



Pursuing Sustainable Economic Growth and Prosperity in Nigeria-The Role of Monetary Policy Impulses

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ABSTRACT: The focus of the paper is to examine the impact of monetary impulse on economic growth in Nigeria using an economic model by proxing the variables of monetary policy instruments to include: Money Supply (MS), Exchange Rate (ER), Interest Rate (IR), and Liquidity Ratio (LR). From our result, two variables (money supply and liquidity ratio) had a positive but fairly insignificant impact on economic growth. Measures of interest rate (-0.65) and exchange rate (-15.77) on the other hand, had a negative but highly significant impact on economic growth which supports the assertion by Busari et al. (2002) that monetary policies are better suited when they are used in targeting inflation rather than in stimulating growth. This is especially so in a developing economy such as Nigeria where the capital market is weak in generating the right impulses to stimulate growth. The policy implication of these findings is that more strategies need to be put in place in order to ensure that monetary and fiscal policies taken jointly positively impacts on economic growth in both the short and long run. The emphasis of monetary authorities should be developing a robust capital market that can provide long term capital to finance growth and development. The study recommends that partial autonomy should be replaced with full autonomy for the central banks in Nigeria which is often subjected to government interference and its politics. Finally, monetary policies should be used to create a favorable investment climate by facilitating the emergency of market based interest rate and exchange rate regimes that attract both domestic and foreign investments.

INTRODUCTION

The broad objective of economic management of any nation for growth is the attainment of improved welfare of the people and this can be achieved through either fiscal or monetary policy or a combination of the two. In general, monetary policy refers to the adjustment of monetary aggregates that involves changes in money supply, interest rate, inflation rate, cash reserve ratio and the liquidity ratio in an attempt to influence the economy over a given period of time. This policy can be used to achieve macroeconomic objectives such as economic growth, balance of payments equilibrium and exchange rate stability. According to Anyanwu (2003), countries seeking for sustainable economic growth after a period of macroeconomic imbalances must first get stabilized and believes that monetary policies hold good promise towards ensuring stability. As in most nations of the world, monetary policies if appropriately applied and implemented can be an important tool for promoting stable economic growth. The quest for sustainable growth began in Nigeria in the mid 1980's with the introduction of Structural Adjustment Programme (SAP), in response to the emergence and persistence of unstable macroeconomic instability that occurred due to fluctuations in the price of the nation's major export earner-oil. Sustainable growth and development has thus gained currency over time as nation's strife towards reducing the extent of economic uncertainty that comes with the effect any business cycle. The adoption of monetary policy is aimed at moderating the effect of inflation, increasing domestic savings, re-allocating resources more efficiently, improving capital inflow and promoting local production and



employment, enhancing external reserves so as to stabilize the exchange rate of the domestic currency.

The pursuit of pro-poor economic policies by nations of the world such as sustainable and inclusive growth has taken centre stage in the effort of the global community towards eliminating the incidence of poverty and attaining sustainable development goals of the United Nations. Broadly, sustainable growth is economic growth that creates opportunity for all segments of the population while distributing the dividends of increased prosperity, both in monetary and non-monetary terms fairly across society. It is intended to address the basic problems of most developing countries in which the target is to increase incomes, up employment opportunities, reduce the incidence of poverty and create social safety nets that provides for the greatest numbers of members of society thus reducing or eliminating the incidence of poverty. This can be achieved through greater participation in the production process for a large segment of the population. Policies that lead to availability of financial resources to those in need should be pursued in a quest to broaden the rate of participation in productivity. Due to the perception that inflation is the greatest ill that faces a nation, most governments try to control the rate of growth of money supply because of the nexus that it has an effect on the rate of inflation and in the process may squeeze the economy dry, a delicate balance is required.

