



## Global Scientific and Academic Research Journal of Economics, Business and Management

ISSN: 2583-5645 (Online)

Frequency: Monthly

Published By GSAR Publishers

Journal Homepage Link- <https://gsarpublishers.com/journals-gsarjebm-home/>

### LIQUIDITY POLICY AND ECONOMIC GROWTH IN NIGERIA, 1986-2020

BY

Amadi, Kevin Tochukwu Ph.D, Ph.D.<sup>1\*</sup>, Ibeaja Uzoma. F. Ph.D<sup>2</sup>

<sup>1</sup>Dept. of Economics, Gregory University Uturu, Abia State, Nigeria

<sup>2</sup>Dept. of Accountancy, Federal Polytechnic Nekede, Owerri, Imo State, Nigeria



#### Article History

Received: 01/05/2024

Accepted: 06/05/2024

Published: 07/05/2024

Vol – 3 Issue – 5

PP: -17-26

#### Abstract

*This research work investigated the effect of liquidity policy as an arm of monetary policy on the economic growth in Nigeria, using Real GDP from 1986 to 2020 with data collected, and advanced econometric model was bused to analyze the data. Unit root test was carried out using ADF to determine the stationarity of the variables which were of mixed order, Johanssen co-integration test was employed to determine the long run and short run relationships using ARDL model estimator on the variables and they were found to be stable. The empirical investigation revealed that money supply rate, interest rate, and exchange rate in Nigeria have significant effect on Nigeria's economy. Therefore, the study concluded that money supply, exchange rate, and interest rate as determinants for liquidity as arm of monetary policy had significance effect on economic growth in Nigeria within the period under study. Hence recommended Nigerian government through monetary authorities should improve on the liquidity management by lowering the lending rate so that local investors especially small and medium scale entrepreneurs can have easy access to loan facilities from banks. The Central Bank should identify practical and effective liquidity policy on money supply in the system and make better use of exchange rate to improve the aggregate economy. The Central Bank should assess the workability of liquidity policies regarding especially exchange rate and interest rate before possible implementation. The monetary authority should apply quite caution in formulating policies to re-evaluate the effectiveness, efficiency, and potency of liquidity policy tool in Nigeria with the view to accommodate any negative unforeseen circumstances like that of the COVID-19 pandemic.*

## 1. INTRODUCTION

One of the most important aspects of monetary policy is liquidity policy. According to (Nwaru 2016), the other integral component of monetary policy entails promoting sustainable economic growth over the longer term by keeping monetary and credit expansion in step with an economy's non-inflationary output potential, liquidity, or reserve management which have a shorter time horizon.

The conduct of monetary management usually involves three inter related stages, name; policy formulation, implementation, and review (Nwaru 2016). The institutional arrangement and the mechanism for the conduct of policy usually reflect a country's stage of development. The primary goal of liquidity policy as an arm of monetary policy in Nigeria and beyond has been the maintenance of domestic price, interest rate and exchange rate stability since it is

critical for the attainment of sustainable economic growth and external sector viability (Sanusi, 2002). The ability of the CBN to pursue an effective liquidity policy, monetary policy in a globalized and rapidly integrated financial market environment depends on several factors which include, instituting appropriate legal framework, institutional structure, and conducive political environment which allows the Banks to operate with reference to exercising instrument and operational autonomy in decision- making, degree of coordination between monetary and fiscal policies to ensure consistency and complementarity. The overall macroeconomic environment, including the stage of development, depth, and stability of the financial markets as well as the efficiency of the payments and settlement systems, the level and adequacy of information and communication facilities, and the availability of consistent, adequate, reliable, high quality and timely information to Central Bank of Nigeria is associated with the liquidity management (Sanusi,



2002), hence the Central Bank of Nigeria tries to maintain price stability through controlling the level of money supply.

Monetary policy entails direct and indirect monetary policy. Direct monetary policy involves the use of quantitative monetary controls such as credit ceilings, credit rationing, and statutory liquidity ratios, to control the amount of money in circulation, usually termed as liquidity policy management, which is also referred to as the direct relationship between the monetary policy instrument and the policy objective (CBN, 2017). The direct monetary policy instruments are used to set or limit prices and/or quantity variables such as interest rates and the sectoral allocation of credit. The use of direct methods has appealed to policymakers for reasons that include perception that they can be relied upon to control both the cost and distribution of credit and provide relatively easy means of implementing monetary policy. Importantly, such direct monetary controls are quite attractive to governments that seek to channel credit into sectors to fulfill the stated economic objectives. This mode of monetary policy implementation is usually applied in an economy where the financial system is still rudimentary and the transmission mechanism works, predominantly in developing economies. Indeed, direct monetary controls provide a temporary option for such economies until appropriate institutions for use of indirect instruments are established. The major challenge for the implementation of direct monetary policy, however, is the risk of inefficiency in resource allocation, with attendant huge costs. Also, it has been said, that direct instruments may lose the capacity to produce significant impact because economic agents usually devise ways to boycott such instrument.

