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Monetary Policy Rate, Interbank Rate, Savings Deposit and Inflation Rate in Nigeria: Evidence from ARDL Approach

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Abstract:
This study investigated the impact of monetary policy rate, interbank rate and savings deposit on inflation rate in Nigeria over the period of January, 2006 – November, 2014. To achieve the objective, an autoregressive distributed lag model was employed to estimate both the long-run and short-run models. The result of the long-run model reveals that monetary policy rate, interbank rate and savings deposit were all negatively and significantly affecting inflation rate within the studied period. In similar vein, in the short-run, monetary policy rate and interbank rates were negative and significant in determining inflation fluctuations. Though savings deposit depicts positive sign but was found to be insignificant in the short-run. As such, both long-and short-run findings were in conformity with the theoretical expectations. Therefore, the policy suggestion is that the central bank of Nigeria (CBN) should consider strengthening the use these policy instruments in controlling inflation shocks in Nigeria.
Key words: Monetary policy rate, interbank rate, savings rate, inflation rate, ARDL approach

1. Introduction

Friedman (1957) viewed inflation as always and everywhere a monetary phenomenon that is caused by excess supply of money to the economy by the monetary authority. Inflation is a persistent increases in the general prices of goods and services over time, a situation where there is too much of money chasing fewer goods and services. Being a global problem, inflation wears away consumers' purchasing power and cause uncertainty in the mind of investors. It also diminishes the exchange rate potentials a country's currency relative to rest of the world. Nigeria Bureau of Statistics (2013) reported that, the trend and composition of inflation rate in Nigeria since 2006 until 2013 was averaged 10.6%, while recording the highest of 15.6% in February 2010. The increases in the rate of inflation, no doubt is adversely related to consumer's purchasing power, as such there is need for monetary authority's intervention. Sulaiman (2014) asserted that Nigeria can achieve growth via financial development, by lowering the level of inflation. The effort to curb inflation has always been from two perspectives, using fiscal policy measures and monetary measures, all of which are coordinated by central bank.

The Central Bank of Nigeria (CBN) as part of its policy objective is required by the CBN act of 1958 to promote and maintain monetary stability and a sound financial system in Nigeria. In line with other Central banks across the globe, the CBN has the 'end' of attaining price stability and sustainable economic growth through the 'means' of monetary policy. Embedded in this twin objectives are: the attainment of full employment, maintaining stability in the long-term, interest rates and pursuing optimal exchange rate targets. The evolution of monetary policy in Nigeria can be classified into two phases: (1) the era of direct monetary controls (1959-1986) and (2) the era of market-based controls (1986-2006).

The era of direct controls was a remarkable period in monetary policy management in Nigeria, because it coincided with the use of reserve requirements, the cash reserve ratio (CRR) and the liquidity ratio (LR). These sets of instrument were used to influence the quantity-based nominal anchor (monetary aggregates) used for monetary programming. On the other hand, the minimum rediscount rate (MRR) was used as the price-based nominal anchor to influence the direction of the cost of funds in the economy. Changes in this rate give indication about the monetary disposition of the bank, whether it is pursuing a contractionary or expansionary monetary policy.

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Before the implementation of the structural adjustment programme (SAP) (1970s till 1986) CBN's monetary policies focused on fixing and controlling interest rates and exchange rates, selective sectoral credit allocation, manipulation of the discount rate and involving in moral suasion. Reviewing this period, Omotor (2007) observed that monetary policy was ineffective particularly because the CBN lacked instrument autonomy and goal determination, being heavily influenced by the political considerations conveyed through the Ministry of Finance. Progressively, the implementation of the SAP programme which commenced in 1986 ushered in a new era of monetary policy implementation with market-friendly techniques in Nigeria. The capacity of the CBN to carry out monetary policy using market friendly techniques was later reinforced by the amendments made to the CBN Act in 1991 which specifically granted the CBN full instrument and goal autonomy. Using this technique, the CBN indirectly influences economic parameters through its Open Market Operations (OMO). These operations are conducted wholly on Nigerian treasury bills (TBs) and repurchase agreements (REPOs). The Central Bank uses its operational target (un-borrowed reserves), over which it has deterministic control to influence the intermediate target (broad money) which eventually affects the ultimate targets (inflation and output).