Due to extreme market conditions and severe business cycles, an economy can easily be plunged into uncertainty requiring adjustments that must be pursued vigorously to ensure overall development. In general, the economy may be exposed to vacillation which will lead to volatile macroeconomic milieu if appropriate macroeconomic policies are not put in place. The achievement and maintenance of a low and stable inflation rate together with adequate liquidity in the market facilitate higher levels of domestic savings and private investment that can spur growth. The effective and efficient management of monetary policy and its implementation focuses on adopting appropriate instruments such as money supply, interest rate changes, reserve ratio of the Central Bank of the nation and setting and operating targets, and policy goals. The broad objective of monetary policy is targeted at achieving two main goals which are stable prices and economic growth. It is generally believed that monetary policy has an important influence on the rate of inflation and this occurs when the federal funds rate is reduced which then results in stronger demand for goods and services. This tends to push wages and other costs higher, reflecting the greater demand for workers and materials that are necessary for production. In addition, policy actions can influence expectations about how the economy will perform in the future, including expectations for prices and wages, and those expectations can themselves directly influence current inflation. The most crucial dimension in the adoption of this tool is the managing of the velocity of money and keeping it under control and if we are able to manage the velocity of money, money can stimulate the economy and affect the growth of production with no impact on prices in the long term thus promoting growth.

According to economic theory, monetary policy gives absolute priority to the goal of economic stability, optimum resource utilization, full employment and low inflation rate. Some scholars however believe that the in-appropriate use of monetary



impulse usually leads to higher inflation, with no real impact on growth, a delicate balance is therefore needed. These scholars pin their hope on fiscal rather than monetary policy believing that it is less inflationary. The key objective of allowing money to play a passive role in adjusting the economy is known in economic literature as the concept of long-term monetary neutrality which was captioned by monetarist. Most of the monetary policy theorists and practitioners who are representatives of the dominant schools of economics in the fiscal and monetarist schools do not challenge the short-term impact of monetary policy on economic growth, the belief is that both policies are needed to stimulate and grow an economy but with different results.

Several studies have been carried out on the efficacy of monetary policy in promoting and shaping economic growth, they have produced differing results. While the literature reveals that different policy instruments have different effects on output and inflation, most of it contradicts expectations derived from theory. There is lack of a general consensus as to why some of the monetary policy actions do not affect economic growth through some channels and this is because monetary policy is generally associated with availability of credit and has main tools such as are short term interest rate and another main tool is bank reserves, they are only effective where the capital market is efficient and the transmission impulses are allowed to permeate the economy without interference. A number of studies have been carried out about various aspects of the monetary policy in Nigeria using vector auto-regression model, none of these studies have addressed the effect of monetary policy on economic growth comprehensively perhaps due to the frequent changes that followed their adoption especially due to changes in political authorities that have become common place in the country. This study attempts to confront the effect of monetary policy on economic growth through money supply and the exchange rate channel using vector auto-regression analysis by asking the following questions do monetary policy actions have an effect on exchange rates, GDP growth and rate inflation in Nigeria.

Theoretical Review

Scholars of economics generally hold that monetary policy is the most effective that can significantly promote growth of an economy if properly managed. 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. The major pursuit of monetary policy is maintained through actions such as increasing interest rate, or changing the amount of money banks need to keep in vault by the nation's central bank. Theoretically, the conduct of monetary policy is best captured by the quantity theory of money which has laid the foundation upon which the monetary policy is to be implemented as proposed by the classical school of thought. Perhaps the first and best theoretical basis for the discourse of monetary policy was first laid and developed by Irving Fisher and this was later refined by other scholars in the course of time. Irving Fisher's provided the ground breaking philosophy of the classical school of thought that has shaped economic theory through the quantity theory of the demand for money. The classical school treated money simply as a medium of exchange by positing that people



