Innovations

The impact of monetary policy on Nigeria's economic growth

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Abstract

This study investigates the impact of monetary policy on Nigeria's economic growth. In the empirical analysis, three monetary policy variables are used: broad money supply, liquidity ratio, and cash reserve ratio. Using annual data from 2000 to 2022, as well as descriptive statistics and the Ordinary Least Squares method to estimate the specified mode, the results show that monetary policy instruments have a pervasive effect on economic growth, with some effects being positive and others being negative. The liquidity ratio has a negative impact on the Nigerian economy, while the cash reserve ratio has a negligible impact. Only the monetary supply variable has a positive and significant impact on Nigerian economic growth over time. The study's main conclusion is that monetary policy in Nigeria responds arbitrarily to economic growth. The study recommends, among other things, that appropriate monetary policies be implemented in order to foster a favorable investment environment conducive to the emergence of market-based interest rate and exchange rate regimes that will attract both domestic and foreign investments, create jobs, promote non-oil exports, and revitalize industries that are currently operating far below installed capacity.

Keywords:*1.Monetary Policy, 2Economic Growth, 3.Ordinary Least Squares*

Introduction

One of the primary goals of macroeconomic policy is to ensure long-run output and employment stability. This implies that monetary policy plays a key role in macroeconomic adjustments over time by regulating liquidity, stabilizing monetary transmission channels, and generally coordinating an economy's financial system. Traditional economic models have explained how monetary policy can influence the real economy through the aggregate demand side since the Keynesian revolution. The interest rate and the base money supply have been the primary tools used in such analysis.This formulation required the establishment of channels through which monetary policy could affect the real sector. Interest rates have long been recognized as the most important transmission channel. An increase in interest rates raises the cost of capital. As a result, the interest-sensitive components of aggregate demand fall. An increase in short-term interest rates lowers asset prices, which reduces consumption expenditure via wealth effects and investment expenditure via Tobin's q-effects (Tobin, 1965).

The credit channel is another important channel through which monetary policy influences economic activity. According to the credit perspective, the effects of monetary policy are largely transmitted through lower bank lending. Changes in the monetary authority's lending terms to banks cause the banks' ability to lend to adjust. Changes in credit available to the private sector are expected to have an impact on aggregate demand. As a result, investment and consumption decisions are influenced, and output tends to shift accordingly (Iyoha, Oyefusi, & Oriakhi, 2002; Nwoko, Ihemeje & Anumadu, 2016). Over the years, Nigeria's central bank has used various policy management techniques to keep the economy stable.Prior to the structural adjustment of 1986, which ushered in a period of financial deregulation, it used a system of direct control through the issue of credit guidelines and interest rate fixation, but by the late 1980s, it had switched to an indirect control system through open market operations, the adjustment of legal reserves requirements, and the rediscount rate. However, the achievement of the desired monetary policy objectives has been hampered by domestic and external factors such as fiscal dominance, the underdeveloped nature of financial markets, external debt overhang, and volatility in oil prices (Sanusi, 2002; Ajisafe, Adesina & Okunade, 2022).

However, the relationship between monetary authorities' control and economic output has been a point of contention in economic debates. While monetarists argue that monetary policy is critical to achieving full employment and steady-state output growth, Keynesians vigorously deny such connections. The effect of monetary policy on the price level, according to Keynesians, is direct and has no effect on the real sector. Because of certain structural factors, this contention has taken on a more pronounced dimension in Nigeria. First and foremost, fiscal policy has evolved into a powerful tool for macroeconomic control over the years, owing to the abundance of crude oil funds available to offset cyclical fluctuations.Furthermore, the financial sector's underdevelopment has created formidable bottlenecks in the facilitation of monetary policy to aggregate demand (Olayiwola, Okunade & Fatai, 2021; Okunade & Ajisafe, 2022).

This study seeks to revisit the empirical effects of monetary policy on economic activities using variables such as broad money supply, liquidity ratio, and cash reserve ratio in the context of the Nigerian economy.