Indirect monetary policy involves the use of market-based instruments such as open market operations for the implementation of monetary policy. In other words, it involves influencing the money market conditions by the central bank. The adoption of indirect instruments of monetary control became more wide spread in the late 1970s, when industrialized countries began to migrate towards the introduction of market mechanism for monetary policy implementation. Indeed, the adoption of indirect monetary policy instruments indicates that the transition towards an enhanced role for price signals as a major indicator in the economy. In addition, the increasing adoption of indirect monetary instruments by most economies tends to complement the growing wave of current account convertibility amongst countries, and increasing openness and subscription to market principles has made direct instruments increasingly ineffective.

In spite of numerous campaigns and innovations on monetary and other macro-economic policies such as liquidity policy, Nigerian economy has been faced with complex macroeconomic challenges such as high inflation, unstable financial system, uncontrollable exchange rate, high interest rate, unemployment rate which are all associated with liquidity issues. The drop in foreign direct investment (FDI), fall in price of crude oil at the international market, low investment, and excess poverty in the country have made the economy more liable to be influenced by economic wave or

international fluctuations. The argument on the effectiveness of liquidity policy as an arm of monetary policy in promoting economic growth in Nigeria remains inconclusive. However, as a result of the existing lack of consensus among economists on the operational validity of liquidity policy on the economic growth and its ability to stimulate considerable macroeconomic stability in Nigeria gives room for a consideration on liquidity policy effectiveness in advancing economic growth in Nigeria.

Undoubtedly, there is interconnectivity between liquidity policy as an arm of monetary policy and economic growth in Nigeria. Hence this research is designed to examine the impact of liquidity policy on economic growth in Nigeria with specific objectives to:

1. investigate the effect of money supply on economic growth in Nigeria.
2. examine the effect of exchange rate on economic growth in Nigeria.
3. evaluate the effect of Interest rate on economic growth in Nigeria.

## 2. Conceptual Review

### Monetary Policy

Offor, Amadi, and Ibeaja (2022), Monetary policy is the measure adopted by the monetary authority of a nation to put in check either the interest rate payable for very short-term borrowing (borrowing by banks from each other to meet their short-term needs) or the money supply, often as an attempt to reduce inflation or the interest rate, to ensure price stability and general trust of the value and stability of the nation's currency. According to Wikipedia, monetary policy is a modification of the supply of money, i.e. "printing" more money, or decreasing the money supply by changing interest rates or removing excess reserves.

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 an essential tool for executing the mandate of monetary and price stability. Monetary policy is 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 (Divedi, 2005).

Monetary policy has thus been known to be a vital instrument that a country can use for the maintenance of domestic price and exchange rate stability as a critical condition for the achievement of a sustainable economic growth and external viability (Adegbite and Alabi, 2013). Monetary policy may be inflationary or deflationary depending on the economic condition of the country. Contractionary policy is enforced to bring down the money supply in order to curb inflation while expansionary policy is to enhance economic activity to combat unemployment in recession (Shane, 2010).

Nasko (2016), asserts that the effective management of the monetary policy is a fundamental pre-requisite in ensuring

adequate liquidation in the banking system and sectoral credit allocation to the sensitive sectors of the economy. This aptly means that Monetary Authority applies discretionary power to influence the money stock and interest rate to make money either more expensive or cheaper depending on the prevailing economic conditions and policy stance geared towards achieving price stability and favourable economic growth.

The Central Bank of Nigeria (CBN), just as other central banks, always targets to maintain favorable general price stability in the economy using monetary policy dynamic instruments which include money supply, exchange rate, and interest rate. When increase in money supply does not increase the interest rate and income and hence does not stimulate economic growth, we have an unhealthy economy called liquidity trap. On the flip side, contractionary measure pushed too far can plunge the economy into recession.

### **Progressive History of Liquidity Policy in Nigeria**

The CBN was establishment in 1959 and since its inception; the Central Bank of Nigeria (CBN) has continued to play the traditional cum modern role expected of an apex bank by regulating the stock of money supply, inflationary rate, credit supply, interest rate on credit, exchange rate with foreign currencies, external debts and price index. This role is anchored on the use of monetary policy that is usually targeted towards the achievement of full-employment equilibrium, rapid economic growth, price stability, and external balance. Over the years, the major goals of monetary policy have been the two later objectives. Thus, liquidity policy mainly targeted at inflation, interest, and exchange rate have dominated CBN's monetary policy focus based on the assumption that these are essential tools of achieving macroeconomic stability (Fasanya, Onakoya & Agboluaje, 2013).

Nnanna, (2014), observes that though, the liquidity monetary policy in Nigeria has been relatively more successful during the period of financial sector reform which is characterized by the use of indirect rather than direct monetary policy tools yet, the effectiveness of liquidity management monetary policy has been undermined by the effects of fiscal dominance, political interference and the legal environment in which the Central Bank operates. Busari et-al, (2012), states that liquidity monetary policy stabilizes the economy better under a flexible exchange rate system than a fixed exchange rate system and it stimulates growth better under a flexible regime but is accompanied by severe depreciation, which could destabilize the economy meaning that liquidity management, monetary policy would better stabilize the economy if it is used to target inflation directly than being used to directly stimulate growth. They advised that other policy measures and instruments are needed to complement monetary policy in macroeconomic stabilization. In the same stride, (Batini, 2016) stressed that in the 1980s and 1990s, liquidity monetary policy was often constrained by fiscal indiscipline.

