

EMPIRICAL ANALYSIS OF THE IMPACT OF MONETARY POLICY ON INFLATION IN NIGERIA

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Abstract

Based on existing theories, it is generally assumed that monetary policy can be used to regulate inflationary pressures. However, considering the numerous empirical studies that have taken place so far, conflicting evidence is inherent hence the essence of this study is to analyze this conflicting evidence with the aim of finding out the extent to which monetary policy by the Central Bank of Nigeria (CBN) has actually abated inflation in the country considering the continuous increase in the general price level of goods and services. The investigation relied on previous studies on the subject matter where it was revealed that though monetary policy particularly Open Market Operations (OMO) as a monetary Policy Tool is chief amongst the tools used in controlling inflation in Nigeria, it has really not been very effective. In the end, several recommendations were made accordingly, and the most important and urgent among them is the need for the government to put in more deliberate efforts in controlling imported inflation since Nigeria is an import-oriented nation particularly importation of refined crude, raw materials, industrial and agro-machinery and equipment, manufactured products, agro-allied products etc.

Keywords: *Inflation, Monetary Policy, Fiscal Policy, Open Market Operations, Money Supply, Central Bank Of Nigeria.*

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1. INTRODUCTION

Inflation which is viewed as an economic condition where more money is demanded in periods when the value of the currency in circulation is low due to gradual and continuous rise in the general price level of goods and services has been a major challenge. Particularly, in emerging economies. This is so because of the debilitating effects on prices of goods and services, weakening of the real value of money, etc. For instance, when the general price level rises, each unit of currency buys fewer goods and services than before hence, a negative effect on the economy. In the same vein, it also brings about uncertainty over the future as no one can predict when it stops hence, may discourage investment and savings. In periods of high inflation, there may be shortages of goods as consumers usually engage in hoarding. Gbadebo and Muhammed, (2015) opined that inflation weakens the purchasing power of money while reducing the standard of living of the people in the country.

In most of these developing worlds, series of policies have been deployed through the Central Banks of those countries to manage the impact of inflation since the consequences are very numerous. Notably, fiscal and monetary policies have been very instrumental in the fight against the attendant effects of inflation. In Nigeria, the Central Bank of Nigeria (CBN) being the Apex Bank, has the mandate to regulate monetary inflows and outflows as enshrined in CBN ACT (2007) which gave the bank the responsibility of regulating monetary activities in the country which include managing of the currency in circulation through various means and by extension control of inflation. Over the years, CBN has made remarkable efforts in the conduct of both monetary and fiscal policy in the country although the impact seems to have been very insignificant considering the continuous rise in the general price in Nigeria.

Fiscal Policy can be deployed in managing inflationary pressures and has been used on many occasions depending on the prevailing economic situation, and the policy objectives of the monetary authorities. Fiscal Policy deals with the raising and spending of government funds through taxation. It could be expansionary, or contractionary. When it is contractionary, the government tries to mop up the money in circulation by increasing taxes and reducing public expenditure alongside. The expansionary fiscal policy deals with increase in the disposable income of consumers as a result of decrease in tax rates, and increase in government expenditure. However, monetary policy has been the principal tool often employed by the monetary authority in Nigeria to regulate prices.

Monetary policy which is the major policy tool used in the management of inflation by definition, is concerned with the attempts of the monetary authorities of countries to influence money supply. According to Cyril, Imoagwu, and Ejefobihi, (2021), monetary policy refers to the precise actions directed by the Apex Bank to regulate the value, and supply including the cost of money in the economy in order to achieve the Government's macroeconomic objectives. Adesoye, Maku, and Atanda, (2012) observed that the objectives of the Government's macroeconomic policy may include amongst others, the following:

- i. to maintain stability in the general price level
- ii. to support general economic growth
- iii. to achieve Balance of Payment (BoP) Equilibrium
- iv. employment generation etc.

