Inflation Targeting, Economic Stability and Monetary Policy:The Nigeria Experience

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Abstract

Since the late 1990s, a good numbers of emerging-market countries have adopted inflation targeting (IT) as a monetary policy framework. The hallmarks of this approach are an explicit commitment by the central bank to keep an inflation index close to a Periodically-adjusted target, and the use of an inflation forecast as the intermediate target for policy. In view of this, the study examined how likely inflation targeting will respond to monetary policy in Nigeria. To achieve the objective we used time series data that span from 1985 to 2015 on inflation, exchange rate, prime lending rate, Income (GDP) and money supply to estimate an Autoregressive Distributed Lag Model of inflation. The finding shows that monetary variables are good explanatory variables in explaining the changes in inflation on Nigerian economy and also the first and second lagged of Money supply exert a very high significant influence on the growth of inflation in Nigeria. We recommend the consideration of effective management of money supply, interest rate and exchange rate to ensure stability as a precondition for the achievement of inflation targeting.

Keywords: Inflation targeting, economic stability, monetary policy, Nigeria

Introduction

The beginning of 1990 witnessed increasing numbers of countries adopting inflation target as one of the parameters of achieving monetary policy that encourages economic growth and stability. This policy has encouraged drastic reduction and maintenance of single digit inflation rate in the countries that have adopted inflation targeting. Inflation-forecast targeting, as a systematic decision procedure for the conduct of monetary policy, was developed at the Reserve Bank of New Zealand in 1990. It has increasingly become popular framework among other Central Banks. For example, many central banks in Europe and Canada have all adopted inflation targeting as work in progress, with little idea from existing literature on monetary policy rules.

One of the major challenges facing economic experts all over the globe is to find out the right monetary policy instrument that can rejig the economy in order to meet their country's sustainable national development goals.

Monetary Policy is one of the corner-stones in economic policy formulation and implementation in Nigeria. It is a major stabilization weapon which involves a package of measures or actions taken by the monetary authorities to regulate and control the volume, cost and other terms under which money and credit are supplied to the economy in order to achieve a set of specified macroeconomic objectives (Soludo, 2003). Over the years, monetary policy in Nigeria has been designed to achieve certain policy objectives which includes reduction of inflation and unemployment rates, strengthening an economy's external balance of payment position, stabilizing the economy's exchange rate and enhancing overall national growth among others.

The issue concerning inflation targeting is anchored on the roles of monetary policy in any country is to achieve and preserve a single digit inflation rate that is stable over a long period of time. Nevertheless,there has been a divergent views among economic policy experts, it is generally accepted as a result of the consensus on the basic assumption; that a surge in the money supply has on serious impact in the medium to long run. In other words, more money supply has a positive correlation with price level and not on output or employment. Unstable and high inflation is detrimental to the economy in terms of either in the distribution of scarce resources or increase in output in the long run, or both. Money plays a pivotal role in the short run in the economy. As a result of this, monetary policy plays an essential role on the performance of key variables, such as output and unemployment. The impact of monetary policy on inflation occurs with varying degrees of lags of uncertain duration and strength. These fluctuations encumber the Central Bank to control inflation on a period-by period basis. Based on the above logically principles, a very good number of policy makers analysts and economists have argued in favour of inflation targeting as a framework that can redesign the implementation and performance of monetary policy compared with the Central Banks' usual procedures, which is usually shrouded in secrecy and lacked openness.

The ultimate goals of monetary policy, according to Sanusi (2002), has been the achievement of price stability, stable exchange rate regime that results in a balance of payments position that is favourable and sustainable, and recording high GDP growth rate. Over time, monetary policy has been derived from budget variables that is money supply, GDP growth and inflation rate. For example, in 1999 the target growth in M2 was 10.0% while that of M1 was 4.1%. Meanwhile, inflation was expected to be at a single digit. The deviations

from the targets reveal that M2 and M1 actually grew by 31.4% and 19.9% respectively. Inflation grew by over 10.5%, while GDP grew by 2.0% against the targeted 3.0%. The implications of setting budget variables is that it raises households expectation about the variables in future, thereby making it impossible to track down price changes.