Nigeria has experienced two major periods of monetary policy regimes: the fixed regime and market mechanism regime. These regimes took place in the post and pre-1986

periods. Before 1986, direct monetary control was used in achieving price stability in Nigeria, while the emphasis shifted to market mechanisms after the 1986 market liberalization (Ufoeze, Odimgbe, Ezeabalisi & Alajekwu, 2018). Prior to 1986, direct monetary instruments, termed as liquidity policy measures such as selective credit controls, administered interest and exchange rates, credit ceilings, cash reserve requirements, and special deposits to combat inflation and maintain price stability were employed. The fixing of interest rates at relatively low levels was done mainly to promote investment and growth. Occasionally, special deposits were imposed to reduce the amount of excess reserves and credit-creating capacity of the banks.

Ufoeze, Odimgbe, Ezeabalisi & Alajekwu (2018), stipulated that in the period before 1986, the monetary control framework seemed to have failed to achieve the set monetary targets as their implementation became less effective with time. The rigidly controlled interest rate regime and the non-harmonization of fiscal and monetary policies may have contributed immensely to the adverse effect of constraining growth of the money and capital markets. On the other hand, the market mechanism regime that spanned to date seems to have worsened the economic situation in the country thus leaving the populace in doubt on the credibility of the policymakers in the country. The history of the Nigeria monetary policy has created a visible asymmetry in the two known monetary regimes in the country with Nigeria being the giant of Africa in terms of its economic affluence and suddenly plunging into recession, a situation that have adversely affected the growth and development of the economy by way of increasing unemployment rate, soaring poverty and giant external debt, thereby suggesting that the failure of the monetary policy in curbing price instability has caused growth instability as Nigeria's record of growth and development has been very poor. According to Adigwe, Echekoba & 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 anaemia to Nigeria's economic growth.

During the era of regulation-up to the first half of 1986, the authorities relied on the use of liquidity policy which involves credit ceiling, administered interest rate, and sectorial allocation of bank credits. The credit ceiling was extensively used to restrain money supply growth, supplemented by the use of reserve requirements and occasionally, other measures. The impact of restrained credit was felt in terms of demand pressure on the foreign exchange market. This did not promote competition in the financial sector, thus affording protection to inefficient institutions. This policy was designed to support the attainment of basic objective of the economic reform programme of July 1986 to restore macroeconomic stability in the short term and include sustained growth. This represented a strategic land mark in the history of economic stabilization as it marked the end of a highly regulated regime and opened up a new chapter that reflects government effort at deregulating the economy, with increase on market forces.

In line with the strategy of deregulation, the monetary authorities phased out all forms of control, including credit ceilings and controls on the sectoral structure of bank credit and OMO has, since 1993, become the dominant instrument of liquidity policy, with discount rate adjustment instrument. Following the decision to shift to indirect approach, the authorities designed and implemented a policy framework for the development and promotion of a deregulated, competitive, and sound money market. This involved the deregulation of interest rate and strengthening of the legal and institutional framework for the conduct of monetary policy (Offor, Amadi & Ibeaja, 2022).

## Theoretical Review

### Monetarists' Economic Theory:

Due to the criticism that was levelled against the Keynesian theory, the monetarist theory was propounded by Friedman (1956). However, the role of monetary policy with sole purpose of influencing the volume, cost, and direction of money supply was advocated by Friedman (1968) when he opines that inflation is always and everywhere a monetary phenomenon. He recognized that in the short run increase in money supply can reduce unemployment but can also create inflation and so the monetary authorities should increase money supply with caution. Monetarist theory adopted Fisher's equation of exchange to illustrate their theory. The fisher's equation states that:

$$MV = PQ$$

Where: M = money supply in the economy; V = velocity of circulation; P = price level in the economy; and Q = output produced by the economy.

The import of this equation is that "if the money supply in the economy doubles so will the price level. And if the money supply increases by 10%, so will price level".

Monetarists like Friedman (1956; 1963) emphasized money supply as the key factor affecting the well-being of the economy. Thus, in order to promote steady growth rate, the money supply should grow at a fixed rate, instead of being regulated and altered by the monetary authority. He, at the same time, argued that since money supply is substitutive not just for bonds but also for many goods and services, changes in money supply will, therefore, have both direct and indirect effects on spending and investment respectively. It is the belief of the monetarists that change in the money supply leads directly to a change in the real magnitude of money. The monetarists are of the opinion that the central bank, through open market operations, can affect the real sector of the economy.

Central Bank in any country is empowered to perform duties that will ensure soundness of the financial and monetary system. In order to achieve the monetary stability, it is always confronted with the challenge of choosing the right strategy to apply in order to meet the envisaged end. Among the most popular strategies are exchange rate targeting, monetary targeting, Nominal GDP targeting, and inflation targeting.

Exchange rate targeting involves the manipulation of exchange rate and the price of foreign currencies especially the dollar as a premise for influencing the macroeconomic variables while Monetary targeting is the process of controlling the availability, cost, and usefulness of money, credit, and related monetary vulnerable to achieve a predictable macroeconomic situation (Gareth et al, 2021). The Central Bank of Nigeria has been adopting monetary targeting as a strategy for managing macroeconomic situation of the country and this strategic approach has suffered criticism that range from poor performance, not acceptable as requirement for monetary and economic integration. (Micah Effiong, 2020).

