Effects of an Unchanged Monetary Policy Rate in Nigeria’s Economic Growth

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Nigeria slipped into recession in 2016 and there was need to implement critical measures to move the country out of recession. The Central Bank of Nigeria (CBN) had to embark on a cycle of policy tightening to curb inflation; this included setting MPR which is the benchmark interest rate at 14%. This has remained unchanged for three consecutive years. GDP recovered after five quarters of continuous contraction recording positive growths of 0.7 and 1.4 percent in quarters two and three of 2017, respectively, which signaled the exit from the recession. In 2018 the Nigerian economy grew 1.9 percent respectively, which signaled the exit from the recession. This work uses multi-variable regression analysis. Where economic growth was represented by Gross Domestic Product and inflation rate and data was gotten from the Central Bank Nigeria and National Bureau of Statistics data (2013-2018). This paper examines the impact of an unchanged monetary policy rate (MPR) in Nigeria and how this has affected economic growth.

Key words: Monetary Policy, Economic Growth, Inflation.

1. INTRODUCTION

The Monetary Policy Rate (MPR) is the anchor rate at which the Central Bank of Nigeria (CBN) in performing its role as lender of last resort lends to Deposit Money Banks to boost the level of liquidity in the banking system. It is the policy rate which anchors the inter-bank money market and other deposit money banks' (DMBs) interest rates in the economy (Bulus: 2010). It controls either the cost of very short-term borrowing or the monetary base, often targeting an inflation rate or interest rate to ensure price stability and general trust in the Naira.

As a way of checking inflationary pressure, the central bank of Nigeria’s Monetary Policy Committee (MPC) in July 2016 increased the MPR rate from 12% to 14%. The MPR has since
remained unchanged at 14% for three consecutive years. CBN’s MPC seems to have identified the MPR threshold suitable for economic growth and investment. Keeping MPR constant has led to some gains including the stability of the foreign exchange market, the moderation in inflation rate as well as the restoration of economic growth. During the 264th MPC meeting, members were of the view that further tightening would strengthen the impact of monetary policy on inflation with complementary positive effects on capital flows and exchange rate stability, nevertheless, it could potentially dampen the positive outlook for growth and financial stability. On the other hand, loosening would strengthen the outlook for growth by stimulating domestic aggregate demand through reduced cost of borrowing which may lead to a rise in consumer prices, generating exchange rate pressures on the currency in the process. This could worsen the current account balance through increased importation. On the argument to leave the MPR unchanged, MPC believes that key macroeconomic variables have continued to evolve in a positive direction in line with the current stance of macroeconomic policy and should be allowed more time to fully manifest.

The motivation for this paper is to examine the impact of an unchanged monetary policy rate (MPR) in Nigeria and how this has affected economic growth. To achieve this objective, this paper has been organized into five sections. Following the introduction, section two provides literature review while section three deals with the methodology and data and the fourth concludes the paper.

2. LITERATURE REVIEW

This section has three sub sections. The first reviews major concepts, the second explains the theory backing this study and the last is a review of related empirical studies

Conceptual Issues

In Nigeria, the Monetary Policy Rate (MPR) is adopted as the operating instrument for monetary policy in achieving price and exchange rate stability. Price stability is a necessary condition for attracting investment into the country. Thus, a change in the MPR directly or indirectly influences the direction of other interest rates, credit growth and price developments in the economy.