hold money only for the purpose of transactions-to enable them meet daily human needs. All versions of the quantity theory of money demonstrate that there is a strong nexus between money and the price level and the two vary in proportionate terms that could cancel out over time. Fisher's quantity theory of money faced some criticism from both Keynes and his followers who believed that there are other motives for holding money. Some of the criticisms include; lack of theoretical value, constant velocity, truism, unrealistic assumptions, neglect of the asset function and store of value function of money, multiplication of two non-compatible factors (M and V), lack of an explanation on how change in ' M ' changes ' P ', and finally it is a static theory based on assumptions. On the other hand, the Cambridge school that later metamorphosed into the neoclassical school believe that individuals hold money for transaction purposes, though some could also be held for security and for meeting the unexpected obligations,. Neoclassical economists on the other hand hypothesized that income earners try to strike a balance between the convenience and security that money provides and the loss of income resulting from money holding and this determines how much money they hold.

Keynes tried to extend the Cambridge theory of money holdings by including holding bonds and securities as an alternative to holding idle cash balance as an asset and this considered as his most revolutionary contribution to the discourse on the theory of money. Keynes' theory links the demand for money to the variations in the interest rates thus introducing speculative demand for money that arises due to uncertainty about interest fluctuations which rewards those who know better than others about the changing nature of interest rates. His contention was that the amount of money people hold to buy bonds in future expecting bond prices to go down known as speculative demand for money was dependent on the level of interest. The basic philosophy of his theory was that demand for money is negatively related to nominal interest rates which is a significant departure from the classical quantity theory of money but, less departure from the Cambridge approach which did not rule out such a relationship. As for the place of monetary policy in shaping growth, Keynes' position was that unemployment arises largely from inadequate aggregate demand which can be increased by raising the level of money supply which then generates increased spending thus increasing the level of investments and employment and propelling economic growth. He equally believed that there must be a proper blend of monetary and fiscal policies as at some occasions, monetary policy could fail to achieve its objective. Other scholars such as Friedman, (1968) held that inflation is always and everywhere a monetary phenomenon while recognizing in the short run that increase in money supply can reduce unemployment but can also create inflation and so the monetary authorities must act with caution in increasing money supply.

McCandless and Weber (1995) examine data for 110 countries over a 30-year period, and obtain correlations revealing three long-run monetary facts; there is a high (almost unity) correlation between the rate of growth of the money supply and the rate of inflation; there is no correlation between the growth rates of money and real output with the exception of a subsample of countries in the OECD, where the correlation seems to be positive; and there is no correlation between inflation and real output growth. Gokal and Hanif (2004) focused on the relationship between inflation and economic growth in 140



countries by applying non-linear least square method on panel data covering the period 1960-98 and found that threshold beyond which inflation exerts a negative effect on economic growth and threshold below which inflation has no effects on economic growth. Jain & Khanna, (2006), believes that it is vital to note that an appropriate monetary policy helps in economic development by adjusting the supply of money to the needs of development of an economy.

On the other hand, Chow and Shen (2004) sought to establish the relationship between money, price level and output for the Chinese Macro Economy which was motivated by the Friedman proposition which states that output reacts to money shocks first, and prices later. Their results of the impulse response function revealed that in the first year after expansionary monetary shock, most of the impact is on real output, which die down quickly while in the second year, price die out over a long horizon thus confirming Friedman findings. Kandil (2004) analyzed the effects of exchange rate fluctuations on real output growth and price inflation in a sample of 22 developing countries whose study was motivated by the need to establish the appropriate exchange rate policy for developing countries. His study revealed that, exchange rate depreciation both anticipated and unanticipated decrease real output growth and increases inflation confirming the negative effects of currency depreciation on economic performance in developing countries. Corallo (2006) assessed the effects of monetary policy on asset prices and in particular on the stock market in Germany and United Kingdom (UK) and found that that monetary policy is neutral in affecting asset prices in the stock market.

