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# Impact of Monetary Policy on Inflation Control in Nigeria

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## ABSTRACT

*Inflation is a major problem facing Nigeria as a country today. This has led to reduction in the standard of living of Nigerians. The Central Bank of Nigeria (CBN), however, has made efforts to fight it using different policy measures, of which monetary policy is one of them. Thus this paper focuses on the use of monetary policy to check inflation in Nigeria. The study is based on time series data from 1970 to 2010. Employing the method of Ordinary Least Squares (OLS) to estimate the model results, the study found that bank rate, deposit with the central bank, liquidity ratio, and broad money supply are statistically significant in explaining changes in inflation. However, exchange rate was found not to account for significant changes in inflation in Nigeria. The study recommended the need to check the excess reserves of commercial banks, which will help keep money supply at a low level.*

***Key Words: Monetary Policy, Inflation, Money Supply***

## 1.1 INTRODUCTION

Inflation refers to the continuous rise in the general level price level of goods and services in an economy, manifesting in the form of a decline in the value of money. The effects of high inflation are generally considered to be harmful on the economy. That is why the achievement of price stability has always been one of the fundamental objectives of macroeconomic policy in both developed

and less developed countries (Orubu, 1996). Inflation is a disease that must be eradicated if a country must experience growth. It arbitrarily redistributes income, wipes out saving, erodes the income of fixed income earners, leads to distortion of price and brings about misallocation of society economic resources.

Monetary Policy is a major economic stabilization weapon which involves measures designed to regulate and control the volume, cost, availability and direction of money and credit in an economy to achieve specified macroeconomic policy objectives (Anyanwu, 1993). Arguments exist between Classical and Keynesian economists with respect to the effects of increase in money supply on inflation. The classical economists believe that controlling the quantity of money in circulation is the best way to fight inflation. This they explained using their quantity theory of money, which states that a change in money supply will produce exactly proportionate change in the price level. This theory is based on the assumption that full employment exists in the economy.

Keynes, on the other hand, did not believe that there was always full employment in the economy which resulted in hyper-inflation with increases in the quantity of money. According to him, there being underdevelopment in the economy, an increase in money supply leads to increase in aggregate demand, output, and employment. But as aggregate demand, output and employment rise further, diminishing returns start and certain bottlenecks appear and prices start rising. This process continues until full employment is achieved. If money supply increases beyond full employment level, output ceases to rise and prices rise in proportion with money supply. This is called "true" inflation (Jhingan, 2010). The implication of this is that inflation cannot occur during underemployment, but when full employment has been achieved. This makes one wonder if there could be full employment in any country.

Nigeria is not excluded from the countries battling with the problem of inflation. In fact, the problem of inflation seems to be more pronounced in Nigeria. The history of inflation in Nigeria is full of ups and downs. The rate of inflation did not matter during the 1970

oil boom and the then military government did not help matters with its inflationary policies which put more money in the pockets of civil servant.

The debt reduction policies of Obasanjo from 1999 to 2007 to some extent helped matters, but corruption and lack of infrastructures throughout his tenure undermined seriously efforts to restore macroeconomic stability.

## 1.2 PROBLEM AND OBJECTIVE

In Nigeria, inflationary pressures reflecting in persistently rising prices have been an issue of concern to the authorities since the late 1960s. Thus, through the 1970s and well into the first millennium of the 1980s, anti-inflation policy became a regular feature of governments' overall economic policy agenda. Inflationary pressures heightened substantially after the adoption of Structural adjustment Programme (SAP) in 1986, with inflation rate rising as high as 38% and 49% in 1988 and 1989 respectively. Despite a mild reduction in 1990 with a single digit inflation rate of 7%, the inflation rate climbed up steadily to about 44.9% in 1992, and up as high as about 72.8% in 1995.

In its effort to reduce the problem of inflation in Nigeria, the policy authorities have over the years used a combination of several measures, ranging from wage freezes, price controls, direct involvement of government in the procurement and distribution of essential commodities, to a fiscal and monetary strategies. A new monetary policy strategy "Inflation Targeting" is now gaining popularity in developing countries. The Central Bank of Nigeria (CBN) commenced the implementation of inflation targeting as one of its core Monetary Policy strategy, using the Monetary Policy Rate (MPR) as the main tool of stabilization in 2009 and it has continued to do so till date.

Given the problems raised above, this study seeks to examine the impact of monetary policy on inflation control in Nigeria from 1970 to 2010.

### 1.3 LITERATURE REVIEW

Empirical evidence from different authors shows that money supply has a significant positive impact on inflation in Nigeria. They also found that fiscal policy instruments impact significantly on inflation.

Fashoyin (1986) in a study with respect to the impact of structural phenomenon on inflation in Nigeria identified ten structural variables (agricultural bottlenecks, industrial production, imports, exports, food import and production, trade union militancy, indirect taxation on companies, wage bill, government expenditure-deficit financing and money supply) responsible for inflation in Nigeria. After regressing the rate of inflation on these ten variables using OLS approach, the results indicated that money supply, wages, imports, exports, food import and indirect taxation had significant positive relationship with inflation. However, other variables provided inconclusive results due to unavailability of data for computation.