The process through which a central bank’s interest rate policy decisions affect the economy in general, and the price level in particular, is known collectively as the transmission mechanism of monetary policy. The interest rate shows how monetary policy stance is transmitted into the real economy often regarded as the main transmission medium due to its quick pass-through effects on aggregate output, demand and prices according to, Mishkin, (1995). In return, these short term market rates have a pass through on long term market rates according to, Cheong and Boodoo (2008). The channel functions in such a way that a monetary shock impact on liquidity conditions and real interest rates which in turn affects investments and consumption due to their level of sensitivity on interest rate.
The Monetary Transmission Mechanism

Source: https://saylordotorg.github.io/text_macroeconomics-theory-through-applications/s14-02-the-monetary-transmission-mech.html

The monetary transmission mechanism explains how the actions of the central Bank affect aggregate economic variables, and in particular real gross domestic product (real GDP). It shows how changes in the Central bank’s target interest rate affect different interest rates in the economy and thus influence spending in the economy. MPC sets the Monetary Policy rates which targets a short-term nominal interest rate. Changes in that interest rate in turn affect long-term nominal interest rates. Changes in long-term nominal rates lead to changes in long-term real interest rates. Changes in long-term real interest rates affect investment and durable goods spending. Finally, changes in spending affect real GDP.

Theoretical Framework

The study is based on the IS–LM model, or Hicks–Hansen model, which is a macroeconomic tool that demonstrates the relationship between interest rates and real output, in the goods and services market and the money market (also known as the assets market). The intersection of the "investment–saving" (IS) and "liquidity preference–money supply" (LM) curves is the "general equilibrium" where there is simultaneous equilibrium in both markets. Two equivalent interpretations are possible: first, the IS–LM model explains changes in national income when
the price level is fixed in the short-run; second, the IS–LM model shows why the aggregate demand curve shifts. Hence, this tool is sometimes used not only to analyze the fluctuations of the economy but also to find appropriate stabilization policies.

The adoption of the IS-LM framework follows the work of Alade (2015). Alade(2015) explained that the Keynesian framework suggests that:

\[ Y = C + I + G - (X - M) \]  
National income identity: (1)

With the following behavioral equations:

- Consumption:
  \[ C = a + bY_d \quad b>0 \]  
  (2)

- Disposable income:
  \[ Y_d = Y - T \]  
  (3)

- Investment:
  \[ I = \delta - \gamma i \quad \gamma>0 \]  
  (4)

- Government Sector:
  \[ G = \tilde{G} \]  
  (5)

- Export:
  \[ X = s + \sigma e \quad \sigma>0 \]  
  (6)

- Import:
  \[ M = m + \phi Y_d \quad \phi>0 \]  
  (7)

Incorporate the money sector as well as the external sector, The money market in an open economy can be represented by the following equations:

- Money Demand Function:
  \[ \frac{M^{DD}}{P} = kY + \lambda i \quad k>0, \lambda<0 \]  
  (8)

- Money Supply Function:
  \[ \frac{M^{SS}}{P} = m1 \frac{B}{P} + m2i \]  
  (9)

- Money Market Equilibrium:
  \[ M^{DD} = M^{SS} \]  
  (10)

Where Y is output; C, consumption; I, investment; G, government spending which is assumed to be exogenous; X, exports; M, imports; Yd, disposable income; T, tax revenue; i, interest rate; e, exchange rate, B external reserves, P, general price level (inflation) and other symbols are coefficients.

After substituting the behavioral equations into eq. (1) and (10), equations for investment, output (GDP), reserves and inflation were obtained.

**Review of Empirical Studies**

It is important to show major findings in the literature from Nigeria on the effect of Monetary policy Rate or instruments in the Economic Development of Nigeria.

Udah (2009) assesses the effect of monetary policy on economic performance and price stabilization on the economy of Nigeria. He estimates a macroeconomic model with three stage simultaneous equations. His result shows that contractionary monetary policy through reduction
in money supply has significant and undesirable effects by reducing domestic output and consumer’s price index. His finding substantiates and indeed compares favorably with the empirical evidence with earlier results of Balogun (2007) and Mbutor (2007). Moreover, Olorunfemi and Dotun (2008) assess the effects of monetary policy on the economic performance of Nigeria. Their non-policy variables are inflation and domestic growth proxy for GDP. They applied the co-integration estimation technique and vector error correction model (VECM). They found a negative relationship between interest rate and domestic output, while inflation rate is positively related to interest rate.