Shokoofeh (2006) investigated the effectiveness of monetary policy in the USA during the period 1990 to 2004 and established that changes in money supply have no impact on mortgage interest rates. Towadros (2007) tested the hypothesis of long-run neutrality of money in the Middle East (Egypt, Jordan and Morocco) and found that that in the three Middle Eastern countries, money affects nominal but not real variables in the long-run implying money is neutral in the long-run and thus suggests that the effectiveness of monetary policy in curbing inflation depends on the existence of a stable link between money and prices implying that anti-inflationary policy espoused by the monetarist school should be followed in these Middle Eastern countries to curb inflation. Nogueira (2009) further sought to investigate the long-run neutrality of monetary policy in a sample of 14 developed and emerging economies and came to the conclusion that co-integration does not exist between the variables of real output and monetary policy instrument (short-term nominal interest rates). Chuku (2009) investigated the effects of monetary policy innovations in Nigeria employing Structural Vector Auto regression (VAR) on quarterly data covering the period 1986 to 2008. The result of impulse response functions revealed that monetary policy innovations have both real and nominal effects on economic parameter depending on the policy variable selected.

Chilwe and Olweny (2012) sought to establish the effect of monetary policy on private investment in Kenya by tracing the effects of monetary policy through transmission mechanism to explain how investment responded to changes in monetary policy and that tightening of monetary policy has the effect of reducing investment while expansionary policy tends to increase investment. Gichuki et al. (2012) sought to determine the optimal monetary instruments for Kenya, employing stochastic IS-LM



model that the interest rate is a superior policy instrument over reserve money in meeting Kenya's monetary policy objectives. The study further revealed that a combination policy mix performs better than the two instruments working independently. Asongu (2013) assessed the long-run and short-run effects of monetary policy on output and prices on annual data in a sample of 10 African countries experiencing high inflation rates. His study employed vector autoregressive, vector error correction and granger causality econometric techniques and established that permanent changes in financial depth, efficiency, credit and size affect prices in the long-run but in cases of disequilibrium; only financial depth and size adjust inflation to the co integration relations and further established that monetary policy does not affect prices in the short-run.

METHODOLOGY

The main objective of the study is to evaluate the extent to which variation in broad money supply, exchange rates, interest rate, and liquidity ratio have been and can be used to influence gross domestic product in the Nigeria economy. To investigate the relationship between changes in these variables and changes in aggregate output or GDP, multiple regression models was adopted because of its simplicity and ability to deal with lag. The annual time series data were collected from secondary source from 1990 to 2017. The data were collected principally from annual reports of Central Bank of Nigeria (CBN) statistical bulletin and World Bank Group statistical reports. Multiple regression analysis of the ordinary least square (OLS) is used as the estimation technique that was employed in this study to investigate the impact of monetary policy on the economic growth of Nigeria. It was broadly to establish any co integrating relationship between monetary policy impulse and the rate of economic growth of the country over the period. The functional form of the model adopted for the study is cast:

Implicit form:

$$GDP = f(MS, IR, ER, LR)$$

Transformed with the aid of logarithm into:

$$\log(GDP) = \beta_0 + \beta_1 \log MS_{it} + \beta_2 \log IR_{it} + \beta_3 \log ER_{it} + \beta_4 \log LR_{it} + \varepsilon_{it}$$

where: $\log(GDP)$ represents the log of Gross Domestic Product (income) at constant price while other logs are necessary so to transform the data set for ease of estimation since they appear in different measures.

$\log MS_{it}$ represents log of Money Supply.

$\log IR_{it}$ -represents log of the interest rate.

$\log ER_{it}$ represents the log of the Exchange Rate.

$\log LR_{it}$ represents the log of the Liquidity Ratio.

ε_{it} is the error term/disturbance term.

β_0 is the intercept or constant term.

$\beta_1, \beta_2, \beta_3, \beta_4$ are the estimating parameters of the model and are non-negative.

In the course of this study, mathematical relationships between the variables are established through available data on money supply (MS), Liquidity ratio (LR), interest rate (IR), exchange rate (ER) and gross domestic product,(GDP) that were collected and used for the purpose of this analysis to provide a basis for the evaluation of the impact of monetary policy on the growth of the economy. It was also necessary to conduct



investigation into any long run relationship between the variables to ascertain if any such relationship exist.