The establishment of monetary policy committee (MPC) by the central bank of Nigeria act (2007), and the introduction of the monetary policy rate has led to a paradigm shift in monetary policy implementation process, from monetary targeting to inflation targeting.

The recent MPC Communiqué No. 98 held on 24th-25th November, 2014 increased the MPR by 100 basis points from 12.00 to 13.00 percent. In view of this, the study investigates the impact of monetary policy rate (MPR), interbank rate and savings deposit on inflation in Nigeria from January, 2006- November, 2014. Thus, this research seeks to answer the following questions; what is the impact of Monetary Policy Rate (MPC) on inflation in Nigeria? How does interbank rate influence inflation rate in Nigeria? Does savings rate has any effect on inflation rate in Nigeria?

The remainder of the paper is organised as follows. Section 2 describes the theoretical framework. Section 3 presents the empirical literature review. Section 4 explains the methodology. Section 5 presents and discusses the results. While, section 6 concludes and recommends.

2. Theoretical Framework

2.1 Monetary Policy Framework

Monetary Policy refers to the specific actions taken by the central bank or monetary authority to regulate the value; supply and cost of money in the economy with a view to achieving predetermine macroeconomic goals. The central bank of Nigeria (CBN), like other central banks in the world, seeks to achieve price stability and reduce inflation pressure through the management of money supply.

Monetary policy is referred to as either being expansionary or contractionary. While, an expansionary policy increases the total supply of money in the economy more rapidly than usual, the contractionary monetary policy reduces or shrinks the quantity of money supply. Expansionary policy is traditionally used to combat unemployment during recession by lowering interest rates in the hope that easy credit will entice businesses into expanding. On the other hand, contractionary monetary policy is intended to slow inflation to avoid the resulting distortions and deterioration of asset values. Monetary policy rests on the relationship between the rates of interest in an economy, that is, the price at which money can be borrowed, and the total supply of money. Monetary policy uses a variety of tools to control and influence outcomes like economic growth, inflation, exchange rates.

2.2 Inflation Targeting Framework

Following the work of Ball and Sheridan (2003), adopted by literatures such as Muir et al. (2006) on inflation targeting to measure the role of monetary policy on inflation in many countries around the globe, this study follow suit by adopting the same framework. This is a framework through which central bank estimates and communicate to public a targeted inflation rate and then attempts to direct the actual inflation towards the targeted via the use of monetary policy rate, interest rate changes, cash reserve ratio, interbank rate and other monetary tools. The decision of the central bank to raise or reduce the policy rate becomes more transparent under inflation targeting framework. If inflation is beyond the target, the central bank raises the policy rate to cube inflation to desired target. This usually has the effect over time of cooling the economy and bringing down inflation. When inflation is below the target, the central bank is likely to lower the policy rate. This will again has an effect over time of accelerating the growth rate of the economy and raising inflation. In this framework, investors use the targeted inflation rate to anticipate interest rate changes and factor these into their investment

decisions. This leads to increased economic stability according to proponents of inflation targeting. Resting on above discussion of inflation targeting framework, inflation is therefore the function of interest rate, monetary policy rate, interbank rate, savings deposit and other monetary policy instruments. The functional relationship could be expressed as follows:

$$INF = f(IR, MPR, IBR, SD, ...n)$$

where INF is inflation, IR is interest rate, MPR is monetary policy rate, SD is savings deposits and n is the vector of other inflation determinants.

3. Empirical Literature Review

The objective of this paper is to examine the impact of monetary policy rate, interbank rate and savings deposit on inflation in Nigeria. Despite the fact that literatures have extensively dwelled on the relationship between inflation and a lot of macroeconomic variables, fewer of them paid attention especial on the relationship between monetary policy rate, interbank rate, saving deposit and inflation.