In an attempt to ascertain the amount of government affecting money supply from 1970 to 1980, Osakwe (1983) investigated the relationship between changes in net current government expenditure, money wages, money supply (current lagged) and prices using quarterly and annual data. The regression analysis which included dummy variable to capture the effect of price control in force indicated a strong relationship between increases in net government expenditure and growth in money supply on the one hand and growth in money supply and inflation on the other hand.

Akinnifesi (1984) in a study considered factors such as change in money supply, lagged changes in money supply, credit to government by the banking system and government deficit expenditure with industrial production and food price indices to capture the effect of structural inflation. The study showed that changes in the above factors jointly explained inflationary tendencies in Nigeria. The study however, emphasized that the increase in government expenditure financed by monetization of oil revenue and credit from the banking system were responsible for the expansion of money supply which in turn with a lagged-in-effect contributed immensely to inflationary

tendencies.

A study conducted in the research department of CBN for the period of 1960 to 1994, confirmed that growth in the money supply is the determinant of inflation in Nigeria.

Olaloye and Ikhide (1995) investigate the role of fiscal and monetary policies in improving economy from recession using Nigeria as case study. They acquired monthly data from 1986 to 1991. They used modified St. Louis equation. The result suggests that fiscal policy is more effective in Nigeria during depression.

Chibber (1990) developed a detailed econometric model which takes into account both monetary and structural factors while investigating the causes of inflation in Ghana. His result shows that monetary growth, foreign price, exchange rate, interest rate, unit labour cost and real income, are the main determinants of inflation in this country.

The empirical reviews all point to the same direction of positive influence of monetary policy on inflation in Nigeria. But it can be seen that none of the authors used only monetary policy instruments as the explanatory variables in their models. Since this study concerns monetary policy impact on inflation, the model is estimated with all the independent variables being instruments of monetary policy.

#### **1.4 RESEARCH METHODOLOGY**

To capture the effects of monetary policy instruments on inflation in Nigeria, this study employed the method of OLS.

The framework for this study is based on the monetary theory of inflation. The monetary theory is hinged on the fact that inflation is a monetary phenomenon. The model emphasizes the role of money imbalances in determining inflation. When there is excessive money supply over what the public desires to hold at any point in time, the result is inflation.

This study models inflation (INF) as a function of bank rate (BR), deposit with the central bank of Nigeria (DCBN), exchange rate

(EXCH), liquidity ratio (LR), and broad money supply (M2). The model is specified below as:

$$INF = \beta_0 + \beta_1 BR + \beta_2 DCBN + \beta_3 EXCH + \beta_4 LR + \beta_5 M2 + \mu \dots \dots \dots (1)$$

In order to interpret the variables coefficients as elasticities, the equation above is presented in logarithmic form below:

$$\ln INF = \beta_0 + \beta_1 \ln BR + \beta_2 \ln DCBN + \beta_3 \ln EXCH + \beta_4 \ln LR + \beta_5 \ln M2 + \mu \dots \dots \dots (2)$$

### 1.5 A PRIORI EXPECTATION

This shows whether or not the explanatory variables conform to the postulations of economic theory in terms of their signs and magnitudes. According to the adopted theoretical framework, exchange rate and broad money supply are expected to have positive signs while liquidity ratio, deposit with CBN, and bank rate are to have negative signs. If the estimated parameters turn out to have parameters with signs not in line with the above stated, then they should be rejected unless if there is enough reason to accept them.

### 1.6 DATA AND SOURCES

The study uses secondary data time series data from 1970 to 2010, obtained from the CBN statistical Bulletin of 2010.

### 1.7 RESULTS

The estimated result shows that the independent variables explain 96.5% of the changes in inflation as shown by the R<sup>2</sup> The F statistic which is 156.9 is significant at 5% level of significant, further confirming that the independent variables jointly explain huge percentage of the changes in inflation. The table result is shown below:

**Table 1: Result of Estimated equation**

Variable	C	LnBR	LnEXCH	LnM2	LnDCBN
LnLR					
Coefficient	-0.022	0.8769	-0.18125	0.549951	-0.414160
	-0.349947				
T-Statistic	-0.058	2,8076	-1.81001	5.321492	-5.579231

-2.033895

R<sup>2</sup>: 0.965

DW: 2.0224

FS: 156.92

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Source: Author

Note: some entries are approximated values

The result shows that Liquidity Ratio (LR), Broad Money Supply (M2), Deposit with Central Bank of Nigeria (DCBN), and Bank Rate (BR) are statistical significant in explaining changes in inflation for the period under study. Only Exchange Rate (EXCH) was found not to have statistical significance in explaining variations in inflation. The Durbin-Watson statistic of 2.0224 shows the absence of serial auto-correlation in the model.

The fact that exchange rate is not significant could be as a result of the fact that Nigeria exports mainly primary products. These products have perfectly inelastic supply in the short run. As a result, reducing the exchange rate will only lead to more inflation.

## 1.8 CONCLUSION

Given the findings of this study the following recommendations are made. The CBN should keep broad money supply at a low level. This will reduce interest rate, investment and income, thereby curbing inflation. Policy makers should however, know when the economy is facing liquidity trap situation. When this occurs, other measures should be employed to fight inflation. The CBN should devise measures to ensure that commercial banks do not maintain excess reserves, and that those who maintain reserves in excess of the stipulated amount are penalized accordingly. Deposit with the central bank should be raised if the need arises. It is an effective way of reducing the amount of cash in the hands of commercial banks.



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