The Federal Government of Nigeria (FGN) through the central bank has adopted the above policy objectives, deploying them at different times, depending on prevailing economic conditions with the use of various monetary policy tools such as reserve requirements, interest rates, discount rates, open market operations, inflation targeting etc. These monetary policy instruments are usually rotated in terms of use because there have been situations in Nigeria where the CBN had to switch from the use of one monetary instrument to another depending on which of the objectives the Apex Bank wants to achieve. For instance, the failure of money supply and exchange rate targeting to deliver on its objectives has led to the Apex Bank's decision to consider switching from monetary or interest rate targeting to inflation targeting. However, irrespective of the many tools the country has adopted over the years, Nigeria has still not been able to achieve her policy objectives of achieving single-digit inflation in the last decade hence, the essence of this research.

There is no doubt that it is monetary policy that is used as the major tool in addressing inflationary pressures in Nigeria, but the actual effectiveness in curbing these inflationary pressures in such developing economies has been a major debate as most of the macroeconomic targets set to be achieved by the monetary authority have not been met as desired although appreciable progress has been made in this regard since the introduction of various financial sector reforms in the country which dates as far back as 1986 (Goshit 2006).

In the views of Clement, et al., (2021), while it is not questionable that monetary authorities have formulated various policy measures in an effort to curtail the consequences of inflation,

the efficiency and effectiveness of the policy are questionable as most economies, particularly developing ones still experience inflationary challenges.

As opined by Clement, et al., (2021), the Central Bank of Nigeria (CBN) has made efforts to curb the rising rates of inflation in Nigeria using different policy measures, of which monetary policy is chief among them. However, the impact of these policies and strategies has really not been quite effective particularly in recent times as the rate of inflation despite the efforts, continues to soar. The fact that there has really not been any literature to suggest why inflation continues to rise in spite of these tools deployed by the Apex Bank to control inflation suggests a gap in literature hence, the need to fill the gap.

Owing to this background, the essence of this research is to examine and expose the impact of monetary policy on inflation control in Nigeria.

2. LITERATURE REVIEW

2.1 Introduction

In this chapter, the various concepts and theories including empirical analysis of previous studies relevant to the research have been identified, reviewed, and discussed accordingly. Particularly, such concepts as inflation, its types, theories, measurement, causes, monetary policy, and the instruments of monetary policy were all reviewed in this segment.

2.2 Conceptual Framework

2.2.1 The Concept of Money Supply

The supply of money also known as the stock of money or quantity of money is defined by Jhigan, (2012) as money stock at a particular point in time or could be referred to as the total amount of money in the economy at any moment. This is consistent with or similar to the definition by Petershie, (2008) who sees money supply as the total stock of money being held by the public and the central bank. According to Bakare-Aremu, Osobase, and Ohale, (2018), money supply or money stock refers to the total amount of money in the economy and can be categorized in different variants from country to country. For instance, it could be seen as M1 (currency notes, demand deposit), M2 (M1 plus Time deposit and savings deposit), M3 or M2+ (M1+M2+ other, less liquid financial assets). This definition is similar to that of CBN which sees money supply as comprising of narrow money (M1 which includes notes in circulation

that are not within the bank and demand deposits or current accounts in the banks) and broad money which includes narrow money plus savings and time deposits, as well as deposits that are mainly dominated by foreign transactions. In Nigeria, the central bank is responsible for the issue of currency and supply of money in whatever categorization – which is autonomous and thus dependent on government policy and not necessarily on the prevailing interest rate. The reason why the supply of money is strictly in the hands of the government is because the quantity of money in circulation in a particular economy has a straight effect on the general price level which in many ways, also determines what value the amount of money in circulation would be. Therefore, for inflation to be curtailed, and for there to be economic growth in a country, the government through the apex banks needs to take absolute control of the money supply.

Mathematically, money supply (MS) is ascertained by multiplying the Monetary Base (MB) by the Reserve Multiplier (RM). This gives the overall money in circulation in an economy. Thus, $MS=RM (MB)$. Ideally, money supply has a positive relation to the inflation rate.

2.2.2 Determinants of Money Supply

According to Jhingan, (2012), the determinant of money supply can be endogenous (strictly determined by changes in economic activity which in one way or another, affect the desire of people to hold money relative to deposits and the rate of interest) or exogenous (strictly determined by Central Bank).