### Purchasing Power Parity Theory:

The World Bank states that using PPP to measure GDP more accurately compares the volume of activity and production of a country to another. On a macroeconomic level, the PPP measurement is used to compare economic productivity and living standards between countries. It is most commonly used to adjust GDP. (IMF Bulletin 2017).

The assumption here is that tradable goods are more closely aligned with nominal exchange rates while non-tradable goods and services are closer to the PPP rate.

Power purchasing parity is one of the most common metrics used to measure GDP which is the total market value of goods and services produced in a country within a given period. The alternative metric to GDP by PPP is nominal GDP which simply takes a countrys' exchange rate and converts the real GDP value. Two issues arise from this thus;

- Exchange rates are volatile
- Exchange rates only measure tradable goods.

It doesn't look at living situations and non tradeable goods, it only considers goods traded across borders (international comparison programme by United Nations 2018).

## Empirical Review

Sola & Peter (2012), investigated money supply and inflation rate in Nigeria using annual time series data was used spanning from 1970-2008. The study adopted Vector Auto Regressive (VAR) model. The outcome showed that money supply and exchange rate were stationary at level while oil revenue and interest rate were stationary at the first difference. Findings from the causality test show that there exists a unidirectional causality between money supply and inflation rate as well as interest rate and inflation rate. The paper concluded that government should use the level of inflation as an operational guide in measuring the effectiveness of its monetary policy.

Bello and Saulawa (2013), assessed the relationship between money supply, interest rate, income growth, and inflation rate in Nigeria using annual data from 1980-2010. The paper adopted a co-integration method, VAR, and Granger causality test. The paper revealed that there is no long run relationship among the variables and granger causality test shows a bidirectional relationship between money supply and inflation, income growth and inflation, and interest rate and

inflation. The granger causality test also shows that money supply, interest rate, and income growth all granger cause inflation. The study recommended appropriate control and management of money supply, interest rate and inflation rate.

Ayodeji and Oluwole (2018), examined the impact of monetary policy on economic growth in Nigeria by developing a model that is able to investigate how monetary policy of the government has affected economic growth through the use of multivariable regression analysis. Error Correction Model was introduced in order to have a parsimonious model. From the result, two variables (money supply and exchange rate) had a positive but fairly insignificant impact on economic growth. Measures of interest rate and liquidity ratio on the other hand, had a negative but highly significant impact on economic growth.

Ufoeze, Odimgbe, Ezeabalisi, and Alajekwu (2018), investigated the effect of monetary policy on economic growth in Nigeria by including the natural log of the GDP as the dependent variables against the explanatory monetary policy variables: monetary policy rate, money supply, exchange rate, lending rate and investment for the market-controlled period covering 1986 to 2016. The study adopted an Ordinary Least Square technique and also conducted the unit root and co-integration tests. The study showed that long run relationship exists among the variables. In addition, the core finding of this study showed that monetary policy rate, interest rate, and investment have insignificant positive effect on economic growth in Nigeria. 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.

Srithilat and Sun (2017), examined the impact of monetary policy on the economic development by using annual time series data from 1989-2016. Error Correction Model was employed to analyze the association between variables. The finding shows that money supply, interest rate, and inflation rate negatively affect the real GDP per capita in the long run and only the real exchange rate has a positive sign. The error correction model result indicates the existence of short run causality between money supply, real exchange rate, and real GDP per capita.

Nwoko, Ihemeje&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.

Nasko (2016), examined the impact of monetary policy on economic growth in Nigeria using multiple regressions and time-series data covering the range of 1990 to 2010 were employed to analyze data on variables such as money supply, interest rate, financial deepening, and gross domestic product. They were all found to have marginal impact on the economic growth of Nigeria. The study shows further, the aims and objectives of monetary policy, which includes price stability, maintenance of balance of payment equilibrium, full employment, and economic growth. The study found marginal impact on growth due to change in monetary policy application.

Ahmad, Afzal, and Ghani (2016), examined the impact of monetary policy on economic growth in Pakistan using Autoregressive Distribution Lag (ARDL) Co integration approach, and an annual time-series data covering the range of 1973 to 2014 were applied to distinguish the robust among the variables with specification of short-run and long-run. Empirical findings mentioned long-run association occurs among variables, money supply, and exchange rate, which positively influence economic growth. Inflation positively while insignificance and interest rate negatively affect economic growth.

Apere and Karimo (2014), studied Monetary policy effectiveness, output growth, and inflation in Nigeria” using annual data from 1970 to 2011. Granger causality test and VAR was adopted. The outcome revealed that in the short-run, output and inflation drive monetary growth whereas Output growth is affected by inflation only. Production level is more important in controlling inflation in the short-run, while, monetary policy variables are important in the long-run. The study suggested that it is necessary to distinguish between short and long-run monetary policy goals and recommended that policymakers should focus on short-run output expansion policies and put actions in place to sustain growth in the long-run to control inflation. But to maintain long-run output expansion, monetary authorities should aim at adjusting the inter-bank rate with caution as it can result to problem it is meant to resolve.