An x-ray of the Nigerian economy shows that between 1970 and 1975, inflation rate stood on average of 14.28% and 12.70% in 1981, 15.27% in 1997, 28.57% in 1993, 30.7% and 12.41% in 1999 and 2005 respectively (CBN, 2006). This is a startling revelation of the fact that inflation has stood on average of 18.99% in the past 36 years, while broad supply growth maintained an average of 19.0% within the period. Interestingly, this scenario implies that inflation growth rate was at par with broad money supply, and this simply suggest that Money supply targeting is rather unreliable means of controlling inflation in view of instabilities in the demand for money. Hence, the effectiveness of monetary policy target in taming inflation in Nigeria remains an empirical issue.

This research, therefore, raises the following questions (1) How effective is inflation targeting monetary policy framework in Nigeria? (2) What magnitudes of inflation arise as a response to monetary policy in Nigeria? (3) What is the length of duration it takes for inflation to respond to monetary policy instruments in Nigeria?

Inflation targeting has emerged in recent years as the leading framework within which monetary policy is conducted around the world. The success of inflation targeting monetary policies in established market economies have generated an interest among policy makers in some emerging market economies to explore the feasibility of adopting the same in order to overcome the recent inflationary trends. The rationale for adopting inflation targeting as a monetary policy instrument is because of the tendency of policy summersault that is usually associated with the change of guard in political sub sector of the economy in a situation where the autonomy of the central bank is not guaranteed. The contention here is that the economic sub-sector is being controlled by the political sub-sector. Therefore, to protect this policy instrument, diligent efforts should be made to spell out the rules and the major policy thrust should be well thought out. Though there is every tendency to mistrust policymakers as a result of veering off the rule, and pursuing wrong targets could very well push the economy to a different path that is not in

consonance with the country's development goals. Hence the relevance of the study is implicitly derived from the fact that the empirical findings will provide useful information to the Policy makers in Nigeria especially the monetary authority (CBN) when designing appropriate monetary policy framework for controlling inflation. The outcome of the study will identify the importance monetary variables required to serve as the operational instrument to meet the inflation target in Nigeria. Finally, it will contribute to existing debates among academics on the relevance and effectiveness of the inflation targeting monetary policy.

2.1 Literature Review

Many scholars have argued in favour of inflation targeting as a veritable monetary policy instrument.Those in this category include Leiderman and Svensson, (1995), Corbo *et al*., (2001, 2002); Clifton *et al*., (2001); Arestis *et al*., (2002); Johnson (2002, 2003); Scott andStone,(2005);

Mishkin (2006) conducted studies in industrialized countries, and recommend that inflation targeting matters and very relevance in an economy in reducing inflation to a minimum level.

Mishkin and Hebbel (2006), inflation targeting provides a clear path for the medium-term inflation outlook, reducing the size of inflationary shocks and their associated costs. Since long-term interest rates fluctuate with movements in inflation expectations, targeting a low rate of inflation would lead to more stable and lower long-term rates of interest. He argued that concentrating only on numerical inflation objectives may affect negatively the flexibility of monetary policy which may have consequences on other policy goals. Therefore, inflation targets should give room for flexibility, and should be adjusted for volatile components.

On the same vein, Heintz and Ndikumena (2011) suggest an alternative approaches to monetary policy and instrumental constraints that would need to be addressed to allow Central Banks to play a stronger developmental roles in sub-Saharan African countries. They argued that fiscal responsibility and financial discipline are conditions for Inflation Targeting to achieve its aim.

Mboweni (2008) added that inflation targeting is beneficial because of its ability to adjust monetary policy to shocks with minimal real output loss while still anchoring inflation expectations. One way of thinking about inflation targeting is that it provides a set of rules for adjusting monetary policy to shocks.