Review of Related Literature

Recall from the literature that the money supply has a significant impact on economic activity in both developed and developing countries. Several economists have attempted to link money supply to economic growth by looking at the role of financial structure, which assumes that the level of money supply drives economic growth. According to Manouchetr and Ahmed (2011), citing Necketti and Morris (1992) and Krol and Chanioan (1993), while some studies provide a brief history of the issues at hand and discuss the various implications of interest in monetary aggregates in determining the level of economic growth in developing economies, others discovered evidence of monetary aggregates' predictive ability.Becketti and Morris (1992), Michael and Ebibai (2014), Khundrakpam (2017), and Ufoeze, Odimgbe, Ezeabalisi, and Alajekwu (2018), on the other hand, argue that such a relationship appears to have changed over time.Now, in analyzing the impact and factors determining economic growth in relation to monetary policy, Levine and Renect (1992) and Barro (1994) proposed the following model, which has served as the theoretical framework in many studies today. Thus;

$Y = \&_i 1 + \&_n M + \&_r Z + U_i$

Where: Y = rate of growth in the economy

I = set of variables always included in the regression
M = the variable of interest
Z = subset of important independent variables used in the past studies
Ui = the error term

Empirical Review

Onyeiwu (2012) investigates the impact of monetary policy on the Nigerian economy, employing the Ordinary Least Squares (OLS) method to analyze annual data from 1981 to 2008. Money supply, balance of payment, and inflation rate served as proxies for monetary policy. The findings indicate that money supply has a positive impact on GDP growth and the balance of payments, but a negative impact on the rate of inflation. He does, however, advocate for monetary policy that fosters a favorable investment climate through appropriate interest rates, exchange rate, and liquidity management mechanisms. Similarly, Tehseen, Imtiaz, and Muhammad (2010) use annual time series data from 1981 to 2009 to empirically investigate the comparative effect of fiscal and monetary policy on economic growth in Pakistan.According to the cointegration results, both monetary and fiscal policy has a significant and positive effect on economic growth. Monetary policy has a much higher coefficient than fiscal policy, implying that monetary policy is more concerned with economic growth in Pakistan than fiscal policy. The study's implication is that policymakers should prioritize monetary policy over fiscal policy in order to boost economic growth. Nwoko et al. (2016) used key monetary time series variables and real growth output in formulating vector Autoregressive (VAR) models that showed interdependence interaction from 1990 to 2011 in a study on the dynamic interaction between monetary policy tools in stimulating economic growth and stabilizing the economy from external shocks in Nigeria.

The Augmented Dickey-Fuller unit root test was also used to examine the time series properties of the selected variables. The results show that only real level growth is stationary, whereas Sainys lending and exchange rates are stationary at first difference. The Johansen's Trace and Maximum Eigenvalue tests were used to determine the long-run dynamic interaction. The pair-wise Granger-causality test revealed that the real output growth rate is not a leading indicator for any monetary variables.The study of Manouchehr and Ahmed (2011) on the relationship between money supply and economic growth in Iran, used the ordinary least squares (OLS) technique on a set of data obtained from the Iranian central Bank from 1974 to 2008 and adopting the Levine and Bennect model, found a positive and significant relationship between money supply and economic growth in Iran.

Ajisafe et al. (2022) used the Jabansen Maximum Likelihood Cointegration procedure to investigate monetary policy and its impact on output in Nigeria. The findings indicate that there is a long–run relationship between expected and unexpected monetary policy and output in Nigeria. Okoro (2013) used multiple regression analysis to investigate the impact of monetary policy on industrial growth in the Nigerian economy. They examined the relationship between manufacturing output, treasury bills, deposit and lending, and the rediscount rate, and discovered that the variables have significant effects on industrial growth. Onyeiwu (2012) investigated the impact of monetary policy on Nigerian economic growth.A Structural Vector Auto-Regression (SVAR) approach was used in the study to trace the effects of monetary policy stocks on output and prices in Nigeria. The research also looked at three alternative policy instruments: broad money (M2), the minimum rediscount rate (MRR), and the real effective exchange rate (REER) (REER). The study discovered evidence that, depending on the policy variable chosen, monetary policy innovations have both real and nominal effects on economic parameters.

Bernhard (2013) used OLS regression analysis to examine the impact of monetary policy on selected macroeconomic variables in Nigeria, such as GDP, inflation, and the balance of payments. The result indicates that creating an investment-friendly environment in Nigeria will boost GDP growth.Fasanya, Onakoya, and Agboluaje (2013) used multiple regression to investigate the impact of monetary policy instruments on Nigerian economic growth and discovered that the Treasury bill, minimum rediscount rate, and liquidity rate have a significant impact on Nigerian economic growth. Okwo, Eze, and Nwoha (2012) investigated the impact of monetary policy outcomes on Nigerian macroeconomic stability. Using the OLS technique, the study examined GDP, credit to the private sector, net credit to the government, and inflation. None of the variables were statistically significant, implying that monetary policy as a policy option was ineffective in influencing price stability.