Alade (2015) in determining the optimal threshold for Monetary Policy Rate for the Central Bank of Nigeria relied on the Keynesian theoretical framework. Variables such as interest rate, exchange rate, inflation, budget deficit, investment (change in capital stock) and real Gross Deposit Product were identified as the key variables in estimating the threshold MPR for growth, investment reserves and inflation. The functional specification of the threshold model followed Sarel’s (1996), Khan and Senhadji (2001); Drukker, et al. (2005); Mubarik (2005); Li (2005); Hussain (2005); and Sergii (2009) etc.

3.0 METHODOLOGY

The data of Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI), Monetary Policy rate (MPR), and Gross Domestic Product (GDP) were obtained from Central Bank of Nigeria (CBN). The scope of the collected and analyzed was from 2010 to 2018 on annual basis and Naira as currency unit. In order to test our hypotheses of the research, the collected data were plotted in graphs using MS Excel.

After subrogating the behavioral equations into eq. (1) and (10), we acquired equivalence for investment, output (GDP), reserves and inflation. Thus, we make prediction to survey certain testable hypotheses perception shaped from a threshold model of the MPR.

Also as it is used IS–LM model, or Hicks–Hansen model, we obtained that information with the model IS–LM model, or Hicks–Hansen model as following:

Takes a simplistic method to fiscal policy, the money market, and money supply. Central banks today in most advanced economies prefer to control interest rates on the open market—to example, through sales of securities and bonds. This model cannot account for that should not be used as the sole tool in deciding monetary policy. Does not display anything about inflation or international trade, and does not provide intuition or suggestions toward formulating tax rates and government spending.

The IS-LM model is a considerable way to explain Keynes’s ideas about how monetary systems, markets, and governmental actors can work together to drive economic growth. However, as a practical model to declare on fiscal or spending policy, it falls short.
**Hypotheses**

The following hypotheses have been developed:

H01: There is positive relationship between MPR (i.e. national interest rate) and the FPI

H02: There is positive relationship between FPI and the GDP

H03: There is positive relationship between MPR (i.e. national interest rate) and the FPI

### 4.0 FINDINGS AND DISCUSSIONS

Table 1 shows data of FDI, FPI, GDP in Million Naira and the MPR (%):

<table>
<thead>
<tr>
<th>Year</th>
<th>FDI (N' Million)</th>
<th>FPI (N' Million)</th>
<th>MPR (%)</th>
<th>Nominal GDP (N' Million)</th>
<th>Real GDP (N' Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>905,730.77</td>
<td>556,585.07</td>
<td>6.25</td>
<td>54,612,264.18</td>
<td>54,612,264.18</td>
</tr>
<tr>
<td>2011</td>
<td>1,360,307.91</td>
<td>792,360.22</td>
<td>12.00</td>
<td>62,980,397.22</td>
<td>57,511,041.77</td>
</tr>
<tr>
<td>2012</td>
<td>1,113,510.58</td>
<td>2,687,232.51</td>
<td>12.00</td>
<td>71,713,935.06</td>
<td>59,929,893.04</td>
</tr>
<tr>
<td>2013</td>
<td>875,102.46</td>
<td>2,130,179.91</td>
<td>12.00</td>
<td>80,092,563.38</td>
<td>63,218,721.73</td>
</tr>
<tr>
<td>2014</td>
<td>738,197.19</td>
<td>832,392.02</td>
<td>13.00</td>
<td>89,043,615.26</td>
<td>67,152,785.84</td>
</tr>
<tr>
<td>2015</td>
<td>602,067.82</td>
<td>498,132.22</td>
<td>11.00</td>
<td>94,144,960.45</td>
<td>69,023,929.94</td>
</tr>
<tr>
<td>2016</td>
<td>1,124,148.99</td>
<td>476,998.74</td>
<td>14.00</td>
<td>101,489,492.20</td>
<td>67,931,235.93</td>
</tr>
<tr>
<td>2017</td>
<td>1,069,417.29</td>
<td>2,604,327.74</td>
<td>14.00</td>
<td>113,711,634.61</td>
<td>68,490,980.34</td>
</tr>
<tr>
<td>2018</td>
<td>610,381.73</td>
<td>3,834,526.82</td>
<td>14.00</td>
<td>127,762,545.58</td>
<td>69,810,022.62</td>
</tr>
</tbody>
</table>