Bjorn and Carl (2017) argued that when inflation targeting was introduced in Sweden and other countries at the beginning of the 1990s, it followed a period when high and varying inflation had been a major problem .It was important to establish credibility for the new policy and quickly build confidence in the inflation target. The focus of monetary policy was therefore on inflation. But with time, as confidence in the inflation target grew, monetary policy could take more account of the real economy. Flexible Inflation Targeting was introduced as a generic term to describe a monetary policy where the central bank aims at stabilizing both inflation and the real economy. Of course, even a central bank that only aims to stabilize inflation has to take the real economy into

account, since developments in the product and labour markets will affect the outlook for inflation. But with flexible inflation targeting, stabilizing the real economy is a goal of its own.

Mishkin (2000) on the contrary contended that inflation targeting may not be appropriate for many emerging countries because of weak Central Bank accountability which is a serious problem that results from long lags from monetary policy instruments to the inflation outcome and also because financial instability caused by flexible exchange rate.

Palley (2002) was of the opinion that inflation targeting is an insufficient framework for monetary policy in the presence of financial exuberance. According to him, current theoretical rationalizations of inflation targeting are flawed, being unable to explain why Central Banks should aim for "low" inflation.

Again, Stone (2003) lists the condition necessary for any country that is thinking of adopting inflation targeting. First is that the Central Bank should have some level of autonomy. The monetary authorities must be allowed to use the instruments of monetary policy toward the stated objectives. The conduct of monetary policy should not be dictated or constrained by purely fiscal considerations. This implies that public sector borrowing from the Central Bank and the banking system should be low or nonexistent. The government should have a broad revenue base and should not rely on the revenues from seigniorage generated by excessive currency issuance; domestic financial markets should have enough depth to absorb the placement of public and private debt instruments; and the accumulation of public debt should be sustainable and not unduly constrain monetary policy.

The second requirement for adopting inflation targeting is that the authorities should refrain from targeting the level or path of any other nominal variable, such as wages or the nominal exchange rate. A country that chooses a fixed exchange rate system subordinates its monetary policy to the exchange rate objective, and is not effectively able to target directly any other nominal variable, such as the rate of inflation.

A country that satisfies these two basic requirements could, in principle, pursue its monetary policy that is in tandem with inflation targeting policy instrument.To achieve this, the Central Bank is expected to set up a monetary policy framework which must have the following important four elements which are:
(i.)Explicit inflation targets for some period or periods ahead
(ii) Clear and unambiguous indications that attaining those inflation targets is the overriding objective of monetary policy
(iii) A model for forecasting inflation that uses relevant variables and information indicators
(iv) And a forward-looking operating procedure in which the setting of policy instruments depends on assessing inflationary pressures and where inflation forecasts are used as the main intermediate target of monetary policy.

In similar vein, Packard (2005) posits that countries adopting inflation targeting must fulfill certain conditions before adopting inflation targeting. He argues that it is imperative that the Central Bank should not be constrained to finance the government budget and must have an effective monetary policy instrument like the short-term interest rate that is fully market determined. Moreover, transparency and accountability of the Central Bank is essential to anchor inflationary expectations.

Tatliger (2017) posits that there is no solid inflation theory in economics, however, mainstream economics places great emphasis on combating inflation. This is rather evident in most of the macroeconomics textbooks such that inflation is regarded as one of the most fundamental concepts while income distribution concept is relegated to the sidelines. For example, inflation is portrayed as one of the three major concerns of macroeconomics, alongside output growth and unemployment, while income distribution cannot make into that list in the tenth edition of the *Principle of Macroeconomics.*

Inflation and output performance in economies using the inflation-targeting framework (ITF) has been good by historical standards, and both governments and Central Banks claim to be pleased with the framework. Advocates and practitioners of the ITF have been leaders in shaping and exploiting the new consensus that Central Bank transparency can make policy more effective.

