scope of the study covers the period from 1986 to 2017 and were sourced from CBN statistical bulletin. Data are analysed using the descriptive statistics and ordinary least square regression, Johansen cointegration, VECM and granger causality approach. Findings revealed that CRR and BMS have inverse long run relationship with GDP MPR and LQR exert positive long run relationship with GDP. In the short run CRR and MPR had an inverse relationship with GDP at lag while LQR exerts positive relationship with GDP. Using granger causality, RGDP and BMS, MPR, and CRR has no causal relationship between while and NQR exerts significant cause on Real GDP. From the findings, the study recommends that the policy instrument should be a well-coordinated optimal mix of instruments to significantly influence economic stability.

Methodology

To achieve a desirable result, the study employed ex post-facto research design within the framework of the Ordinary Least Square (OLS) method as the main econometric tool for determining the impact of monetary policy rate on economic growth in Nigeria. Secondary source of data were adopted and gathered from Central Bank of Nigeria Statistical Bulletin for the period of 32 years (1988- 2019). For the study, quasi-experimental research design was used and the variables are: Gross Domestic Product, Monetary policy rate, treasury bill rate, interest rate and

inflation rate. The data was sourced mainly from CBN Statistical Bulletin and it showed the data on variables throughout the 32 years period.

Model Specification

In testing for already stated hypothesis, the following model was adopted:

GDP = F (MPR, TBR, INTR, INFL) …… 1

$GDP = \beta_0 + \beta_1 MPR + \beta_2 TBR + \beta_3 INTR + \beta_4 INFL + \mu$ ……. 2

Where:

GDP= Gross Domestic Product

MPR = Monetary Policy Rate

TBR = Treasury Bill Rate

INTR= Interest Rate

INFL= Inflation Rate

β_0 = Constant term

β_1-β_4 = Coefficient of explanatory variables

μ = Error term

Data Analysis, Interpretation and Discussion of Findings

Data Analysis and Interpretation

Table 1: Regression Analysis Result

Dependent Variable: GDP
Method: Least Squares
Date: 07/25/21 Time: 21:03
Sample: 1988 2019
Included observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11867.11	19311.73	-0.614503	0.5440
MPR	6027.580	633.3950	9.516306	0.0000
TBR	68.92004	23.40850	2.944231	0.0066
INTR	503.2737	928.3534	0.542114	0.5922
INFL	4.223224	165.8222	0.025468	0.9799

R-squared	0.880028	Mean dependent var	37204.48
Adjusted R-squared	0.862255	S.D. dependent var	43278.58
S.E. of regression	16062.42	Akaike info criterion	22.34895
Sum squared resid	6.97E+09	Schwarz criterion	22.57797
Log likelihood	-352.5833	Hannan-Quinn criter.	22.42487
F-statistic	49.51336	Durbin-Watson stat	1.283497

Prob(F-statistic)	0.000000

Source: E-Views 7 Outputs, 2021

The regression table above revealed shows that the constant value stands at -11867.11 which equally means that while all other variables remain constant, the gross domestic product will reduce by 11867.11. However, monetary policy rate with the coefficient value of 6027.580 means that monetary policy rate has a positive relationship with the gross domestic product which equally means that for every unit increase in the monetary policy rate, there will be an increase in the gross domestic product. Treasury bill rate with the coefficient value of 68.92004 which has a positive relationship with the gross domestic product, this means that for every unit increase in treasury bill rate, there will be an increase in the gross domestic product. Interest rate with the coefficient value of 503.2737 has a positive relationship with the gross domestic product which equally means that for a unit increase in the interest rate, there will be the same amount increase in the gross domestic product. Lastly, inflation rate with the coefficient of 4.223224 has a positive relationship with the gross domestic product, this means that for every unit increase in the inflation rate, there will be an increase in the gross domestic product.

Also, the regression result revealed the probability value of the explanatory variables, it was found that monetary policy rate has the p value of 0.000, thus it is statistically significant which means that monetary policy rate has a significant impact on the gross domestic product. Treasury bill rate with the p value of 0.0066 is statistically significant which means that monetary policy rate has a significant impact on the gross domestic product. However, interest rate with p value of 0.5922 and inflation rate with the p value of 0.9799 are statistically insignificant at 5% level of significance which means that both interest rate and inflation rate has no significant impact on the gross domestic product. The coefficient of determination R^2 with value of 0.880028 implies that 88% of the variation of gross domestic product is influenced by the explanatory variables while the remaining 12% is being explained by other variables outside the model but captured by the error term. Also, the adjusted R^2 explain fitness of the regression remained high by 86% after adjusting for the degree of freedom. The Durbin Watson statistics in the model is 1.283497 which shows that there is presence of autocorrelation among variables because the value does not lies between 1.5 to 2.0. The f- statistics in the regression line shows the p-value is 0.000000. Since, the p-value is less than 5% level of significance (0.000000<0.05). We can easily infer that monetary

policy rate have significant impact on the economic growth in Nigeria within the period under review.

Conclusion and Recommendations

This study determines the effect of monetary policy rate on economic growth in Nigeria using ordinary least square regression method for analyzing time series data from CBN Statistical Bulletin. The outcome of the study analysis implies that monetary policy rate and treasury bill rate exert significant effects on Nigeria economic growth. Based on the results, the researchers recommend that monetary policies should be employed to facilitating the emergency of market based interest rate and exchange rate regimes that attract both domestic and foreign investments. Also, Central Bank of Nigeria should from time to time and on regular basis review the monetary policy rate.

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Appendix I

YEAR	MPR	INTR	INFLR	GDP	TBR
1988	0	16.5	61.2	320.33	22.83
1989	0	26.8	44.7	419.2	11.16
1990	0	25.5	3.6	499.68	3.40
1991	0	20.01	23	596.04	34.76
1992	0	29.8	48.8	909.8	85.50
1993	0	18.32	61.3	1,259.07	47.30
1994	0	21	76.8	1,762.81	30.63
1995	0	20.18	51.6	2,895.20	41.98
1996	0	19.74	14.3	3,779.13	9.49
1997	0	13.54	10.2	4,111.64	141.68
1998	0	18.29	11.9	4,588.99	121.93
1999	0	21.32	0.2	5,307.36	79.86
2000	0	17.98	14.5	6,897.48	87.36
2001	0	18.29	16.5	8,134.14	354.59
2002	0	24.85	12.2	11,332.25	160.30
2003	0	20.71	23.8	13,301.56	215.45
2004	0	19.18	10	17,321.30	98.94
2005	0	17.95	11.6	22,269.98	90.46
2006	10.00	17.26	8.5	28,662.47	23.28
2007	9.50	16.94	6.6	32,995.38	6.06
2008	9.75	15.14	15.1	39,157.88	364.50
2009	6.00	18.99	13.9	44,285.56	1.93
2010	6.25	17.59	11.8	54,612.26	307.75
2011	12.00	16.02	10.3	62,980.40	138.76
2012	12.00	16.79	12	71,713.94	224.82
2013	12.00	16.72	7.96	80,092.56	56.02
2014	13.00	16.55	7.98	89,043.62	48.84
2015	11.00	16.85	9.55	94,144.96	100.66
2016	14.00	16.87	18.55	101,489.49	343.77
2017	14.00	21.98	15.37	113,711.63	459.12
2018	14.00	16.91	11.4	127,736.83	464.49
2019	13.5	16.87	18.55	144,210.49	370.20

Source: Central Bank of Nigeria Statistical Bulletin, 2019