Table 2 shows data of FDI, FPI, GDP in Trillion Naira and the MPR (%):

<table>
<thead>
<tr>
<th>Year</th>
<th>FPI (N' Trillion)</th>
<th>MPR (%)</th>
<th>Real GDP (N'10 Trillion)</th>
<th>FDI (N' Trillion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>0.556585</td>
<td>6.25</td>
<td>5.461226</td>
<td>0.905731</td>
</tr>
<tr>
<td>2011</td>
<td>0.79236</td>
<td>12</td>
<td>5.751104</td>
<td>1.360308</td>
</tr>
<tr>
<td>2012</td>
<td>2.687233</td>
<td>12</td>
<td>6.321872</td>
<td>1.113511</td>
</tr>
<tr>
<td>2013</td>
<td>2.13018</td>
<td>12</td>
<td>6.715279</td>
<td>0.875102</td>
</tr>
<tr>
<td>2014</td>
<td>0.832392</td>
<td>13</td>
<td>6.731245</td>
<td>0.738197</td>
</tr>
<tr>
<td>2015</td>
<td>0.498132</td>
<td>11</td>
<td>6.902393</td>
<td>0.602068</td>
</tr>
<tr>
<td>2016</td>
<td>0.476999</td>
<td>14</td>
<td>6.793124</td>
<td>1.124149</td>
</tr>
<tr>
<td>2017</td>
<td>2.604328</td>
<td>14</td>
<td>6.849098</td>
<td>1.069417</td>
</tr>
<tr>
<td>2018</td>
<td>3.834527</td>
<td>14</td>
<td>6.981002</td>
<td>0.610382</td>
</tr>
</tbody>
</table>

Chart 1: GDP and other Variables
Chart 2: MPR and FPI

Chart 3: FPI and GDP
In the first chart, we saw steady economic growth (GDP) from 2010 to 2018 while the dependent variables of FPI, MPR and FDI have been up and down. However, our point of interest as per this research is the period of 2016 to 2018 when monetary authority pegged MPR at 14%. In the second chart, we can see that as MPR remained at 14% from 2016 to 2018 there was increase in the FPI year on year. This shows that portfolio investors found it worthy and profitable to invest in the Nigerian economy than elsewhere within the period with investment of about N477B in 2016 and rose significantly to N3.8T in 2018. In chart 3, we can deduce that the rise in the FPI contribute to the steady rise in the GDP all thing being equal within same period. Therefore, stable interest rate in Nigeria has positive effect on the growth.

It is worthy to note that we did not test for the stationary and significance of the data collected. This aspect will be put into consideration in our future works on this research. The third hypothesis (H03) was rejected because of the negative relationship between the FDI and MPR. This will tested in our future work by considering other factors.

CONCLUSION

We sought in this paper to determine the effect on an unchanged MPR on the Growth and Development of the Nigeria Economy. From the findings above, conclusions are drawn that an unchanged MPR contributes positively to the GDP of the country. A strong linear relationship existed between the MPR and GDP. However, after factoring in other dependent variables like FDI in the analysis, it was discovered that an unchanged MPR had a negative impact on the FDI. But for long term FDI can be increase. Because of stable growth and exchange rate attracts foreign investment.

Our suggestion Government of Nigeria and Central Bank of Nigeria should continue with current MPR implementation until obligatory new monetary arrangement. According to the economic recovery and growth can be decrease interest rate gradually but not rigid, in the long term.
REFERENCES