Gertler and Ailchrist (1994) investigate how small and large manufacturing firms respond to monetary policy. They discover that small businesses account for a disproportionate share of the manufacturing decline caused by tightening monetary policy. In an extensive overview of developments in UK macroeconomic policy over the last half-century, Edward and Nicoletta (2004), instead of focusing on well-known recent changes in policy arrangements (such as the introduction of inflation targeting in 1992 or central bank independence in 1997), take a longer view, characterizing the favorable economic performance in the 1990s and 2000s as the culmination of a macroeconomic policy overhaul since the late 1970s.They concluded that policymakers have abandoned various misconceptions about the macroeconomy and the monetary transmission mechanism that they held in previous periods. Misconceptions included: an underestimation of the importance of monetary policy in demand management until 1970; a failure to distinguish between real and nominal interest rates until the late 1960s; the deployment of ineffective monetary control devices that did not alter the monetary base until the mid-1980s; and policymakers' adherence to monetary views of the inflation process in the 1960s and 1970s (Edward & Nocoletta, 2004).Omojolaibi (2011) examined the change in fiscal policy stance in Nigeria using the structural vector autoregression (SVAR) model. Using quarterly data from 1970 to 2008 and a four variable model, the results show that fiscal impulse has a significant positive impact on real output and money supply, but a negative impact on inflation.

Theoretical Framework

The Monetarist View of Monetary Policy

Milton Friedman founded the monetarist school of thought. This school of thought is a modern interpretation of classical macroeconomics. They created a more subtle and applicable version of the quantity theory of money. Friedman (1963), like any other school of thought, emphasized the supply of money as a key factor affecting the well-being of the economy and accepted the need for an effective monetary policy to stabilize an economy.He also believes that, in order to promote consistent growth, the money supply should grow at a fixed rate rather than being regulated and altered by monetary authorities. Friedman also contended that because money supply may be required for reasons other than anticipated transactions, it can be held in various forms such as money, bonds, equities, physical goods, and human capital. Each type of wealth has a distinct characteristic and a different yield. These effects will eventually boost aggregate money demand and boost output. The Monetarists recognize that the economy may not always operate at full employment in terms of real GDP.

Thus, monetarists argue that in the short run, expansionary monetary policies may raise the level of real GDP by increasing aggregate demand. However, they argue that in the long run, when the economy is operating at full employment, the quantity theory remains a good approximation of the link between the supply of money, the price level, and the real GDP. Furthermore, in the long run, expansionary monetary policy only causes inflation and has no effect on the level of real GDP.

The Classical View of Monetary Policy

The quantity theory of money underpins the classical economists' view of monetary policy. The quantity theory of money is typically discussed in terms of the fisherian equation of exchange, denoted by the expression MV = PY. M denotes the supply of money over which the Federal Government has some control; V denotes the velocity of circulation, which is the average number of times a currency is spent on final goods and services in a year; and P denotes the GDP price level. Hence PY represents current nominal GDP. The equation of exchange is an identity which states that the current market value of all final goods and services (nominal GDP) must equal the supply of money multiplied by the average number of times a currency is used in transaction in a given year. The classical economist believes that the economy is always at or near the natural level of real GDP.

As a result, they assume that the Y in the equation of exchange is fixed in the short run. They also contend that the velocity of money circulation tends to remain constant. As a result, V can also be considered Fixed. Given that Y and V are both fixed, it follows that if the Central Bank of Nigeria (CBN) engages in expansionary (or contractionary) monetary policy, it will result in an increase (or decrease) in money supply (M), with the only effect being an increase (or decrease) in price level P in direct proportion to the change in money supply (M).

Keynesian View of Monetary Policy

Keynesian theory rejected the idea that money and price have a direct and proportional relationship. They all agree that it is done indirectly through interest rates. They also reject the notion that the economy is always at or near its natural level of real GDP, implying that Y in the equation of exchange is fixed. They also reject the idea that the velocity of money circulation is constant. Keynesians believe that by increasing the supply of loanable funds available through the banking system, interest rates will fall. When interest rates fall, aggregate expenditures on investment and interest-sensitive consumer goods rise, causing real GDP to rise. As a result, monetary policy can have an indirect impact on real GDP.