Kontolemis (1998), however, states that the problem with inflation targeting is that of the lags in policy transmission as well as the uncertainties of forecasting. Monitoring the Central Bank's policy is difficult.

Coats (2000), on the conduct of monetary policy, argues that with a monetary rule, inflation targeting must be guided and disciplined by a model (though potentially a more complex one than simple money demands equation) that forecasts the price level consequences of current policy instrument settings. The stance of monetary policy must be motivated by achieving the inflation target and must be perceived by the public as likely to succeed in that objective.

Bernanke (2003) provided evidence that suggests that Central Banks that have switched to inflation targeting have generally been pleased with the results they have obtained. The strongest evidence on that score is that thus far, at least, none of the several dozen countries (New Zealand, Canada, the United Kingdom and Germany) that adopted inflation targeting has abandoned the approach. Ball and Sheridan (2005) showed that inflation targeting does not make a difference in industrialized countries; rather, the apparent success of inflation-targeting countries simply reflects regression toward the mean. However, these findings were heavily

disputed by Hyvonen (2004), Vega and Winkelried (2005), and IMF (2005), who presented evidence generated with different specifications and estimation techniques and based on samples that include emerging economies that inflation levels, persistence, and volatility are lower in inflation-targeting countries. These studies concluded that output volatility has not worsened after the adoption of inflation targeting; if anything, it has improved.

Calderón and Schmidt- Hebbel, (2003); Albagli and Schmidt-Hebbel, (2004); and Gosselin, (2006) present an evidence which increasingly indicates that inflation targeters are successful in meeting their targets. They conclude that a virtuous circle seems to be at work with inflation targeting being adopted in conjunction with institutional improvements that help strengthen monetary policy credibility.

In another dimension, Roger and Stone, (2005), provide result that contended that inflation targets are never met exactly; the success and resilience of the regime indicate that no country has dropped inflation targeting to date and this is attributed to its flexibility and its improvements in monetary policy formalization and transparency. Mishkin and Posen (1997) find that inflation targeting has proved an effective strategy in the fight against inflation, especially in maintaining the benefits of registering low inflation levels. These authors base their argument on the premise that whenever inflation targeting was adopted, the countries experienced inflation rates and interest rates, which were lower than the magnitudes simulated with unrestricted VARs, while no major effect is apparent on the output. Inflation targeting may also have an impact on the relationship between current inflation and its past history. Using uni-variate time series, Sikklos (1999) finds that the autoregressive coefficients show a noticeable drop in the strength of the relevant relationship for countries such as New Zealand, Canada, Finland, Sweden and Spain.

2.2 Overview of Monetary Policy Framework in Nigeria

Historically, monetary policy in Nigeria was mainly short term (NEEDS 2004). However, recently the Central Bank has moved to medium-term framework. The overriding objective of monetary policy in Nigeria is price and exchange rate stability. The monetary authority's strategy for inflation management is based on the view that inflation is essentially a monetary phenomenon. Owing to the fact that targeting money supply growth is considered as an appropriate method of targeting inflation in the Nigerian economy, the Central Bank of Nigeria (CBN) chose a monetary targeting policy framework to achieve its objective of price stability.

The CBN's focus on the price stability objective was a major departure from past objectives in which the emphasis was on the promotion of rapid and sustainable economic growth and employment. Prior to 1986, the CBN relied on the use of direct (non-market) monetary instruments such as credit ceilings on the deposit money of banks, administered interest and exchange rates, as well as the prescription of cash reserves requirements in order to achieve its objective of sustainable growth and employment.

Notwithstanding, three years ago, the Central Bank of Nigeria (CBN) Governor, Prof Soludo, announced the willingness of the monetary authority to bring inflation rate in Nigeria to a single digit. This is as a result of the priority given to inflation reduction through the CBN set objective on monetary policy. This necessitated the adoption of inflation targeting monetary policy frame work in March, 2005. The CBN objective by this policy is to maintain inflation below 10% over the medium term and a return to a flexible exchange rate regime as a strategy to adopting an inflation targeting framework (IMF Nigeria 2005 Article IV Consultation concluding statement March 25, 2005).