Recently, Parra-Polania and Vargas (2014) investigates the change in economic growth measurement error volatility and the response of the monetary policy rate using a stylized model. Their result reveals that the prudent policy maker reacts more aggressively to the shock signal than the standard one and the standard policymaker always mitigates his reaction if the measurement error volatility rises; the prudent one may even increase his response if the risk is very high. Although the outcome is preserved in the second case, the prudent policymaker is less aggressive than the standard one in response to shock signal when forward-looking expectations is incorporated.

Motivated by the effects of the US subprime crisis on international money markets, Gerlach-Kristen and Rudolf (2010) investigated the maturity of monetary policy rate and financial shocks. Their empirical outcome suggests that financial market shocks impact less on the macro economy when policy is set with a long term rate. The result also suggests that even though monetary policy is normally formulated with a very short-term interest rate, long term rates matters in the transmission mechanism process.

Similarly, Civelli and Zaniboni (2014) document a Hump shaped response of inflation to monetary shock under purely nominal rigidity when the role of cost channel in accounting for inflation persistence in the New Keynesian model with Calvo pricing was explored. Before then, Bleich et al. (2012) estimates forward-looking monetary policy rules for 20 inflation targeting countries. The result suggests that introduction of inflation targeting strongly moves the central bank's reaction function toward inflation stabilization. Evidence of time-varying effects was interrogated and found that introduction of inflation targeting regime assist central banks to stabilize inflation and conclude that introducing inflation targeting make a huge difference in monetary policy strategies.

Again, Strohsal and Winkelmann (2014) assess the anchoring of inflation expectations through cross-country study based on a new data set of daily break-even inflation rates for the US, EMU, UK and Sweden shows that the degree of anchoring varies substantially across countries and expectations horizons extending the static setup of the predominant news regressions. Introducing exponential smooth transition autoregressive dynamics approach provides estimates of a market-perceived inflation target as well as the strength of the anchor that holds expectations at that target.

Hedging inflation risk for the case of Brazil was investigated using a vector-autoregressive specification to model inter-temporal dependency across variables by Brière and Signori (2013). After measuring the inflation hedging properties of domestic and foreign investments and carry out a portfolio optimization, their results show that foreign currencies complement traditional assets efficiently when hedging a portfolio against inflation and around 70% of the portfolio should be dedicated to domestic assets bonds and 30% should be invested in foreign currencies, particularly.

Zulkhibri (2012) has also documented evidence on policy rate pass through and the adjustment of retail interest rates from Malaysian financial institutions using error-correction framework to estimate both short and long run interest rate pass through . The results show that deposit and lending rate pass through are incomplete, but speed of adjustment vary across financial institutions and retail rates. Meaning that interest rate adjustments are asymmetric, with more adjustments taking place through monetary easing than via monetary tightening. These provide support for the existence of the interest rate channel of monetary

policy in Malaysia and concluded by suggesting the need to conduct effective monetary operations to support efficient monetary transmission in country.

Schmidt-Hebbel and Tapia (2002) examined Inflation targeting in Chile by asking some empirical question, among which are: Does inflation targeting contributed to monetary policy credibility and is the Central Bank's monetary policy consistent with the objectives of inflation targeting? Their evidence shows that credibility increases as inflation targets were adopted and inflation targeting has improved the strength of monetary policy and inflation stability.

The central objective of inflation targeting unlike the monetary aggregate i.e. money supply targeting is to achieve single digit inflation for most countries that adopt inflation targeting as their core monetary policy objective. This is usually achieved by setting up an independent monetary policy committee (MPC) to hold periodic meeting to determine the monetary policy rate which will then determine other rates (Rafindadi, 2011) including the interbank rate. Recent literature reviewed so far have only been emphasizing on inflation and other monetary variables with less emphases on policy rate and interbank rate. This will constitute the area this research paper will contribute to existing body of instrumental knowledge.

4. Methodology and Data

This study applied autoregressive distributed lag (ARDL) approach to cointegration. ARDL approach has been chosen over the other methods of testing cointegration such as Juselius Johansen (1990) cointegration and conventional Johansen (1998) cointegration tests owing to its advantages. Some of the advantages are: (1) it does not formally requires pretesting for unit root, (2) both short-run and long-run coefficients could be obtained simultaneously, (3) it can be applied to variables irrespective of their order of integration, i.e., whether they are purely *I(0),* purely *I(1)* or mixed and (4) it is efficient for limited sample data between 30 to 80 observations and large sample (Pesaran and shin, 1995).