Methodology

This study aims to evaluate Nigeria's monetary policy in light of the country's long-term macroeconomic performance. The Ordinary Least Squares (OLS) regression analysis method was used to analyze data collected from Central Bank of Nigeria and National Bureau of Statistics publications spanning the years 2000 to 2022. A multiple regression model was used to demonstrate the application of the Ordinary Least Square method, with the liquidity ratio, money supply, and cash ratio as independent variables in the model and gross domestic product as the dependent variable. As a result, the model is defined as follows:

$RGDP = \beta_{0 +} \beta_2 LR + \beta_3 CR + Ui$

Where:

GDP= Gross Domestic Product

LR = Liquidity Ratio

MS = Broad Money Supply

CR + CashRatio

$\beta_{1,} \beta_{2,} \beta_{3 >} 0$; and Ui = Error term

Empirical Analysis

This session presented and analyzed the data used for the empirical evaluation of the study, which involved the use of both statistical and econometric methods to provide a rich background for the investigation. The descriptive statistics are used, and the output provides an initial characterization of the data. The goal of the econometric analysis is to provide estimated coefficients that are valid enough to test hypothesized relationships in the study.

Statistical Analysis

The descriptive statistics were used in this study to help explain the behavior of the data set at different levels. The presented statistics identify the behavioral patterns of the individual time series data used. Table 1 displays the descriptive statistics for each of the variables. The average RGDP is around N263.4 billion, while the median value is not very high, indicating that the RGDP data for Nigeria are quite similar across the years. This emphasizes the

argument that, while nominal GDP is increasing, the distributional effects of rising income are not being felt throughout the economy. This viewpoint is strongly supported by the relatively low standard deviation value, which is significantly less than the mean value. This demonstrates that real income did not change dramatically over time. The massive distribution of income has resulted primarily from increased crude oil production and sales in the country, combined with a consistent increase in the price level over the years. The skewness value is also low, indicating that much of the data is centered on the mean value. The Jargue-Bera (J.B) test demonstrates the pattern of data distribution empirically. The result, with a J.B. value of 3.57, indicates that RGDP is actually normally distributed.

The issue of heterogeneity of the data over the period is not to be considered.

Tabla 1: Summary Statistics of Variables

Variable	Mean	Median	Max	Min.	Std dev.	Shewness	J-B	Prob.
RGDP	26344.12	295356.17	81118.30	4219	26534.67	0.725	3.57	0.13
LR	53.81	44.9	84.5	34.1	13.15	0.826	8.34	0.01
CRR	6.80	7	22	1	6.26	2.046	71.15	0
MS	214.675	53657.03	10302.41	729.56	20190.32	2.501	108.52	0

Source: Author's Computation, 2022

Econometric Analysis

In this section, the author used the OLS estimation tools to conduct the study's empirical analysis. The estimated model's results are shown in table 2. Because the overall goodness of fit outcomes was high, the results show highly impressive diagnostic information. The R squared value of 0.834 is extremely high, indicating that the four explanatory variables explained more than 83 percent of the systematic variations in income growth over the period. Only about 16% of the variations are unaccounted for by the chosen independent ability. The f-statistics in the model are used to evaluate the overall performance of the model. The f-value of 50.44 is extremely high, and it easily passes the significance test at the 1% level, thus suggesting that a significant linear relationship exists between RGDP and all the independent variables combined. Indeed, the monetary policy factors combined to affect real income levels in Nigeria over time.

Table 2: Monetary policy and Economic growth in Nigeria

Variable	Coefficient	T-Ratio
Constant	10.73	5.090
LMS	0.442	10.02
LCRR	- 0.067	-0.381
LLR	- 1.225	-2.540
$R^2 = 0.834$	F = 50.44	D.W. = 0.36

Source: Author's Computation, 2022

Discussions

All of the independent variables have characteristics that are very different from RGDP. The mean CRR and MS are both significantly higher than their median values. Their standard deviation is also quite large. This implies that these values change over the course of the analysis. The skewness values for these variables are very high and positive, indicating that the data is positively skewed, with CRR and MS values less than the mean value in more of the years. The variable's J.B. values are highly significant, indicating that it is not normally distributed. Only the LR

variable indicates a smoothness pattern over the analysis period. The result for LR is particularly intriguing.The result implies that there was no significant change in the pattern of bank lending rates over the period, owing to the fact that the roles were regulated for a long time and are now strictly monitored by monetary authorities.The individual coefficients of the explanatory variables are used to determine the contribution of each explanatory variable to the behavior of RDGP.A closer look at these coefficients reveals that only the MS coefficient has the expected positive sign, while the other coefficients have the expected negative sign. This implies that an increase in the cash reserves ratio as well as the liquidity ratio tends to limit economic growth. However, the coefficient of cash reserve ratio is significant, implying that the negative effect of cash reserves on real income is in fact insignificant. Apparently, increased bank cash reserves have not been well channeled to productive lending in the economy.