2.2.3 The Concept of Inflation

The concept of inflation is notoriously difficult to define. This is a result of the fact that the causes of inflation are multi-dimensional. It can be seen as an upward movement in the general price level or the upward movement in the prices that is shared by all components of the price deflator which is the consumer price index. According to Clement, et al., (2021), inflation refers to the continuous rise in the general price level of goods and services which usually comes in the form of a fall in the value of money in the economy in question. To Nnadi and Falodun, (2009), inflation is an economic situation in which prices are rising rapidly and continuously, causing a corresponding fall in the value of money. In the same vein, Hameed, (2010) defines inflation as a persistent increase in the general price level at a certain rate in which it can be concluded that it is too high and hence unacceptable. Pomeyie, (2010) sees it as a persistent and appreciable increase in the general price.

Inflation can be measured in many ways, particularly by the Consumer Price Index (CPI), Gross Domestic Product (GDP) Deflator, etc. Of all the measurement of inflation, the CPI which measures the percentage change in the price level of a basket of goods and services that are consumed by households in an economy over a particular period of time remains the commonest and most effective measurement. According to Pomeyie (2010), the GDP deflator is defined as the weighted average of all the prices of all commodities in the GDP, with each good's weight equal to its percentage importance in the total GDP. Inflation can be creeping, running, galloping, etc. According to Nnadi and Falodun, (2009), gradual or creeping inflation is a small, but gradual and continuous increase in the general level of prices. Under creeping inflation, the upward shift of the general price level every year is about 5%. This usually does not give rise to any alarm as it's usually under control. It is commonly experienced in most advanced nations in the world. Running inflation as opined by Jhigan (2005) is when prices rise rapidly at a rate of speed of say 10% to 20% in one year thereby having an adverse impact on the poor and vulnerable including the middle class in society. This is the sort of inflation that is experienced in Nigeria. Galloping or hyperinflation is the type in which the general price level rises very rapidly, leading to disastrous fall in the value of money hence, undermining the role of money as a store of value and medium of exchange as functions of money. Jhigan, (2005) also added that galloping inflation happens when prices rise very fast at a double- or triple-digit rate. This sort of inflation usually occurs during and after the war.

2.2.4 Fiscal Policy

Fiscal Policy is amongst the policy that is used in regulating the total money supply in the country. Thus, deals with public revenue. Nnadi and Falodun define it as a set of measures adopted by the government to influence the level of business activity in the country and to raise the revenue required for public expenditure. This is usually expressed in the budget because it is through the level of budgetary surpluses and the methods used to finance them that the government controls the level of demand in the economy. So, fiscal policy in this manner can be regarded as that part of government policy by which the objectives of public finance are pursued.

2.2.5 Monetary Policy

According to Folawewo and Osinubi (2006), monetary policy is a combination of various measures that are intended to control or regulate the value, supply, and cost of money in an

economy. To Jhigan, (2005), it is credit control measures adopted by the central bank of a country. However, Pomeyie (2010) believes that monetary policy specifies that part of economic policy that regulates the changes in money supply and bank credit on the premise that controlling these variables is an effective way of controlling the macro-economy. Uchendu, (2009) opined that monetary policy could be regarded as the system used by the central bank to influence the accessibility of credit on one hand, and on the other, the cost of credit in the domestic economy, and it usually with a view to achieving macroeconomic balance in the economy. CBN, (2006) defines monetary policy as the specific actions taken by the Central Bank of any nation to regulate the value, supply, and cost of money in the economy with the intention of achieving the macroeconomic objectives of the Government.

Instruments of Monetary Policy

Generally, monetary policy has some principal objectives which are: to achieve price stability, maintain full employment, achieve economic growth, and to maintain balance of payments. To achieve these objectives, there are a series of tools that are very instrumental and could either be quantitative/indirect (reserve requirements, bank rate variation, Open Market Operations etc.) or can be qualitative/direct (regulating consumer credit) and are all used in controlling the overall credit in an economy (Jhigan, 2016) which is usually done through Deposit Money Banks (DMBs). So, the instruments of monetary policy are tools that regulate the money supply. The ability to control the money supply is an effective way of controlling inflation. This is because; the money supply influences interest rates, credit expansion, and total output among many others. In Nigeria, CBN adopted the market-based mechanism in 1993 for the conduct of monetary policy, hence adopting Open Market Operations as the primary tool of monetary management followed by reserve requirements and discount window operations, etc. for improved effectiveness in liquidity management as explained thus:

Open Market Operation

Jhigan, (2016) defines OMO as the purchasing and selling of securities like treasury bills in the money market by the central bank through the commercial banks. This is usually adopted as a means of influencing the volume of aggregate demand. When the central bank wants to stimulate economic activities by raising the consumers' purchasing power, it buys treasury bills from the citizens through commercial banks, if it wants to reduce their purchasing power and thus slow down economic activities, it sells treasury bills. This is a very important tool by

which the central bank influences the overall supply of money in the economy hence inflation. In the views of Pomeyie (2001), OMO encompasses the activities of the central bank in buying or selling government bonds to influence bank reserves and interest rates. Nnadi and Falodun (2009) think OMO refers to the buying and selling of treasury bills by the central bank on the open market as a means of controlling aggregate demand. Treasury bills are securities used in the open market operations issued by the government to control money in circulation or stimulate economic activities through which short-term monies are raised. This usually comes with an initial maturity of under one year.

In Nigeria, Treasury Bills are auctioned weekly in a competitive manner which is bidding. The maturity date is mainly (Ninety-One) 91 days, (Hundred and Eight-Two) 82 days, etc. and interest is paid at maturity. It usually comes with low risk and it's usually guaranteed. According to Mafiejor, (2021), the objectives for issuing treasury bills are to create a domestic outlet for the investment of short-term funds in Nigeria, to create an enabling environment necessary for efficient and effective regulation of the monetary policy in Nigeria including the banking system, etc.

Reserve Requirement

The Reserve Requirement is also known as the Reserve Ratio or Cash Ratio. According to Eggon and Ajidani, (2020), it is reserve requirements that determine how much of money a bank must keep; otherwise, banks would lend 100% of their deposits.

Reserve requirements can generally be seen as the mandatory cash deposit required by commercial banks to the central bank payable at any time. It may be used to increase or decrease money supply. If the required reserve is increased, it will reduce the commercial banks' excess reserve thereby reducing the money supply. If the cash ratio is decreased, it will increase the excess reserve of the commercial banks, thereby increasing the money supply. Nigeria has a long history of using reserve requirements for both prudential and monetary management purposes. During the period of direct controls, they were used as a supplement to credit control.

Like commercial banks, the central bank also lends money to banks to undertake their business activities. Credit is made available to commercial banks at a rate called the discount rate or the bank rate. The discount rate arises from the service of the central bank as “a lender of last resort”. Changes in the discount rate will affect the interest on loans commercial banks offer

to its customers. A rise in the bank rate pushed up the cost of borrowing, which in effect raised the market interest rate. If the objectives of monetary authorities are to tighten money supply, they will raise the discount rate. Since the commercial banks' interest rate is automatically dependent on the discount rate, the market interest rate will rise. It becomes more expensive for investors to borrow and the money supply in the process is reduced.

2.3 Theoretical Literature

This aspect examines some related theories to inflation and monetary policies such as Quantity, Theory of money, demand–pull Inflation Theory, Cost Push Inflation Theory, Keynesian, Liquidity Preference Theory, Neo-Keynesian Theory, Structuralism Theory, Monetarist Theory, and the history of the conduct of monetary policy in Nigeria.

2.3.1 Quantity Theory of Money

The quantity theory of money was popularized by the famous American Irving Fisher. The theory shows a link between money in circulation and the general price level of goods and services. According to Bakare-Aremu, Osobase, and Ohale, (2018), the theory shows a direct relationship between money supply and the price level hence, suggesting that the price level is proportional to the money supply. In the words of Irving Fisher in Jhigan, (2016) “*ceteris paribus*, as the quantity of money in circulation increases, the price level also increases in direct proportion and the value of money decreases and vice versa.” This suggests that if the quantity of money is doubled, the price level will also double and the value of money will be one-half. Contrary, with a reduction in the quantity of money by one-half, the price level will also be reduced by one-half and the value of money will double. Mathematically, the theory can be written as;

$$MV = PQ$$

Where:

M = total money supply

V = velocity of the money in circulation

P = average price level

Q = real national output

2.3.2 Demand-Pull Inflation Theory

In this theory, the assumption is that what gives rise to inflation is when excess demand or aggregate demand outstrips aggregate supply hence inflation. This theory can however be seen from two different angles: excess demand and demand shift. For the excess demand, it is believed that if aggregate demand rises higher than aggregate supply, consumers will begin to compete for available goods and services by offering higher and higher prices. Anxious to increase their output in this situation, producers will increase the demand for factors of production whose prices will also increase. Thus, we see that an increase in both the prices of consumer goods and of factors of production is caused by excess aggregate demand. The inflation that thus results is known as demand-pull inflation, indicating that prices were pulled up by too much demand. In the case of demand shift, Nnadi and Falodun (2009) opined that inflation may result from a shift in demand, from one commodity to another. In this case, there is no increase in aggregate demand. The inflation results from the fact that, while demand can shift quickly from commodity A to commodity B, resources cannot be shifted as quickly from the production of commodity A to the production of commodity B. The result is that before resources move to the production of commodity B, there will have been an excess demand for commodity B, which will cause its price to rise, thereby giving rise to inflation. This kind of inflation, called demand-shift inflation is always short-lived because resources will eventually move into the production of commodity B, to wipe out the excess demand and bring prices to equilibrium again. Demand shift inflation is sometimes called or referred to as structural rigidity inflation because both prices and resources are shown to be rigid. For example, when demand shifts to B, resources cannot quickly move to B. An excess demand for B thus results, pushing its price up. Meanwhile, the price for A does not fall, although demand is shifting away from it. The result is that the average price level is higher than before, which is what causes the inflation.

2.3.3 Cost Push Inflation Theory

Rising prices can also be as a result of higher cost of production especially inputs. According to Anyanwu and Oaikhenan, (1995), this theory posits that inflation is induced by rising costs of production, particularly rising wages. If for instance, the cost of living of workers suddenly rises and they demand and are granted higher wages, this increases the cost of production. This will be reflected in the form of higher prices on commodities which consumers have to purchase. This leads the workers to demand more wages since the cycle continues and prices rise.

2.3.4 Keynesian Liquidity Preference Theory

Keynesian liquidity preference theory also known as demand for money was propounded by British Economist John Maynard Keynes. He opined that the demand for money is the desire of people to hold their resources in the form of money instead of subjecting it to any interest-yielding assets. Hence, he divided the motives for holding money into three as discussed thus:

Precautionary Motive

This motive explains the desire to hold money to be able to meet unforeseen circumstances. For instance, households could hold money for this motive to be able to take care of unexpected events like accidents, illnesses, etc. As for business organizations, they could hold money to be able to meet sudden increases in the cost of raw materials, breakdown of plants, generators, equipment etc. Bakare-Aremu, Osobase, and Ohale, (2018) believe that this motive for holding money is for the desire to hold cash balances as a precaution against unexpected events.

Transactionary Motive

This motive deals with the desire to hold money to be able to meet everyday needs or transactions for both households and private businesses. For individuals, they need to be able to buy food and other basic transactions while for businesses, they need to be able to meet daily running and maintenance costs. To Jhingan, (2016), the transactionary motive for holding money arises from the medium of exchange function of money in making daily payments for goods and services within a period of time.

Speculative Motive

This according to Bakare-Aremu, Osobase, and Ohale, (2018) refers mostly to the desire to hold cash balances in order to make speculative dealing in the bond or securities market. In the views of Jhigan, (2016), money that individuals and especially businesses hold for speculative purposes is a liquid store of value that can be invested in interest-bearing bonds or securities when the opportunities come. So, what really determines the amount of money that people hold here, is the rate of interest. This money held is what Keynes refers to as idle balances.

2.3.5 Structuralism Theory

This theory was propounded basically to counter the claims and assumptions of the quantity theory of money by Irvin Fisher which is assumed that is not applicable in developing country where there are rather many issues surrounding structural rigidities, market imperfections, unorganized sectors etc. Hence, the theory assumes that inflation comes in as a result of the incapacity of developing countries to make available, adequate goods and services intended for demand to be at low prices. To Clement, et al., (2021), this theory assumes that inflation is caused by major structural imbalances particularly those between demand and supply of mainly industrial inputs. Prabha, (2013) believes that it is sectoral bottlenecks that create imbalances which eventually lead to rise in prices. Hence, inflation must be understood from the context of these structural changes and bottlenecks such as agricultural bottlenecks, government resources constraint, foreign exchange bottlenecks etc.