RESULTS AND DISCUSSION

It is be noted that policies often require some period to yield the desired impact if they are sustained for an appropriate period. To achieve this, a co integration test was carried out to establish if there is any such long relationship in the variables that is needed to stimulate and sustain growth bearing in mind that policies require time to produce the desired impact especially where investment decisions that are made to undertake projects that require long gestation periods to yield results. Most often, changes in interest rate policies, exchange rate regimes and liquidity ratios do not produce instantaneous impact due to old and long held habits most especially in developing economies where the market are weak and have equally response time

$$\begin{aligned} \text{GDP} &= 102.96 + 22.57 (\text{MS}) - 0.6527 (\text{IR}) - 15.77 (\text{ER}) + 1.543 (\text{LR}) \\ \text{T} &= \begin{pmatrix} -0.162 & 0.166 & 7.27 & -0.41 & 0.563 \end{pmatrix} \\ \text{SE} &= \begin{pmatrix} 63.77 & 13.57 & 0.089 & 0.022 & 21.56 \end{pmatrix} \\ R^2 &= 0.507681 \\ F, (3, 27) &= 18.56037 \\ \text{DW} &= 1.533354 \end{aligned}$$

Adj. $R_2 = 0.464552$

Source; Author's estimation using E-view 7.0

The regression results shown above indicate that there is a positive relationship between monetary policy and economic growth overall, though the relationship is not statistically significant given the value of the standard error. In several developing nations, the capital market is relatively weak and the transmission impulse of monetary policies into the real sector to stimulate growth is often weak. This results from the poor banking habits that is evident in a large proportion of the population where individuals prefer to keep their money holdings in cash rather than in the banking system. The money supply variable has a positive but weak relationship with the rate of economic growth and the same reason as adduced above is tenable for this fact. There are several instances where the monetary authorities pronounce withdrawal of funds from the system in order to stem the tide of inflation without any perceptible result due to the large stock of money hidden in private vaults. This is unlike the situation in developed nations where such policy pronouncements as reduction in interest rate and withdrawal of money in circulation produce instantaneous results leading to reduction in borrowings and fall in inflation rates. The variable of interest rate has a significant negative relationship with the rate of economic growth and is valid as revealed by other studies, an increase in the rate of interest signifies a rise in the cost of capital for investors. Where investors cannot access easily and cheaply the capital needed for their operations, it will limit their capacity to engage in any meaningful economic activity. This can be aggravated by the existence of a weak capital market from where they can source for long term funds for their operation. This situation is worsened by the fact that in Nigeria consumers have a penchant for the consumption of imported goods, manufacturers will prefer to import through the nation's porous borders rather than risk productive investments at such high capital costs with its



attendant profit implication. In the same vein, the exchange rate has a negative relationship with rate of economic growth and this is statistically significant looking at the value of the standard error. A large chunk of the needed raw material for industry are imported and given such high exchange rate for foreign currency, it will result in declining demand for the purchase of these materials and this will raise the cost of doing business and increase the cost of domestic goods produced. The continuous fall in the value of the domestic currency over the last couple of years is a clear testimony of this fact where manufacturers have to purchase forex at a high cost which they pass unto consumers through a hike in price. This has been created by a weak growing domestic economy which produces little but depends on imported finished products creating scarcity of foreign currency needed for the importation of raw material. The level of liquidity in the economy has a positive and statistically weak and insignificant relationship with the rate of growth of the economy. This is to be expected as investors need to access fund for their operation and where this is readily available, it will impact on growth and consumers can purchase goods easily. To further strengthen the results of the study, there was a need to do a co integration test which reveals a long run equilibrium relationship between the variables. The existence of co-integration means that variables trend collectively over a long period. The condition for this test is that the trace statistic value should be larger than 0.05 Mackinnon critical value for co integration to be said to exist.