4.1 Model specification

The model is based on the monetary theories which suggest that a monetary policy plays an important role in stabilizing inflation. In line with this, we modeled inflation to be function of monetary policy rate, inter-bank rate and savings deposits as follows:

$$INF_t = f(MPR_t, IBR_t, SD_t) \qquad (1)$$

where INF_t is Inflation rate, MPR_t is monetary policy rate, IBR_t is inter-bank rate and SD_t is the savings deposit.

The function in Equation (1) can be transformed into an econometric time series model with an error term as follows:

$$\ln INF_t = \beta_0 + \beta_1 \ln MPR_t + \beta_2 \ln IBR_t + \beta_3 SD_t + \varepsilon_t \qquad (2)$$

From the above Equation (2), we could derive the unrestricted error correction model to capture both the short-run and the long-run dynamics so as to test for cointegration relationship among the variables. The unrestricted error correction model (UECM) is specified as:

$$\Delta \ln INF_t = \alpha_1 + \sum_{i=1}^{k} \beta_i \Delta \ln INF_{t-i} + \sum_{i=0}^{k} \theta_i \Delta \ln MPR_{t-i} + \sum_{i=0}^{k} \delta_i \Delta \ln IBR_{t-i}$$

$$+ \sum_{i=0}^{k} \eta_i \Delta \ln SD_{t-i} + \pi_1 \ln INF_{t-1} + \pi_2 \ln MPR_{t-1} + \pi_3 \ln IBR_{t-1} + \pi_4 \ln SD_{t-1} + \varepsilon_t \qquad (3)$$

To assess the long run relationship among the variables, two hypotheses are developed. The null hypothesis of no cointegration ($H_0 : \pi_1 = \pi_2 = \pi_3 = \pi_4 = 0$) is tested against the alternative hypothesis of the existence of cointegration relationship ($H_a : \pi_1 \neq \pi_2 \neq \pi_3 \neq \pi_4 \neq 0$). This test is based on F-test by ordinary least square

(OLS) estimation technique. The computed F-statistic value is compared with critical bound values developed by Pesaran et al. (2001), which have a non-standard distribution that depends on whether the variables included in the model are purely *I(0), I(1)* or mixed. If the F-statistic is greater than the upper bound, there exists cointegration relationship. If the F-statistic is below the lower bound, there is no cointegration. However, if the F-statistic lies in between upper and lower bounds, then the inference is inconclusive.

If cointegration exists, then the following long run model will be estimated to obtain the long run coefficients of the relationship between inflation and its determinants, that is, monetary policy rate, inter-bank rate and savings deposit.

$$\ln INF_t = \alpha_2 + \sum_{i=1}^{k} \beta_{2i} \ln INF_{t-i} + \sum_{i=0}^{k} \theta_{2i} \ln MPR_{t-i} + \sum_{i=0}^{k} \chi_{2i} \ln IBR_{t-i} + \sum_{i=0}^{k} \eta_{2i} \ln SD_{t-i} + \varepsilon_{2t} \qquad (4)$$

To obtain the short-run coefficients, the error correction model of ARDL specification is specified as thus;

$$\Delta \ln INF_t = \alpha_3 + \sum_{i=1}^{k} \beta_{3i} \Delta \ln INF_{t-i} + \sum_{i=0}^{k} \theta_{3i} \Delta \ln MPR_{t-i} + \sum_{i=0}^{k} \chi_{3i} \Delta \ln IBR_{t-i} + \sum_{i=0}^{k} \eta_{3i} \Delta \ln SD_{t-i} + \delta ECM_{t-1} + \varepsilon_{3t} \quad (5)$$

where δ is the coefficient of the error correction term, which provides information about long-run relationship and also measures the speed of adjustment at which the disequilibrium will be corrected in the long-run.

Lastly, to examine the reliability and efficiency of our estimates, diagnostics tests such as serial correction test, normality test, heteroscedasticity test and stability test would be conducted.