However, the cash reserve ratio coefficient is significant, implying that the negative effect of cash resources on real income is actually insignificant. Apparently, banks' increased cash reserves have not been well challenged to productive lending in the economy. The LLR coefficient is also positive, indicating that the expected relationship between bank liquidity and economic growth is positive. However, the results show a negative impact of liquidity rationing on income, implying that as monetary authorities increase bank liquidity rationing, economic income tends to fall. The reason for this is that funds in banks have not been used effectively over the years.There has been a strong disconnection between the banking sector and the real economy over the years.

Only the money supply has the expected positive sign and is significant, implying that increasing the money supply helps the economy. Cegan (1956), Friedman and Anna (1963), Sims (1972), Greewood and Jovanovic (1990), King and Levine (1993), Wachtei and Raisseau (1995), Neusser and Kuglger (1996), Acemoglu and Ziliboti (1997), Masor (2005), and Owoye and Onafowora (2005) all found similar results (2007).It should be noted that this is the only monetary policy instrument that does not go through the banking sector. This demonstrates that monetary policy instruments channeled through the banking sector are less effective than those channeled through the other channel. The government's priority should be to increase the money supply tilt of monetary policy in order to promote Nigerian economic growth.

Conclusion

The study has focused on the effectiveness of monetary policy on Nigerian economic growth; because the main goal of monetary policy is price stability and steady-state output growth, this study is well intended. The empirical analysis included three monetary policy factors: broad money supply, liquidity ratio, and cash reserved ration. The specified model was estimated using annual data from 2000 to 2022 using the ordinary least squares method. The study's main conclusion is that monetary policy in Nigeria responds arbitrarily to economic growth. Monetary policy instruments, in particular, have a pervasive effect on economic growth; while some of the effects are positive, others are negative.Furthermore, while liquidity ratio has a negative impact, cash reserve ratio has an insignificant impact, and only monetary supply variable has a positive and significant impact on economic growth in Nigeria over time. The study recommends, among other things, that appropriate monetary policies be implemented in order to create a favorable investment environment that will facilitate the emergence of market-based interest rate and exchange rate regimes that will attract both domestic and foreign investments, create jobs, promote non-oil expert and receiving industries that are currently operating far below installed capacity, and a sound monetary and macroeconomic policy that will help.The central bank must encourage the introduction of more financial instruments that are flexible enough to meet the risk preferences of Nigerian investors in order to strengthen the financial sector.

References

1. *Ajisafe, R. A., Adesini, K. E., & Okunade, S. O. (2022). Effects of anticipated and unanticipated monetary policy on output in Nigeria. African Journal of Economic Review, 10(2), 40 – 55.*