Nwosa and Oseni (2012), examined monetary policy, exchange rate, and inflation rate in Nigeria” using annual time series data spanning from 1986-2010. The paper adopted a Co-integration and Multi-Variate Vector Error Correction Model techniques. The result revealed that there exists at least a co-integrating vector among the variables and the VECM estimate showed that a uni-directional causation exists from exchange rate and inflation rate to short-term interest while a bi-directional causality exists from inflation rate to exchange rate. Exchange rate and inflation rate granger caused a change in monetary policy stance. The study recommended appropriate regulation and management of both the exchange and inflation rate.

Okotori (2019), examined the dynamics of monetary policy and inflation in Nigeria”. Monthly data was used from 2009-

2017. Augmented Dickey-Fuller (ADF) unit root test, Johansen Co-integration test, and Error Correction Model (ECM) were employed. The findings showed all variables are stationary at first order except money supply and exchange rate who were stationary at second order. Johansen test showed that there is a long-run equilibrium between the variables and concluded that money supply, exchange rate, interest rate, treasury bills rate, reserve requirement, and liquidity ratio have significant impact on inflation rate. The study recommended that the CBN should stay focused on its current exchange rate policy and make unobstructed use of monetary policy tools to maintain inflation threshold in Nigeria.

Owumbe (2018), examined the effect of monetary policy on inflation and nature of relationship between money supply and inflation in Cameroon. Time series annual data was used from 1980 to 2016. Johansen Co-integration test was used to determine the relationship between money supply and inflation. Autoregressive Distributed Lag (ARDL) estimation technique was used to examine the effect of money supply and inflation in Cameroon. Toda and Yamamoto’s causality test were also used to test the causality between money supply and inflation. The result showed that there is a long-run equilibrium relationship between money supply and inflation; money supply had a significant and positive impact on inflation in Cameroon and there is one-way causality from money supply to inflation. The study also exhibited that inflation has a monetary source in Cameroon. Thus, monetary policy should be planned to maintain the stability of price by controlling the growth of money supply in the economy of Cameroon.

Emereni and Eke (2014), examined the impact of monetary policy rate on inflation in Nigeria. Monthly data spanning from January 2007 to August 2014 was used. Ordinary Least Square method, Johansen Co-integration test, and Augmented Dickey-Fuller test were employed. The findings revealed that expected inflation, money supply, and exchange rate influenced inflation in Nigeria during the period of investigation. Exchange rate, broad Money Supply, Annual Treasury Bill Rate, and Monetary Policy Rate in the estimated model used for the analysis accounted for 90% variation in determining the direction of inflation in respect to increase or decrease. The co-integration result revealed that at order one I (1) a long-run relationship existed among the variables and are stationary.

Gbadebo and Mohammed (2015), assessed the effectiveness of monetary policy as an anti-inflationary measure in Nigeria. They adopted the co-integration and error correction methods approach using quarterly time series data from 1980Q1 to 2012Q4. The unit root test revealed that all the variables were differenced stationary. The co-integration test revealed a long-run relationship between inflation and vector of independent variables employed. The results revealed interest rate, exchange rate, money supply, and oil-price are the main causes of inflation in Nigeria during the study period. The study suggested that anti inflationary monetary policy

measures, backed up by some necessary fiscal policies are obligatory for structural and economic stabilization

Yunana et al. (2015), assessed the Impact of Monetary Policy on Inflationary Process in Nigeria using annual time series data spanning from 1986 to 2013. Ordinary least square regression, Augmented Dickey-Fuller (ADF), and Phillips Perron (PP) tests for unit roots were employed. Results showed money supply, interest rate, and Unemployment were integrated at the second difference. The findings of the regression showed that monetary policy have major influence on inflation. The study recommended that the government should embark on coordination and synergy of both fiscal and monetary authorities with regards to flows of money or liquidity in the economy to aid control inflation. Where deficit financing is unavoidable, it should be put into productive activities in order to create more employment opportunities, increase national output, and improve standard of living the people.

### 3. METHODOLOGY

#### Research Design

The study embraced an ex post facto design. An ex post facto research design is a method in which groups with quantities that already exist are compared on the dependent variable(s).

#### Model Specification

The functional form of the model is specified as:

$$RGDP = f( MS, EXR, INTR) \dots\dots\dots 3.1$$

This econometric form of the model is specified as:

$$RGDP = \beta_0 + \beta_1MS + \beta_2EXR+ \beta_3INTR + \mu \dots\dots\dots 3.2$$

$$LnGDP + \beta_0 + \beta_1 \ln MS + \beta_2EXR+ \beta_3INTR + \ln \mu \quad \beta_0 > 0, \beta_1 > 0, \beta_2 < 0, \beta_3 > 0$$

Where

RGDP = Real Gross domestic product

MS = Money Supply

INTR= Interest Rate

EXR= Exchange Rate

$\beta_0$ = Constant

$\beta_1, \beta_2$  and  $\beta_3$ , are the parameters to be estimated

$\mu$  = stochastic term

On the apriori:  $\beta_1 > 0, \beta_2 < 0, \beta_3 < 0$

### 4. SUMMARY OF THE UNIT ROOT TEST

Series	5% critical value@ level	ADF -t Stat @ Level	5% Critical value @ 1 <sup>st</sup> different	ADF -t Stat @ Level 1 <sup>st</sup> different	Order of integrate
GDP	-3.54890	.9945.003868	-3.552882	-4.284147	1 (1)
MSS	-3.54890	-363049	3.552882	-4.767734	1 (0)
EXCR	-	-2.545897	3.552882	6.009211	1 (1)



	3.54890				
INTR	-	3.91205	3.552882	6.646854	1 (0)
	3.54890				

The result of the unit root test above shows that GDP and exchange rate are stationary at first difference while money supply and interest rate are stationary at level therefore, we have a mixed order of integration ARDL bounds test is therefore needed to investigate co-integration or long-run.