The data used in this study are monthly data obtained from central bank of Nigeria (CBN) data base. It includes data on monetary policy rate, inflation rate, inter-bank rate and savings deposits, all the series are in monthly form for the period of January, 2006 to November, 2014.

5. Result and Analysis

One of the strengths of ARDL cointegration test approach is that it does not necessarily need stationary test, although it still requires that variables in the series be stationary at I(0), I(1) and mixture of both. This is because stationarity at I(2) and beyond violates the properties of using the Pesaran et al. (2001) bounds test. For this reason we conducted the two prominent unit root test using augmented Dickey Fuller (ADF) and Phillips Perron (PP) to test for the order of integration of the series and reported in Table 1. The evidence of unit root test shows that, inflation and interbank rate are stationary at level while interbank rate and savings deposit are stationary at first difference at 1% level of significance. This justified the use of ARDL approach.

Table 1. ADF and PP Unit root test

Variables	Level	Level	First difference	First difference
	ADF	PP	ADF	PP
$lnINF_t$	-3.556(0.008)***	-2.177(0.216)	-2.408(0.142)	-2.559(0.105)
$lnIBR_t$	-4.865(0.000)***	-5.191(0.000)***	-15.698(0.000)***	-20.394(0.000)***
$lnMPR_t$	-1.309(0.623)	-1.512(0.524)	-9.711(0.000)***	-9.804(0.000)***
$lnSD_t$	-1.944(0.311)	-2.044(0.268)	-11.764(0.000)***	-11.578(0.000)***

Note: ***, **, *, indicate significance at 1%, 5% and 10% respectively

To test for the existence of cointegration relationship among inflation, monetary policy rate, interbank rate and savings deposit, unrestricted error correction model in Equation (3) was estimated to generate the value of F-statistic and reported in Table 2. To establish the existence of cointegration among variables, the computed F-

statistics must be greater than the upper bounds critical value of the Pesaran et al. (2001) Table. We have computed the F-statistic to be 5.0287, which is greater than the upper bounds value, 4.35 of Pesaran et al. (2001) Table at 5% level of significance. Therefore, cointegration exists among inflation, monetary policy rate, interbank rate and savings deposit. This provides the basis to fail to accept the null hypothesis of no cointegration relationship. The comparison of the F-statistic with Pesaran et al. (2001) Table was based large nature of our sample, 105 monthly observations.

Table 2. ARDL Cointegration Test

Bounds test result	F-statistics	Lag	Level of sig.	Unrestricted intercept and no trend	
				I(0)	I(1)
$lnINF_t=f(lnIBR_t,lnMPR_t,lnSD_t)$	5.029	13	5%	3.23	4.35

Note: F-statistics is greater than the upper bond at 5% level, indicating the existence of cointegration. Also, lag 13 was selected as the optimal lag length suggested by Schwarz information criterion (SIC) for the monthly observations of 105. SIC was used because of its ability to minimise the loss of degree of freedom.

Having established the existence of cointegration relationship among the variables, the long run model was subsequently estimated and the results are presented in Table 3. The coefficient of interbank rate is negative and significant in the long run. To be précised, an increase in interbank rate by 1% will reduce inflation pressure in the economy by 0.237%. The result is in line with theoretical expectation because as interbank rate increases commercial banks are less passionate to borrow from the interbank market. This reduces the ability of commercial banks to create money and hence a downward pressure on inflation. This result finds support from the work of Zulkhibri (2012) in the case of Malaysia.

Similarly, the estimate of monetary policy rate (MPR) is negative and significant. Other things being equal, an increase in MPR by 1% leads to reduction in inflation rate by 0.417% which is also in agreement with theoretical postulations. The result is also in harmony with practical evidence that hold in Nigerian economy where the forward looking monetary policy committee (MPC) hold meeting every two months to decide maintenance or adjustment of monetary policy rate base on internal and external outlook of the economy. To curb inflation in Nigeria, the MPC recently increase MPR from 12% to 13%. This has further strengthened our result that an inverse relationship exists between inflation and MPR. Our finding is in line empirical findings of Bleich et al. (2012) for 20 inflation targeting countries and Schmidt-Hebbel and Tapia (2002) in the case of Chile.