METHODOLOGY

3.1 The Model

The study adopts a simple linear specification of the multivariate time series function using the partial adjustment approach and Autoregressive Distributed Lag model.

3.2 Model Specification

INF=F (PLR, EXRT, GDP, MSS)………… (1)

Where;

INF = Inflation Level

EXRT = Exchange Rate

MSS = Money Supply

GDP = Gross Domestic Product

PLR = Prime Lending Rate

Presenting equation (1) in a linear functional form as follows:

$INF=\beta_0+\beta_1 PLR+\beta_2 EXRT+\beta_3 GDP+\beta_4 MSS+ U_t………. (2)$

Where;

β_0= *Constant*,

β_1- β_4 *are the parameters to be estimated*

U_t = *random error term*

Transforming equation (2) into a log dynamic model is necessary so as to scale down the variables. The choice of dynamic model is informed by the fact that it may take lapse of time for inflation to respond to the set of the policy variables. That is to say, the response might not be automatic. Equation (2) thus transforms to;

$InINF = \beta_0 + \beta_1 InPLR_{t-i} + \beta_2 InEXRT_{t-i} + \beta_3 InGDP_{t-i} + \beta_4 InMS_{t-i} + U_t$ (3)

3.3 Unit Root Test

The unit root test of stationarity using Augmented Dickey Fuller (ADF) test was applied because most macroeconomic variables are subject to volatility (Granger and Newbold, 1974; Dickey and Fuller, 1981; Enders, 1995; Pindyck and Rubinfeld, 1998, Gujarati, 2004). Thus, we present the ADF specification of our model as follows;

$$In\Delta INF_t = \alpha_0 + \delta In\Delta INF_{t-1} + \beta i \sum_{i=1}^{n} In\Delta INF_{t-1} + \mu_t \dots\dots\dots\dots\dots\dots\dots\dots(4)$$

Where;

       INF = Inflation level (our dependent variable)

Δ *= First–difference Operator*

$\delta =$ *Stationarity level*

The negativity of δ is expected to be very large in order to make the variable stationary.

The Speed of adjustment of the monetary policy instrument (Natalucci and Piger, 2004) is given below;

Median lag of the instrument target: $\left[-\dfrac{\log 2}{\log \prod_i} \right]...(6)$

$\prod$ = the long run multiplier of monetary policy instrument. This shows length of time required for 50% change in the inflation emanating from a unit sustained change in monetary policy instrument. For a high speed

of adjustment we have the mean lag of the instrument target: $\left[\dfrac{\prod_i}{1 - \prod_i} \right]...(7)$

This is the weighted average of all the lags involved and it shows the speed of adjustment at which inflation respond to the monetary policy instrument.

3.4 Data Sources

The data for this study are secondary data sourced from the Central Bank Nigeria Statistical Bulletin of various years.

PRESENTATION AND DISCUSSION OF RESULTS

4.1 ADF Test for Stationary

The Augmented Dickey-Fuller unit root test is run on the variables up to their 2nd difference. The result is presented in the table below:

Table A: Unit Roots Test (ADF – Test)

Variable	T-ADF	Lag Length	Order of Integration	1% Crit val	5% Crit val
MS	-6.1087**	1	I(2)	-2.637	-1.952
INF	-5.3132**	1	I (1)	-2.637	-1.952
INT	-5.4418**	1	I (1)	-2.637	-1.952
REXR	-4.3418**	1	I (1)	-2.637	-1.952
GDP	-3.1043**	1	1(2)	-2.637	-1.952

Authors' computation, 2016

**significant at both 1 percent and 5 percent critical value

    The table shows that inflation and interest rate have its t-ADF greater than 1% and 5% critical values of -2.637 and -1.952 respectively suggesting that the variables are stationary at first differencing. They are integrated of order 1. On the other hand, Money Supply (MS) and GDP were stationary after second differencing implying that they are integrated of order 2.