### ARDL COINTEGRATION TESTS

#### Bounds Test

ARDL Bounds Test

Date: 10/23/22 Time: 14:28

Sample: 1990 2020

Included observations: 31

Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	10.23696	3
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

F Stat value 10.23 is greater than the upper bound 5% initial value (3.23). We therefore accept the alternative hypotheses thus long run relationship exists and reject the null hypotheses which states that “no long run relationship exists”

#### ARDL Short-run Cointegration and Long Run Coefficients Test

Dependent Variable: LNGDP

Method: ARDL

Date: 10/23/22 Time: 14:28

Sample (adjusted): 1990 2020

Included observations: 31 after adjustments

Maximum dependent lags: 4 (Automatic selection)

Model selection method: Akaike info criterion (AIC)

Dynamic regressors (4 lags, automatic): LNMS LNIR LNEXT

Fixed regressors: C

Number of models evaluated: 500

Selected Model: ARDL(1, 1, 4, 1)

Variable Coefficient Std. Error t-Statistic Prob.

LNGDP(-1)	0.573229	0.110777	5.174638	0.0000
LNMS	0.005299	0.134423	0.039420	0.9689
LNMS(-1)	0.298550	0.155153	1.924233	0.0687
LNIR	0.001459	0.063102	0.023121	0.9818
LNIR(-1)	-0.098449	0.062745	-1.569049	0.1323
LNIR(-2)	0.127581	0.061856	2.062540	0.0524

LNIR(-3)	0.055416	0.058860	0.941491	0.3577
LNIR(-4)	0.141074	0.063608	2.217879	0.0383
LNEXR	0.048581	0.056340	0.862283	0.3988
LNEXR(-1)	0.073503	0.062049	1.184611	0.2501
C	0.848854	0.539464	1.573514	0.1313
CointEq(-1)	-0.426771	0.110777	-3.852530	0.0010

Coefficient Std. Error t-Statistic Prob.

LNGDP(-1)	0.573229	0.110777	5.174638	0.0000
LNMS	0.005299	0.134423	0.039420	0.9689
LNMS(-1)	0.298550	0.155153	1.924233	0.0687
LNIR	0.001459	0.063102	0.023121	0.9818
LNIR(-1)	-0.098449	0.062745	-1.569049	0.1323
LNIR(-3)	0.055416	0.058860	0.941491	0.3577
LNIR(-4)	0.141074	0.063608	2.217879	0.0383
LNEXR	0.048581	0.056340	0.862283	0.3988
LNEXR(-1)	0.073503	0.062049	1.184611	0.2501
C	0.848854	0.539464	1.573514	0.1313
CointEq(-1)	-0.426771	0.110777	-3.852530	0.0010

R-squared	0.918877	Mean dependent var	9.697742
Adjusted R-squared	0.888316	S.D. dependent var	1.749350
S.E. of regression	0.071791	Akaike info criterion	-2.158691
Sum squared resid	0.103079	Schwarz criterion	-1.649857
Log likelihood	44.45972	Hannan-Quinn criter.	-1.992824
F-statistic	17.79287	Durbin-Watson stat	1.834545
Prob(F-statistic)			0.000000

\*Note: p-values and any subsequent tests do not account for model selection

GDP = 1.989017 + 0.711972 MS + 0.532089 INTR + 0.286065 EXCR + 1.989017. On the long run, we discover that a direct significant relationship exists between Interest rate, exchange rate, money supply, and GDP. Real GDP lag 1 is statistically significant and in direct relationship with current GDP. 1% increase in real GDP lag1 brings about 0.573229% increase in the current G.D.P. Money supply lag1 has direct relationship with GDP, as 1% increase in money supply brings about 0.298550% increase in GDP. This shows that money supply is statistically significant with the current GDP. Interest rate lag1 is statistically significant and in

inverse relationship with current GDP because 1% increase in Interest rate brings about 0.098844% decrease in Real GDP. Exchange rate lag 1 is also statistically significant and in a direct relationship with GDP as 1% increase in exchange rate brings about .073503% increase in GDP.

## Summary of Findings

Money supply has a positive and significant effect on economic growth in Nigeria within the period under study.

Exchange rate has a positive and significant impact on economic growth in Nigeria within the period under study.

Interest rate has a negative and significant impact on the economic growth in Nigeria within the period under study.

The study discovered that annual treasury bill rate through open market operation as proxy has not been effective in influencing gross domestic product.

## Conclusion

This study therefore concluded that money supply, exchange rate, and interest rate as determinants for liquidity policy had significance effect on economic growth in Nigeria within the period under study.