Table 1 Co-Integration Test Coefficient

<i>Expected CEs</i>	<i>Trace Statistic</i>	<i>0.05 Critical value</i>	<i>p-values * *</i>
<i>None *</i>	<i>128.7435</i>	<i>95.75366</i>	<i>0.0001</i>
<i>At most 1 *</i>	<i>81.03406</i>	<i>69.81889</i>	<i>0.0049</i>
<i>At most 2</i>	<i>41.60975</i>	<i>47.85613</i>	<i>0.1700</i>
<i>At most 3</i>	<i>23.43485</i>	<i>29.79707</i>	<i>0.2254</i>
<i>At most 4</i>	<i>10.89947</i>	<i>15.49471</i>	<i>0.2177</i>
<i>At most 5 *</i>	<i>4.907451</i>	<i>3.841466</i>	<i>0.0267</i>

Trace test reveals 2 co-integrating equations at the 0.05 level

* signifies H_0 is rejected at the 0.05 level

** MacKinnon-Haug-Michelis (1999) p -values

Source: Authors' estimation from E-views

The trace test indicate the presence of only two co-integrating equations, which means there is co integration and this leads to the rejection of the null hypothesis (H_0) – hence, H_1 was upheld. This implies that two variables move together over a long time in a stationary manner and indicates that they will impact on each other in the long run. Economically, money supply, economic growth, exchange rate and liquidity ratio should move in the same direction indicating that there should be at least four co integrating long run relationship between the variables. Having only two long run equilibrium relationship between the variables as indicated by the co integrating equation means that Nigeria's monetary policies and presently implemented will have only a minimal desired impact on the rate of growth. Over the large part of the past one decade, interest rates have never been competitive enough as driven by market impulse, but rather based on speculative



activities. This position supports the statement made above where it is reported that a large chunk of money remains in the hands of the non-formal sector and held in idle cash balances thereby limiting the capacity of changes in the rate of interest rate to impact on cost of capital. The near or weak absence of an effective capital market that offers investors access to long term capital can stifle growth and this means that instruments traded in this capital are almost absent. The study has also established that a shock in selected monetary policy parameters is unlikely to lead to a positive shock in real GDP and prices instantaneously, but rather the effect is gradual and even fizzle out after a short period. This impulse must be sustained over a long period in order to generate growth.

For effective monetary policy management, the Central Bank of Nigeria should focus on manipulating instruments like the liquidity ratio, reserve ratio, and transaction on Treasury Bills and work on the exchange rate which directly affects the money supply and eventually through transmission mechanism impact on real GDP and prices. Emphasis should be on long term finance while little emphasis should be placed on the use of interest rates and exchange rates to manage the economy. This is because they have insignificant effects on real GDP and prices. Stimulating growth through instruments of the capital market should be pushed far above any short term juggling of the rate of interest. In general due to the existence of the inverse relationship between monetary policy shock and economic growth in the country, the monetary authorities should formulate policies that reduce interest rates to desirable levels while still seeking to achieve low levels of inflation. The results indicate that there are factors that affect economic growth other than monetary actions.

CONCLUSION

Economic growth remains a major macroeconomic objective for most economies against the background of extreme poverty that is spiraling members of communities into penury, disease and hunger. Aside from the resources that are needed to provide for the material wellbeing of the people, a major focus of those in authority is the design and implementation of appropriate policies which is very cardinal in determining the rate and depth of growth of the economy. The basic objective of the study was to examine the directional link between monetary policy and economic growth and this is a significant addition to existing literature – especially in Nigeria – by providing empirical indication. The result indicate that there exist at least two co integrating equations – thus establishing the incidence of a long-run equilibrium association among the variables but this is not sustainable as such relationship should be for long and for many variables. The test revealed that monetary policy rate, exchange rate and interest rate are major contributors to fluctuations in economic growth, while cash reserve ratio and money supply do not influence economic growth significantly. When money growth and exchange rate are used as policy indicators, the impact on GDP growth contrasts with established findings.