4.3 Co-integration test

Table B: Co-integration test result

	t-adf	Lag length	1% critical value	5% critical value
Residual	0.44396	2	-1.951	-2.632
Residual	-1.5238	1	-1.951	-2.632
Residual	-4.5633**	0	-1.951	-2.632

The result above shows there is no co-integration between the variables because the residual obtained from the linear combination of the non-stationary variables is not stationary at 1% and 5% critical value using ADF test. Hence, we estimated Autoregressive Distributed Lag Model.

4.4 Presentation of Dynamic Modeling of Inflation result

Table C: Result Summary

Variables	Coefficient	Std.Error	T-value	T-prob
CONSTANT	0.010124	0.023349	0.434	0.6682
DDINF_1	-0.16460	0.041285	0.128	0.4834
DMSS	0.502885	0.041285	2.128	0.8991
DMSS_1	0.405414	0.029093	2.561	0.1306
DLPLR	-0.066560	0.945751	-1.185	0.0389
DLPLR_1	-0.28389	0.10789	-1.631	0.0141
DDLGDP	0.0073056	0.019619	0.372	0.7126
DDLGDP_1	0.087283	0.091437	0.955	0.3486
DDEXRT	0.030687	0.045006	0.681	0.5019
DDEXRT_1	0.020576	0.034005	0.521	0.5019

Authors' computation 2016

R^2 = 0.601919, F-Stat (7, 26) = 4.6064 DW = 2.05,

S.E of Regression 77.669

4.5 Interpretation and discussion of findings

4.5.1 Inflation

The lag value of Inflation displays a negative coefficient -0.16460. A unit increase in price level in the past year will cause present year price level to decrease by 0.16460 units. However, following the Rule of Thumb, a variable is statistically significant if its t-value is greater than 2 in absolute terms at any given % level of significant, and it not statistically significant if its t-value is less than 2 in absolute value at any given % level of significant (Gujarati, 2004). Consequently, price level in the past year has no significant impact on price level in the current year. Thus, we conclude that inflation in the past year one year is not a major determinant of inflation in the present year.

4.5.2 Money Supply

First and second lag of Money supply exert high significant influence on the growth of inflation in Nigeria. Holding all other variables constant, a unit increase in money supply in the current and past one year bring about 0.502885 and 0.0405414 units' increase in inflation respectively and the signs conform to a priori expectation. The significant of money supply (2.128 and 2.561) at both current year and past one year validate the role money supply.

4.5.3 Prime Lending Rate

The prime lending rate shows negative and insignificant relationship with money demand in the current and past one year. A unit increase in real interest rate in the current year and past one year causes -0.255660 and -0.28389 units decrease in inflation respectively. The negative signs display by real interest rate meet economic a priori expectation, since interest rate is the opportunity costs of holding money, it follows that higher interest rates imply higher opportunity cost (price) of holding liquid. If cost of borrowing is high, people will prefer to demand less cash and consequently less inflation.

Also, shocks that emanate from exchange rate may affect domestic interest parity conditions, and hence investment demand. Nonetheless prime lending rate is statistically insignificant in influencing inflation in Nigeria.

4.5.4 Gross Domestic Product

Gross domestic product shows positive relationship with inflation in the current and previous one year. Accordingly, a unit increase in gross domestic product causes 0.0073056 and 0.087283 units' increase in money demand in the current and previous one year respectively and they conform to a priori expectation, since increase in output is likely to be accomplished by increase in inflation due to increase demand. Notwithstanding, gross domestic product is not statistically significant in influencing inflation in Nigeria.