2.3.6 History of the Conduct of Monetary Policy in Nigeria

The conduct of monetary policy in Nigeria started several years ago. This, according to the Nigerian Inter-Bank Settlement System (NIBSS) (1993) in CBN, (2005), can be viewed in two major phases, namely, before 1986 (emphasis was on direct monetary controls) and after 1986 (market mechanisms were the major focus). In recent years, the attention has been on market mechanisms, while also focusing on global trends as they affect the Nigerian economy. For instance, the global economic meltdown between 2008 to 2010, the economic recession that started early in 2016, the COVID-19 pandemic in 2020, the Russia-Ukraine War, etc. These events have in one way or another increased the price level in Nigeria hence, the policy had to be designed accordingly to resolve the issues individually though at some point, there is the adoption of a policy mix. For instance, in 2021, the apex bank reported that monetary policy during the year was intended to stimulate growth on one hand, and on the other, maintain inflation within an acceptable threshold warranting the Monetary Policy Committee (MPC) decision to downwardly make an adjustment to the Monetary Policy Rate (MPR). This, in many ways, resulted in the flow of credit to the productive sectors of the economy.

So, generally, monetary policy in Nigeria particularly in recent times, is focused on easing the impact of shocks and supply-side disruptions that usually emanate from these events from the domestic and international arena.

2.4 Empirical Literature

Taking the empirical literature from a global perspective, the study of Chibber and Shafik (1990) stands out. The study pointed out that inflation has a strong relation with monetary policy. They hypothesized a fairly complex model including the financial sector, price equation, and real output equation. As observed in the study, the monetary equation depends on the monetization of the fiscal deficit, the price equation is money, the real output which is a function of real exchange rate, and other factors such as rainfall. Their study revealed that monetary expansion was instrumental in determining the pace of inflation. The expansion of monetary policy was fuelled by net foreign asset inflows and low financial intermediation. Darko, (2011) used a multiple linear regression model to conduct a study on the impact of monetary policy on inflation in Ghana and the findings of the study conclude that monetary policy has an impact on inflation although the monetary policy may not be enough to control inflation, particularly in the face of imprudence fiscal policies by the government. Likewise, in the study conducted by Adebisi (2009), it was found that there existed, a strong correlation between inflation and the monetary policy in Nigeria and Ghana. In the works of Tekam (2018), Monetary Policy and Inflation: Empirical Evidence from Cameroon was carried out with the use of the Johansen Co-integration test, and Autoregressive Distributed Lag (ARDL) estimation technique by deploying time series data from 1980 to 2016 to run the analysis. From the study, the test of causality between money supply and inflation proved that there is a relationship between money supply and inflation in Cameroon. Amarasekara (2009), applied Vector Auto-Regressive (VAR) analysis with two lags to conduct research on the impact of monetary policy on inflation and economic growth in Sri Lanka. The major monetary policy tools that were deployed are money supply, exchange rate and interest rate and their various impacts on inflation hence, adopting quarterly, seasonally adjusted data from 1978 to 2005. The results indicated that inflation in Sri Lanka does not decrease when monetary policy contracts.

With the use of Vector Autoregressive Analysis, Eggon and Ajidani, (2020), conducted research on the Impact of Monetary Policy on Inflation in Nigeria from 1985 to 2019 and the study revealed that the monetary policy rate and foreign exchange rate as fixed by the apex bank, had a negative impact on inflation. The study conducted by Maku and Adelowokan (2013) on monetary policy and inflation in Nigeria from 1970 to 2011 which employed a partial adjustment model shows that interest rate and exchange rate which are all monetary policy

tools had decelerating pressure on the dynamics of inflation rate in Nigeria. Gbadebo & Muhammed, (2015) employed a co-integration test in their study on money policy and inflation control in Nigeria. The result indicates a long-run relationship between inflation and the vector of regressors used and the estimated result revealed that interest rate, exchange rate, money supply and oil-price remain the core causes of inflation in Nigeria. From the study, it was also detected that the variable of money supply shows a significant positive impact on inflation suggesting that the Nigerian inflationary situation is driven by monetary impulses.