Furthermore, the long run coefficient of savings deposit suggested a negative and significant relationship with inflation in Nigeria. In other words an increase in savings deposit by 1% leads to a downward pressure on inflation by 0.375%, holding other factors that influence inflation constant. Again, this outcome fails not to support theoretical expectations. Practically, an increase in deposits rate in commercial banks' balance sheet implies that individuals and government is patient to sacrifice their current consumption in order to earn interest that will increase their future consumption. Increase in savings deposit will then help to mob up excess liquidity in the economy which assists in addressing inflationary tendency. Our finding is also in consonance with both theoretical expectation and practical inference.

Table 3. Estimated Long run Coefficients

Dependent variable, $lnINF_t$		
Regressors	Coefficient	T-ratio (*p*-values)
$lnIBR_t$	-0.237	-3.044 (0.004)***
$lnMPR_t$	-0.417	-2.670 (0.011)**
$lnSD_t$	-0.375	-3.573 (0.001)***
Constant	4.112	13.807 (0.000)***

Note: ***, **, *, indicate significance at 1%, 5% and 10% respectively

The short run or the error correction model is expected to complement the long run ARDL cointegration model. Our results of the short run model as reported in Table 4, reveals that the coefficient of interbank rate is negative and significant. Although there is variation in the significant level with the long run result, this outcome still supports the long run model. An increase in interbank rate by 1% reduces the inflation rate by 0.015% implying lesser influence in the short run. The estimate of the monetary policy rate is also negative and significant in the short run. This result provides support to the long run model that MPR is indeed a monetary policy instrument that can be used by forward looking inflation targeting central banks of the world to address the problem of inflation. The coefficient of savings deposit is positive but seems not significantly different from zero. Therefore, MPR and IBR can jointly be used as contractionary or expansionary monetary policy in the short run in Nigeria taking into cognisance that the effect of any monetary policy requires time lag to translate into the economy. The coefficient of the error correction term is negative, less than one in absolute terms and significant. The value of the ECT (-1), -0.128, demonstrates the speed of adjustment in in event of short run inflation shock in Nigeria.

Table 4. Estimated short run model

Dependent variable, $\Delta lnINF_t$		
Regressors	Coefficients	T-ratio (*p* values)
$\Delta lnIBR_t$	-0.015	-1.9879 (0.053)**
$\Delta lnMPR_t$	-0.079	-2.2025 (0.033)**
$\Delta lnSD_t$	0.012	0.4476 (0.657)
Constant	0.526	4.2572 (0.000)***
ECT(-1)	-0.128	-4.5971 (0.000)***

Note: ***, **, *, indicate significance at 1%, 5% and 10% respectively

To confirm the reliability of our estimates, it is required that the diagnostic tests for the residuals should be in agreement with their respective null hypotheses. That is, the stochastic error term must be white noise with zero mean and constant variance. The result of the diagnostic tests presented in Table 5 indicates that the model has passed the entire tests for serial correlation, functional form, normality, and heteroscedasticity. Therefore we did not fail to accept our null hypotheses.

Table 5. Diagnostic Test Result

Test statistics	LM version	F version
A: Serial correlation	CHSQ (12)= 33.637 (0.001)	F(12, 28)= 1.345(0.250)
B: Functional form	CHSQ (1)= 3.343 (0.067)	F(1, 39)= 1.471(0.233)
C: Normality	CHSQ (2)= 2.083 (0.353)	Not applicable
D: Heteroscedasticity	CHSQ (1)= 0.061 (0.806)	F(1, 90)= 0.059(0.808)

A: Lagrange multiplier test of residual serial correlation
B: Ramsey's RESET test using the square of the fitted values
C: Based on a test of skewness and kurtosis of residuals
D: Based on the regression of squared residuals on squared fitted values

Similarly, we have conducted a stability test of CUSUM and CUSUM square. The graphical results in Fig. 1 & 2 illustrate that residuals were within the critical bounds at 5% level of significance. This signifies that the ARDL estimates are stable, consistent and reliable.