## Recommendation

Based on the results and conclusion, the study made the following recommendations:

- i. That Nigerian government through monetary authorities should improve on the liquidity policy by lowering the lending rate, so that local investors especially small and medium-scale entrepreneurs can have easy access to loan facilities from banks.
- ii. That the Central Bank should identify practical and effective means of contracting liquidity policy on money supply in the system and make better use of exchange rate to improve the aggregate economy.
- iii. That the Central Bank should assess liquidity policies regarding especially exchange rate and interest rate before possible implementation.
- iv. That the monetary authority should apply quite caution in formulating policies to re-evaluate the effectiveness, efficiency and potency of liquidity policy tool in Nigeria with the view to accommodate any negative unforeseen circumstances like that of the COVID-19 pandemic.

## REFERENCES

1. Adadeji .S (2022), Impact of monetary policy operations on economic growth in Nigeria.
2. Adegbite, T.A. & Alabi, W.O (2013), Monetary policy and economic growth: The Nigeria experience (1970-2010), *Prime Journal of Business Administration and Management*, 3(1),: 822-833. [www.primejournal.org/BAM/pdf/.../Adejare%20and%20modara.doc](http://www.primejournal.org/BAM/pdf/.../Adejare%20and%20modara.doc).
3. Adigwe, P.K., Echeboba, F.N & Onyeagba, J.B.C (2015), Monetary policy and economic growth in Nigeria: A critical evaluation. *IOSR Journal of Business and Management*, 17(2), 110-119.
4. Ahmad, D. Azal, M. & Ghani, U. (2016), Impact of monetary policy on economic growth empirical evidence of Pakistan. *International journal of Applied Economic Studies*, 4(6), 1-10.
5. Akarara et al., (2018), The effectiveness of monetary policy in the control of inflation in Nigeria: *An ECOM Approach*.
6. Anazor K. O (2015), Effect of monetary policy on economic growth and development in Nigeria (1970-2013). *Unpublished Thesis. NnamdiAzikiwe University*.
7. Anowor, F., & Okorie, G.C (2016), A reassessment of the impact of monetary policy on economic growth: study of Nigeria. <http://www.eajournals.org/wp-content/uploads/A-Reassessment-of-the-impact-of-monetary-policy-on-Economic-growth-study-of-nigeria.pdf>
8. Apere. U & Kaimo. L (2014), Seminar paper from the year 2019 in the subject economics: Monetary Theory and Policy. *The FOM University of Applied Sciences, International Economic Poly*.
9. Ayodeji, A., & Oluwole, A. (2018), Impact of monetary policy on economic growth in Nigeria. *Open Access Library Journal*, 5(02), 1.
10. Ayodel, A. & Oluwole, A. (2018), Impact of monetary policy on economic growth in Nigeria. *Open access library Journal*, 5(e4320), 1-13.
11. Bakere, A. (2011). An empirical study of the determinates of money supply growth and its effects on inflation rate in Nigeria. *Journal of Research in International Business and Management*, 1(5), 124-129.
12. Batini, N. (2016), Achieving and maintaining price stability in Nigeria. IMF working paper (P/4/97, June.
13. Bello, A., & Sualaw T. (2013), Theory of monetary policy. In *Monetary Economics in Globalised Financial Markets* (479-580). Springer, Berlin, Heidelberg.
14. Busari, D., Omoke, P. & Adesoye, B. (2012), Monetary policy and macroeconomic stabilization under alternative exchange rate regime: evidence from Nigeria.
15. Central Bank of Nigeria (2011), CBN briefs 2008-2009 Edition, Research; Department fit <http://greenspringwealth.com/blog-article-A-why-interest-rates-are-so-important->
16. Central Bank of Nigeria (2017), *Understanding monetary policy series: What is Monetary Policy*" published by Monetary policy Department Central Bank of Nigeria.
17. Charles, A. N. B (2012), Investigating the performance of monetary policy on macroeconomic instability in Nigeria: a Rational Expectation approach. *Journal of social sciences*, 12(2): 93-100.