As expected, an exchange rate appreciation has an immediate impact on the reduction of inflation as it leads to a reduction in the demand for foreign exchange and consequently fall in the demand for consumption goods. Interest rate innovations are persistent supporting the view that the monetary authority adjusts interest rates



gradually, while innovations in money growth and exchange rate appreciation are not persistent. Economic growth does not significantly influence any of the indices of monetary policy in Nigeria through a feedback mechanism and this may not be unconnected with the weak transmission mechanism that is evident in the economy. This has implication for data management and this can affect results of such a study. Therefore, conclusions from analyzing a dynamic model are conditional on several assumptions and choices of the analyst.

REFERENCES

- Agboluaje, M. A., L.O. Fasanya, & A. B. O Onakoya (2013). Does monetary policy influence economic growth in Nigeria? *Asian economic and Financial Review*, 5(3), 635-646.
- Anyanwu, J.C. (2003). *Monetary economics: Theory, policy and institution*. Onitsha: Hybrid Publishers Ltd.
- Asongu, S.A. (2013). Does money matter in Africa? New empirics on long-run and short-run effects of monetary policy on output and prices. *MPRA Paper No.48494*.
- Bernhard, O. I. (2013). Monetary transmission mechanism in Nigeria: Causality test. *Mediterranean Journal of Social Sciences*. Vol 4(13). Pp. 377-388.
- CBN (2008). Central Bank of Nigeria (CBN), *Monetary Policy Department Series 1*, 2008. CBN/MPD/Series/01/2008. www.cbn
- CBN (2016). *Statistical Bulletin; 2016*
- Chiluwe, M., & T. Olweny, (2012). The effect of monetary policy on private sector investment in Kenya. *Journal of Applied Finance and Banking*, 2(2), 239-287.
- Chow, G. c., & S. Yuan (2004). Money, price level and output in the Chinese macro economy. Unpublished Thesis, 1-27.
- Chuku, A.C. (2009). Measuring the effects of monetary policy innovations in Nigeria: A structural vector autoregressive (SV AR) Approach. *African Journal of Accounting, Economics, Finance and Banking Research*, 5(5), 1-18.
- Corallo, E. (2006). The effect of monetary policy on asset prices: Evidence from Germany and UK. *LIUC papers No.185*.
- Fisher, I. (1911). *The purchasing power of money* (2nd ed.). New York: Kelley, 1963.
- Friedman, M. (1956). The quantity theory of money: A Restatement. In *Studies in the quantity theory of money*, ed. M. Friedman, Chicago: University of Chicago press.
- Gichuki, J. K., & D. E Moyi (2013). Monetary conditions index for Kenya. *Research in Applied Economics*, 5(4).
- Gichuki, J., J. Odour, & G. Kosimbei (2012). The Choice of optimal monetary policy instrument for Kenya. *Journal of Economics and Management Science*, 1(9), 01-23.
- Gokal, V., & S. Hanif, (2004). Relationship between inflation and economic growth. *Reserve Bank of Fiji Working Paper 2004/04*.
- Jain, T.R., & O.P Khanna (2006). *Macro-economic management*. Delhi: Nee Kunj Print Process, 280-292.
- Kandil, M. (2004). Exchange rate fluctuations and economic activity in developing countries: theory and evidence. *Journal of economic development*, 29(1).



- Keynes, J.M. (1936). *The general theory of employment, interest and money*. London: Macmillan for Royal Economic Society, 1973.
- Nogueira, P. R. (2009). Is monetary policy really neutral in the long-run? Evidence for some emerging and developed economies. *Economics Bulletin*, 29(3), 2432- 2437.
- Shokoofeh, F. (2006). How effective is the monetary policy? *Journal of Humanomics*, 22(3), 139-144.
- Towadros, B.G. (2007). Testing the hypothesis of long-run money neutrality in the Middle East. *Journal of Economic Studies*, 34(1), 13-28.