Okotori, (2019) also used Augmented Dickey-Fuller (ADF), Unit Root Test, and Error Correction Model (ECM) in his study on the dynamics of monetary policy and inflation in Nigeria from 2000 to 2017. From the findings which show that monetary policy is a viable policy in addressing inflation, it was recommended that the Apex Bank continue deploying monetary policy tools to regulate inflation in Nigeria. Research on the Impact of monetary policy rate on inflation in Nigeria was carried out by Eke and Emereni (2014) using time series data from January 2007 to 2014. For the methods and tests used, Ordinary Least Square, and Augmented Dickey-Fuller Johansen Co-integration test were considered and the result showed that money supply and exchange rate had an impact on inflation in Nigeria. Peter and Sola (2012) also conducted research on the money supply and inflation rate in Nigeria, using time series data from 1970 to 2008 and the Vector Auto-Regressive (VAR) Model including the Causality test were the tools used. The result particularly from the causality test indicated unidirectional causality between money supply and inflation rate including interest rate and inflation rate. Asuquo (2012) also used secondary data (2006-2012) to conduct research on the impact of monetary policy on price stability in Nigeria. The study deployed monetary policy rates as a proxy for monetary policy indicators. Results from the study indicated that interest and exchange rates were more reactive to shocks in monetary policy rates than inflation in Nigeria.

Imoughele and Ismaila (2016) conducted a study on monetary policy, inflation, and economic growth in Nigeria. The research adopted a co-integration and error correction model, using time series data spanning over a period of 22 years. Results of the study suggested that there is an immediate need for the Government to manage and control exchange and interest rates, money supply, and inflation if it must achieve sustainable economic growth.

3. CONCLUSION AND RECOMMENDATIONS

From the empirical studies above, it has been revealed that monetary policy plays a very significant role in managing the rate of inflation in Nigeria although in recent times, monetary policy has failed to effectively manage inflation in the country. For instance, as of July 2023, the rate of inflation stood at 24.08% implying a very sharp rise compared to previous years. As of the end of 2020, the rate was 13.25%. All these factors have been traced to insecurity, flooding, low levels of rainfall in some parts of the country, an increase in the importation of goods particularly raw materials, the farmer-herder crisis, the Russian-Ukraine war, etc. These are all factors outside the fiscal and monetary policy space hence, the following recommendations.

Recommendations

Based on the findings in this study, the following are recommended for immediate action by the government to manage the inflation in Nigeria aside from using monetary policy.

- i. There is a need to consider the establishment of ranching to solve the farmer-herder crisis as this will solve the problem of food shortages.
- ii. Effective management of exchange rate to aid importation into the country
- iii. Consider sourcing local raw materials for industrial use to reduce importation and spending of fx through incentives and sponsorship of R&D
- iv. Encourage farmers to seek and use alternative water sources such as irrigation and dams which must then be constructed by the government.
- v. Fixing of the local refineries to avoid importation of refined crude.

REFERENCES

- Adebiyi, M. A., (2009). Inflation Targeting: Establishing a Stable and Predictable Relation Between Inflation and Monetary Policy Instruments in Nigeria and Ghana.
- Adesoye, A. B., Maku, O. E. & Atanda, A. A. (2012). Is monetary policy a growth stimulant in Nigeria? A Vector Autoregressive Approach. Munich Personal RePEc Archive (MPRA). No. 35844, pp. 1-24.