18. Divedi, D. N., (2005) Managerial Economics (Sixth Edition). VIKAS Publishing house PVT LTD.
19. Emeh, O.A. & Johnson, A.A. (2010), Effects of exchange rate movements on economic growth in Nigeria. *CBN Journal of Applied Statistics*, 2(2) 19-40.
20. Erhunse.C (2020), Implication of big push theory on Nigeria economic development. *Seminar Paper from Economic Cycle and Growth*.
21. Emerenini & Eke. I.(2014), Quantitative analysis of the impact of exchange rate policies on Nigeria's economic growth: a Test of Stability of Parameter Estimates. *International Journal of Humanities and Social Science*, 4(7), 265-272.
22. Faroh, A. &Shen, H., (2015), Impact of interest rates on foreign direct investment: Case Study Sierra Leone Economy. *International Journal of the Economic Research*. 6(1). [Online].
23. Finan, M., B., (2016), A basic course in the theory of interest and derivatives markets: *A Preparation for the Actuarial Exam FM/2*.
24. Gareth D.T. and David S.B (2021) The creators of inside money: *A New Monetary Theory*.
25. Gbadebo A. and Mohammed, H. N. (2019), Monetary policy and inflation control in Nigeria. *Journal of Economics and Sustainable Development*, Vol. 3. No. 30. Pp.198.
26. Gbadebo, A.D. &Muhammed, N. (2015), Monetary policy and inflation control in Nigeria. *Journal of Economics and Sustainable Development*, 6(8), 108-115.
27. Geoff, R. (2012), An appraisal of the impact of the dearth of pre-hospital emergency medical services to road traffic accident victims in Nigeria. *International Journal of Humanities and Social Science Invention*, 34-40.
28. IMF Bulletin (2017), Monetary policy department. *International Monetary Fund Statistical Bulletin for several issues* <http://www.org/>
29. Keynes, J., M., (1965), The general theory of employment, interest, and money.
30. Khan, S.M. (2010), The design and effects of monetary policy in Sub-Saharan Africa countries, working paper. *Series Peterson Institute for International Economics*.
31. Kumapayi, I.O. Onakoya, A.B.O. & Agboluaje, M.A. (2012), Does monetary policy influence economic growth in Nigeria? *Asian Economic and Financial Review*, 2013, 3(5), 635-646.
32. Ilegbinosa, S. A., Peter. C. U., Moses and Iekan, M. O. (2012), An analysis of interest and exchange rates effect on the Nigerian economy; 1975-2008. *Asian Economic and Financial Review* 2.8 (2012):648.
33. Mahdi, S. & Masood, S., (2011), The long-run relationship between interest rates and inflation in Iran: Revisiting Fisher's Hypothesis. *Journal of Economics and International Finance*. [online] 3(14). .
34. Micah Effiong (2019), Empirical determination of the concept of money ( $M_1$  and  $M_2$ ): *Seminar Papers on Economic Policy*.
35. Micah Effiong (2020), Impact of inflation on economic growth in Nigeria: *Context of an Emerging Market*.
36. Mutinda, D., M., (2012), The effect of lending interest rate on economic growth in Kenya.
37. Nasko, A.M. (2016). Impact of monetary policy on the economy of Nigeria. *Pyrex Journal of Business and Finance Management Research*, 2 (10), 163-179.
38. Nicholas, M.O. (2010), Interest rate deregulation, bank development and economic growth in South Africa: An Empirical Investigation. *International Business and Economic Journal*, 9(11), 131-142.
39. Nnanna, O. (2014), The monetary policy framework in Africa: The Nigeria experience. Extracted from [ww2.resbank.co.za/internet/publication.../Nigeria.pdf](http://ww2.resbank.co.za/internet/publication.../Nigeria.pdf)
40. Nwaru N.M. (2016). Economics of money, banking, and financial markets. (*Owerri: Kricel Publishers*)
41. Nwoko, N. M., IHEMEJE, J.C. &ANUMADU, E. (2016), The Impact of monetary policy on the economic growth of Nigeria. *An International Multidisciplinary Journal, Ethiopia*, 10(3), 192-206.
42. Nwosa, S., & Oseni J. (2012), The impact of monetary policy on Nigeria's macroeconomic stability. *International Journal of Economic Development Research and Investment*, 2(2), 174-183.
43. Offor U.P, Amadi K.T & Ibeaja F.U (2022), Nigerian monetary policy 1991-2021; Money Supply Rate and Inflation Rate. *Asian Journal of Economics Business and Accounting*, Vol 22 ISSUE 23. [Journal.ajeba.com/index.php/AJEB/article/view/883](http://Journal.ajeba.com/index.php/AJEB/article/view/883).
44. Okotori J. (2019), Monetary policy and inflation targeting in Nigeria. *International Journal of Economics and Financial Management*, 2(3), 1-12.
45. Okwori, N. M., IHEMEJE, J. & ABU, J. (2015), Determinants of money supply in Nigeria. *Journal of Economic and Social Research (JESR)*. 6, (1):77-103.
46. Owumbe, I.M. (2018), Effect of monetary policy on economic growth in Nigeria. *International Journal of Trend in Scientific Research and Development (IJTSRD)*.
47. Sanusi, J. (2002), Central bank and the macroeconomic environment in Nigeria. Lecture delivered to participants of the senior executive course No. 24 of the National Institute for Policy and Strategic Studies (NIPSS), Kuru on 19<sup>th</sup> August.
48. Shane J. (2010), A general theory of economic development towards a capitalist economy.

49. Soludo, C. C, (2008), Issues on the level of interest rates in Nigeria" Central Bank of Nigeria.
50. Sola, O., & Peter, A. (2012), Money supply and inflation in Nigeria: Implications for National Development. *Scientific Research*, 4(3), 161-170.
51. Srithilat, K. & Sun, G. (2017), The impact of monetary policy on economic development: Evidence from Lao PDR. *Global Journal of Human-Social Science: Economics*, 17(2), 8-16.
52. Tugba D and Yilmaz A (2020), Relationship between economic growth, unemployment, inflation and current account balance: Theory and case Turkey. Online: [www.intechopen.com](http://www.intechopen.com).
53. Ufoeze, L.O., Odingbe, S.O., Ezeabailisi, V.N & Alajekwu, U. B (2018). Effect of monetary policy on economic growth in Nigeria: an empirical investigation. *Annals of SpiruHaret University*, Issue 1.
54. Umaru, A.& Abdulrahman, A. (2012), Effect of inflation on the growth and development of the Nigeria economy (An Empirical Analysis). *International Journal of Business and Social Science*, 3(10), 180-191.
55. Yunana, M, Alaa.S & Eubhan . U (2015), Economic growth and financial development.