4.5.5 Exchange Rate

The exchange rate shows positive and insignificant relationship with inflation in the current and past one year. A unit increase in exchange rate in the current year and past one year causes 0.030687 and 0.020576 units increase in inflation respectively and there is conformity to a priori expectation. Exchange rate affects the cost of imported intermediate inputs to domestic production, which in turn may affect aggregate supply. However, exchange rate is not significant in influencing inflation in Nigeria.

4.6 Stability test results of Inflation and Money supply

Graph A: Cusum Test
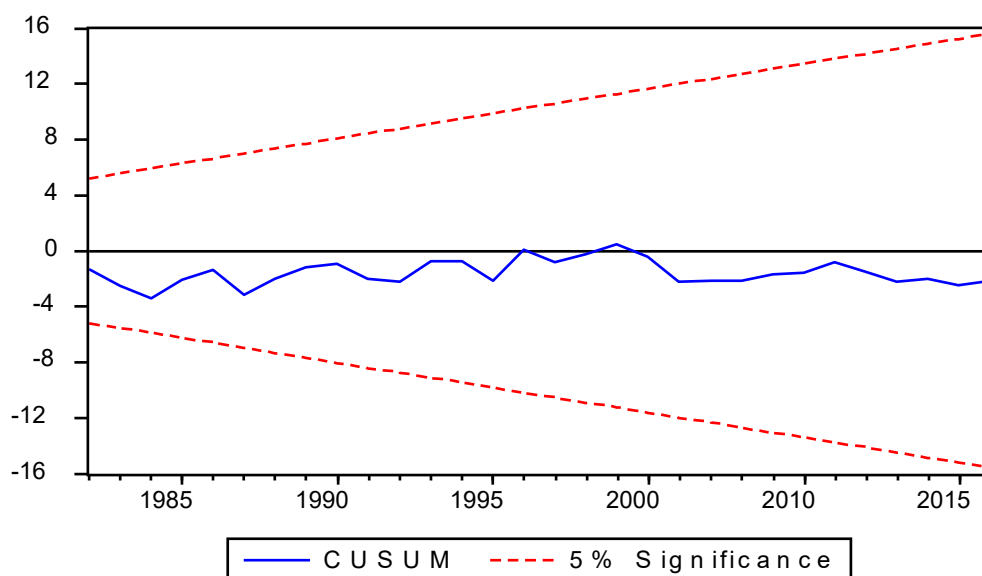
Graph B: Cusum Squares Test
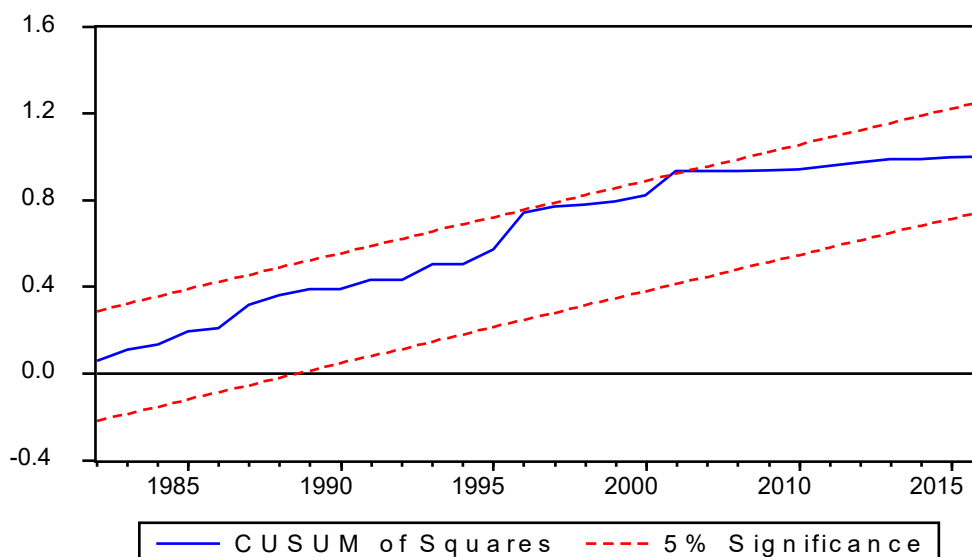
The stability of Money Supply using CUSUM and CUSUMSQ tests which Brown, et al (1975) developed was tested. For stability to hold, it is important that the CUSUM and CUSUM Squares statistics stay within the 5% critical bound (represented by two straight lines whose equations are detailed in Brown et al.(1975). As we can see from the two figures above, neither the Cumulative Sum (CUSUM)nor Cumulative Sum of Squares CUSUMSQ) plots cross the 5% critical lines. It can be deduced that the estimated parameters for the money supply are stable in the recent time. A stable MSS demand function exists over the entire sample period in Nigeria. These empirical results support the CBN in its choice of money supply as an intermediate target for monetary policy.