- Amarasekara, C. (2009). The impact of Monetary Policy on Economic Growth and Inflation in Sri Lanka. *Staff Studies*, 38 (1). Retrieved from <https://ss.sjoi.info/articles/10.4038/ss.v38i1.1220>
- Anyanwu, J.C and Oaikhenan, H. E, (1995). *Modern Macroeconomics: Theory and Applications in Nigeria*. Joanee Educational Publishers Ltd., Onitsha.
- Asuquo A., (2012): Inflation accounting and control through monetary policy measures in Nigeria. *Journal of Business and Management*, 53-62.
- Bakare-Aremu, T. A, Osobase, A. O and Ohale, L., (2018). *Advanced Macroeconomic Theory*. National Open University of Nigeria (NOUN) Open Courseware *CBN Bulletin*. 1(3).
- CBN, (2005). *Conduct of Monetary Policy in Nigeria*. Retrieved from <https://www.cbn.gov.ng/monetarpolicy/conduct.asp> on 23rd June, 2023
- CBN, (2006). *What is monetary Policy? Monetary Policy Series*. Monetary Policy Department, series 01.
- Chibber, A. and Shafik, N., (1990). *Exchange Reform, Parallel Markets and inflation in Africa: The Case of Ghana*. World Bank Working Paper Series, No.427, World Bank, Washington DC.
- Clement, I. E., Cyril, O. O., Imoagwu, C. P. & Ejefobihi, U. F. (2021). *Monetary Policy and Inflation Control: The Case of Nigeria*. *European Journal of Management and Marketing Studies*, 6(2), 128
- Darko. N. O., (2011). *Impact of Monetary Policy on Inflation in Ghana*. Department of Economics, Central University, Accra.
- Eggon, A. H and Adijani, A. H., (2020). *Impact of monetary policy on inflation rate in Nigeria: Vector Autoregressive Analysis*. *Bullion*. Vol. 44, No 4, Article 6
- Emerenini, N. F & Eke, N. C., (2014). *The impact of monetary policy rate on inflation Nigeria*. *Journal of Economics and Sustainable Development*, 5, (28).
- Gbadebo, A.D & Muhammed, N., (2015). *Monetary Policy and Inflation Control in Nigeria*. *Journal of Economics and Sustainable Development*. Vol. 6 No. 8. Pp 108
- Goshit, G. G., (2006). *Financial sector's instability: causes and implications for the Nigerian economy*. *Jos Journal of Economics*. vol. 3 No.1. pp. 89
- Hameed, I. (2010) *Impact of monetary policy on Gross Domestic Product (GDP)*. *Interdisciplinary journal of contemporary research in business*, vol. 3 No. 1. pp. 1348

- Imoughele, L. & Ismaila, M., (2016). Monetary Policy, Inflation and Economic Growth in Nigeria: Exploring the Co-Integration and Causality Relationship. *Global Journal of Research in Business & Management*, 4(1), p236-245
- Jhingan, M. L, (2005). *Monetary Economics*. Vrinda Publication (p) Ltd, Mayur Vihar, Delhi
- Jhingan, M. L, (2012). *Macroeconomic Theory* (12ed). Vrinda Publication (p) Ltd, Mayur Vihar, Delhi
- Jhingan, M. L, (2016). *Macroeconomic Theory* (13ed). Vrinda Publication (p) Ltd, Mayur Vihar, Delhi
- Maku, A. A. & Adewoloko, A., (2013). *Inflation in Nigeria: causes, consequences and control*.
- Michael, M. B, (2021). Structure of The Nigeria Money Market: Purpose & Structure, Instruments, Interest Rates & Yields. *International Journal of Innovative Finance and Economics Research* 9(3):35-43
- Nnadi, K.U & Falodun, A.B (2003). *New Approach Economics*, Longman Nigeria Plc., Ikeja Lagos
- Okotori, T. W. (2019). The Dynamics of Monetary Policy and Inflation in Nigeria. *IOSR Journal of Economics and Finance (IOSR-JEF)*, vol. 10, no. 2, pp. 37
- Peter, A. & Sola, O., (2013). Money Supply and Inflation in Nigeria: Implications for National Development. *Scientific Research Publishing*, 4(3), 161-170.
- Pomeyie, P. (2001). *Macro Economics: An introductory text book*. Charis Press and Publications Ltd, Kaneshie, Ghana.
- Pomeyie, P. (2010). *Macro Economics (An Introductory Textbook)*, Charis Press and Publications, Kaneshie, Accra.
- Prabha. P., (2013). *Structural Theory on Inflation*. Osmania University, Hyderabad
- Tekam, O. H., (2018). Monetary Policy and Inflation: Empirical Evidence from Cameroon. *International Journal of Economics, Finance and Management Sciences*. Vol. 6, No. 5, pp. 200-206.
- Uchendu, O. A. (2009). Monetary Policy Management in the context of uncertainty. *CBN Bulletin*, 30 (2): pp. 10.