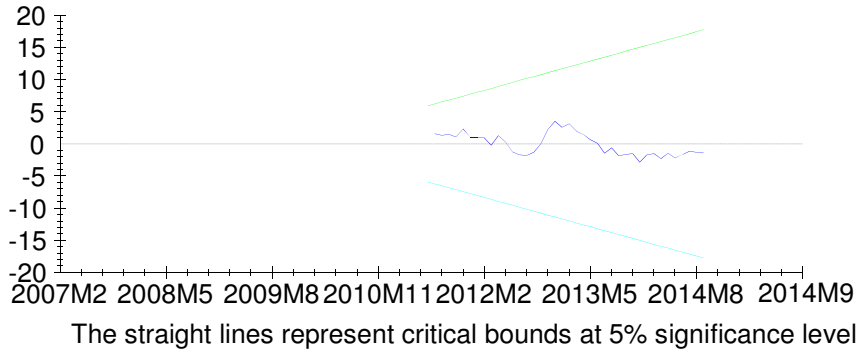

Figure 1. Plot of Cumulative Sum of Recursive Residuals

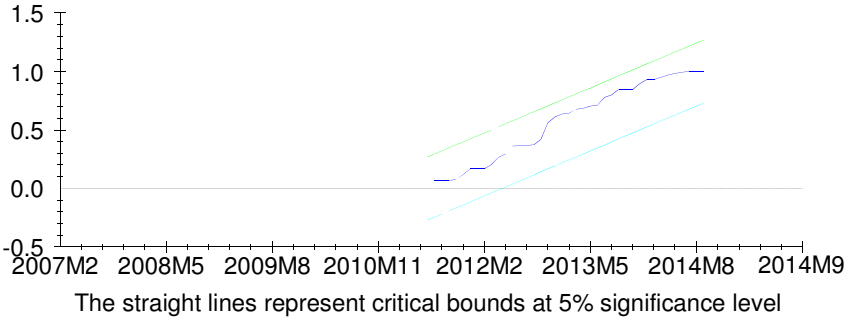

Figure 2. Plot of Cumulative Sum of Squares of Recursive Residuals

6. Conclusion and Policy Implication

This research investigated the impact of monetary policy rate, interbank rate and savings deposit on inflation rate in Nigeria. To avoid spurious results we began by conducting a unit root test which suggests that all our variables are stationary at 1% level of significance. Resting on this, we proceed to test the cointegration test and the outcome reveals the existence of cointegration relationship between interbank rate, savings deposit, monetary policy rate and inflation in Nigeria. The coefficients and/or estimates of interbank rate, monetary policy rate and savings deposit were all negative and significantly related to inflation in the long in Nigeria. Having conformed to theoretical expectations, this long run empirical result is critical and important for forward looking central bank of Nigeria and its monetary policy framework. One major policy implication is that the use of policy instrument such as MPR requires lag to transform the economy in order to generalize policy outcome. Therefore, monetary policy committee needs to incorporate this as part of its forward looking policy framework and strategies.

Furthermore, the estimates of interbank rate and monetary policy rate were both negative and significant. The inverse relationship between these two monetary policy instruments and inflation rate conformed to theoretical postulation. The policy implication is that, these two policy instruments could also be used to absorb or control inflation shocks during the short-run in Nigeria. However, their impact may be less effective in the short-run as compared to the long-run. This could be justified with the lesser significant coefficients generated in the short-run and the weak ect (-1) which is -0.128 in event of any short run inflation shock in Nigeria. The coefficient of the deposit rate is positive but not significantly different from zero. This implies that the savings deposit even though positive, could not really trigger inflation in the short-run in Nigeria.

The overall policy implication of the empirical result is that, inflation targeting and forward looking central bank of Nigeria has a very strong monetary policy instrument at its disposal, particularly the MPR. Hence, the need to design an optimum monetary policy strategy taking number and expertise of members of the MPC into consideration.

We cannot conclude without highlighting some of the limitation of this study. Among the limitation is that only few important monetary policy instruments were used for the scope of this study. Other instruments such as cash reserve ratio (CRR), liquidity ratio (LR), among other were not considered for this study. These constitute recommended areas for further studies.

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