4.7 Summary of Statistical Tests

The adjusted R^2 of the estimated model shows about 60% of the variation in Inflation rate is explained by the combined effects of all the explanatory variables while the F–statistics shows that the overall regression is significant at both 1% and 5% levels. Also, the equation's standard error of 0.77669 signifies that in about two–third of the time the predicted value of inflation rate would be within 77% of the actual value, while given the DW value of 2.05 suggests the absence of serial correlation.

4.8 Discussion on findings

According to the monetarists, inflation is a monetary phenomenon which comes about when the central bank increases the money supply in excess of the demand for money. Such increases in money supply can be caused by the financing of fiscal deficits or by extending too much credit to the private sector. Monetarists see the short term solution to inflation as the implementation of a contractionary or a restrictive monetary policy. According to them, restriction in money supply is a sufficient condition for controlling inflation Friedman (1980).

Having examined the effect of money supply, prime lending rate, gross domestic product and exchange rate on inflation rate, we conclude that all the monetary variables are good explanatory variables in explaining the changes in inflation on Nigerian economy. Hence the finding lends credence to the submission of ADEBYI, (2010) that an important precondition for inflation targeting is the existence of stable and predictable relationship between monetary policy instruments and inflation. Even though he further observed that in developing countries, the condition is difficult to fulfill due to the use of seigniorage revenues as an important source of financing public debts.

There would be a need for consideration of effective management of interest rate and exchange rate to ensure stability when considering inflation targeting.

4.9 Policy Recommendation

The findings above have some implication for dynamic monetary policy formulations towards achieving inflation targeting in Nigeria. Arising from this, we propose the following recommendations for the economy. Monetary authorities' variation of the nominal money supply has important policy implications. The expansion in the nominal supply of money would result in higher inflation that is variation in the nominal money supply can affect prices positively. Therefore the reliance on liquidity management and other operating variables aimed at containing the growth of money and price stability should be encouraged.

It is well known in Nigeria that fiscal deficit and government borrowing are largely financed by the banking system, with serious implications for monetary growth. Hence it is recommended that the conventional elements of a typical stabilisation program that reduces both the budget deficit and credit to the government be adopted in curtailing inflation. It's recommended that contractionionary or restrictive monetary policy be adopted since the findings adhere to causes of inflation by monetarists. Consequently, we suggest that the monetary authority should strive to reduce the quantity of money in circulation in order to maintain a minimal rate of inflation in the country. Lastly, maintaining single digit inflation rate has been in the heart of monetary authorities. Achieving this will depend on the effective manipulations of other monetary policy instruments other than interest rate.

The monetary authority need to make more concerted effort towards stabilizing the exchange rate as this will in turn lead to a positive impact of EXCHR on the economy. This will boost the country's export as well as reduce import by reducing inflation in the economy.

It is also obvious from our findings that Nigeria may not achieve macroeconomic stability if the forecast point of Inflation is under single digit percent. In other words, more than single digit target percent is essential for Nigeria. Monetary policy should be fully and frequently be flexible based on realities on ground. Fiscal discipline should be encouraged through appropriate legislative guidelines that will help the monetary policy framework to achieve its stated objectives.

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