2. *Becketti, S, and Morris, C. (1992). Does money still forecast economic activities? Federal reserve bank of Kansas city. Economic Review, 77, (2), 26-78.*
3. *Bernhard, O. I. (2013). Monetary transmission mechanism in Nigeria: Causality test. Mediterranean Journal of Social Sciences, 4(13), 377-388.*
4. *Bernhard, O. I. (2013). Monetory transmission mechanism in Nigeria: Causality test. Mediterranean Journal of Social Sciences, 4(13), 377 – 388.*
5. *Cagan, P. (1956). The monetary dynamic of hyperinflation in M. friend man (ED); studies in the quality theory of money. Chicago: University of Chicago Press.*
6. *Edward And Nicoletta (2004). The U. K's rocky road to stability: Federal reserve bank of St. Louis. Journal of Monetary Trends, 6(2), 34 – 45.*
7. *Fasanya, I. O., Onakoya, A. B., & Agboluaje, M. A. (2013). Does monetory polivy influence economic growth in Nigeria? Asian Economic and Financial Review, 3(5), 635 – 646.*
8. *Friedman, M. & Anna, J. S. (1963). Money and business cycles. Review of Economics and Statistics, 45, 32-64.*
9. *Friedman, M. (1969). The role of monetary policy. The American Economic Review, 58, (1), 1-17.*
10. *Gerther, M. & Gilchrist, S. (1994). Monetary policy. Business cycles, and the behaviour of small manufacturing firms. MIT Press Quarterly Journal of Economics, 109(2), 309-40.*
11. *Greenwood, J. & Joronovic, B. (1990). Financial reform: Theory and experience. Ontario: University of Western Ontario Caprior, 1076-107.*
12. *Iyoha, M. A., Oyefusi, S. A. & Oriakhi, D. E. (2002). An introduction to modern macroeconomics, Beini City: Mindex Publishing.*
13. *Khundrakpam, J. K. (2017). Examining the asymmetric impact of monetary policy in India. Journal of Applied Economic Research, 11(3), 290 – 314.*
14. *King, R. G. & Levine, R. (1993b). Finance entrepreneurship and growth. Theory and evidence. Journal of Monetary Economics, 32, 513-542.*
15. *Levine, R. & Renelt, W. A. (1992). Sensitivity analysis of cross country growth Regression. The American Economic Review, 8(2), 4 - 16.*
16. *Manoucherhr, N. & Ahmed, J. S. (2011). The impact of monetary policy on economic growth in Iran. Middle-East Journal of Scientific Research, 9, (6), 740-743.*
17. *Michael, B. & Ebibai, T. S. (2014). Monetary policy and economic growth in Nigeria (1980-2011). Asia Economic and Financial Review, 4(1), 20-32.*
18. *Neussier, R. & kuglger, M. (1996). Manufacturing growth and financial development: Evidence from OECD countries. Mineo: Mineo University of Berne.*
19. *Nigeria (CBN), Monetary Policy Department Series 1,.CBN/MPD/Series/01/2022. Retrieved from www.cbn on 20th of March, 2022.*
20. *Nwoko, N. M., Ihemeje, J. C., & Anumadu, E. (2016). The impact of monetary policy on the economic growth of nigria. African Research Review, 10(3), 192 – 206.*
21. *Okoro, A. S. (2013). Impact of monetary policy on Nigeria economic growth. Prime Journal of Social Sciences. 2(2), 195-199.*
22. *Okoro, A. S. (2013). Impact of monetary policy on Nigeria economic growth. Prime Journal of Social Sciences, 2(2), 195 – 199.*
23. *Okunade, S. O. & Ajisafe, R. A. (2022). Nexus among financial openness shocks, institutional development and total factor productivity in Africa. African Journal of Economic Research, 10(1), 75 – 94.*
24. *Okunade, S. O. (2022). Institutional threshold in the nexus between financial openness and TFP in Africa. Social Sciences and Humanities Open, 5(1), 1 – 10.*
25. *Okwo, I. M. Eze, F. & Nwoha, C. (2012) Evaluation of monetary policy outcomes and its effect on price stability in Nigeria. Research Journal Finance and Accounting. 3(11), 37-47.*

26. *Olayiwola, A. S., Okunade, S. O., & Fatai, M. O. (2021). Savings-growth nexus revisited: An empirical analysis from Nigeria. African Journal of Economic Review, 9(4), 223 – 237.*
27. *Omojolaibi, J. A. (2011). The macroeconomic effect of fiscal stance in Nigeria: A dynamic analysis. Journal of Monetary and Economic Integration, 11, (2), 1-124.*
28. *Onyeiwu, C. (2012). Monetary policy and economic growth of Nigeria. Journal of Economic and Sustainable Development 3,(7), 20 - 27.*
29. *Onyeiwu, C. (2012). Monetary policy and economic growth of Nigeria. Journal of Economic and Sustainable Development, 3(7), 62-70.*
30. *Owoye, O. & Onfowora, A. O. (2007). M2 targeting money demand and GDP growth in Nigeria: Do rules apply? Journal of Business and Public Affairs, (92), 25-34.*
31. *Sanusi, J. (2002). Being a leture delivered to central Bank and the macroeconomic environment in Nigeria. Participants of the senior executive course N0. 24 of the national institute for policy and strategic studies (NIPSS), Kuru on 19th August.*
32. *Sims, C. 91972). Money income and causality. American Economic Review, 62(4), 540-552.*
33. *Tehseen, J. S., Imtiaz, A & Muhammad, N. S. (2010). Comparative analysis of monetary and fiscal policy: a case study of Pakistan. Nice Research Journal, 3 (1), 58-67.*
34. *Tobin, J. (1965). Money and economic growth. Econometrica, 33, 671-684.*
35. *Ufoeze, L. O., Odimgbe, S. O., Ezeabalisi, V. N., & Alajekwu, U. B. (2018). Effect of monetory policy on economic growth in Nigeria: An empirical investigation. Annals of Spiru Haret University Economic Series, 1, 123 – 140.*

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