Monetary Policy Framework in Nigeria: Formulation and Implementation Challenges*

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*The views expressed in this paper are entirely that of the author and do not in any way reflect the official position of the Central Bank of Nigeria
Outline

- Introduction
- Monetary Policy Instruments
- Monetary Policy Framework
- Monetary Policy Formulation
- Implementation Challenges
- Concluding Remarks
Introduction

- Monetary Policy is the deliberate use of monetary instruments (direct and indirect) at the disposal of monetary authorities such as central bank in order to achieve macroeconomic stability.

- Macroeconomic stability refers to achievement of internal and external Balance:
  - Internal Balance here refers to:
    - price stability (Low inflation)
    - Low unemployment
    - High and stable Economic growth
  - External balance:
    - Balance of payment equilibrium
    - Exchange rate stability
Introduction...cont.

- For most central banks, the objective of price stability is given priority over others in the conduct of monetary policy.

- In some instances, however, the laws establishing the central bank impose dual mandate of low inflation and high growth...necessitating the formulation of monetary policy that attempt to strike a balance between the two goals.

- Mandates of CBN
  - The CBN Act. 2007, assigns the following mandates to CBN:
    - Ensure monetary and price stability
    - Issue legal tender currency in Nigeria
    - Maintain external reserves to safeguard the international value of the legal tender currency
    - Promote sound financial system in Nigeria; and
    - Act as banker and provide economic and financial advice the Federal Government.
Introduction...cont.

- The CBN is solely responsible for the conduct of monetary policy in Nigeria

- The General Objectives of Monetary Policy
  - Price stability
  - High and sustainable economic growth
    - (reducing the gap between actual and potential GDP in the short and medium-term)
  - Balance of payment equilibrium

- CBN monetary policy targets two major objectives
  - Price stability
  - Sustainable economic growth

- Monetary Policy is essentially the tool for executing the mandate of monetary and price stability
Institutional Framework for Monetary Policy Formulation in Nigeria

- **Monetary Policy Committee (MPC):** at the apex. Charged with the responsibility for formulating monetary and credit policy.

- **Monetary Policy Technical Committee (MPTC):** Provides technical documents on issues of interest for MPC meetings.

- **Monetary Policy Implementation Committee (MPIC):** Serves as the implementation arm of the MPC.

- **Liquidity Assessment Group (LAG):** Assesses daily liquidity situation and suggests policy actions.

- **Fiscal Liquidity Assessment Committee (FLAC):** Provides information on the operations of the Treasury to assist LAG in forecasting the liquidity level.
Monetary Policy Instruments

- Two types of instruments
  - Direct and Indirect
  - Direct monetary policy instruments is characterized by the use of:
    - Credit ceiling, Sectoral credit allocation, administrative control of interest and exchange rates, Moral suasion, movements of governments account in and out of the DMBs, issuance of stabilization securities etc.

- Indirect Monetary Policy Instruments are market-based instruments and therefore, require a well developed and functional financial market. These Instruments include

Monetary Policy Framework

- Monetary policy framework refers to the strategy that the monetary authority adopts in achieving its policy objectives

  - Exchange rate Targeting
  - Monetary Targeting
  - Interest rate Targeting
  - Inflation Targeting
  - Nominal GDP Targeting
Monetary Policy Framework...cont.

The Conduct of Monetary Policy in Nigeria

- Exchange Rate Targeting (1959-1973)
- Monetary Targeting (1973-2009)
  - Direct Monetary Control (1973-1993)
  - Indirect Control (1993-Date)
Policy Framework: Transmission mechanism..cont

- Monetary policy actions affect the real economy through a process generally referred to as the “transmission mechanism”
- It is complex, time consuming and therefore difficult to manage (Lags)
- To achieve a goal that can not be directly measured requires the employment of intermediate targets, or what is generally referred to as the nominal anchor for monetary policy.
- There are two kinds of nominal anchor:
  - Quantity-based nominal anchor
  - Price-based nominal anchor
- The quantity-based nominal anchor targets money stock while the price-based nominal anchor targets exchange rate or interest rate
- Currently, the CBN uses broad money supply (M2) as the nominal anchor
Policy Framework: Transmission mechanism..cont

- The final targets of monetary policy are macroeconomic variables, normally, the inflation rate.
- These targets are not directly affected by the central bank policy tools.
- The central bank chooses another set of variables called the operating targets (base money, reserves etc) which are more responsive to its policy tools.
- Operating and intermediate targets are used to direct the monetary policy towards the achievement of its goals.
- The criteria for choosing variable/targets include:
  - Measurability
  - Controllability
  - Ability to predictably affect goals in desired manner.
Monetary Targeting

- The Bank’s current monetary policy framework is monetary targeting with:
  - Base (Reserve) money as operating target
  - Broad money supply (M2) as intermediate target
  - Inflation as the ultimate or final target

- Both the operating target and intermediate target are employed in determining the optimum level of money stock/liquidity consistent with the assumed level of expected output growth and inflation

- This process starts with the design of a short-term monetary programme approved by MPC using the quantity theory of money
Monetary Policy Framework...cont.

- The quantity theory of money is illustrated in an equation, as:
  \[ Mv = P\Bar{Y} \]  

Where
- \( M \) = money stock / supply
- \( v \) = velocity of money (the number of times a unit of currency changes hands)
- \( P \) = Price of basket of goods transacted
- \( \Bar{Y} \) = the size of basket of goods transacted in a given period.

- **Assumptions:**
  - \( v \) and \( \Bar{Y} \) are constant, in the short term.
  - Quantity of money determined by outside forces; is the main influence of economic activity in a society.
  - The economy is operating in full employment equilibrium, and,

- The optimum liquidity level and aggregate net credit to the domestic economy are computed using the CBN balance sheet and solving the following equation:
\[ M2 = \text{NDC} + \text{NFA} + \text{OAN} \] ..........................(2)

Where

- M2 = Broad Money Supply
- NDC = Net Domestic Credit
- NFA = Net Foreign Assets
- OAN = Other Assets Net

\[ \Delta M2 = \Delta \text{NDC} + \Delta \text{NFA} + \Delta \text{OAN} \] ..........................(3)

Decomposing NDC into public and private

\[ \Delta \text{NDC} = \Delta \text{NDCg} + \Delta \text{NDCp} \] ..........................(4)

Where NDCg = Net Domestic Credit to the government sector, and NDCp = Net Domestic Credit to the private sector

\[ \Delta M2 = \Delta \text{NDCg} + \Delta \text{NDCp} + \Delta \text{OAN} \] ..........................(5)
Monetary Policy Framework...cont.

- Under the monetary targeting framework in an indirect approach, the liquidity level that is consistent with macroeconomic objectives is determined using
  - Base Money (BM) as the operating target,
  - M2 as the intermediate target while inflation is the ultimate target
- Conventionally, Base Money is made up of currency with the non-bank public, (C) and reserves of DMBs, (R), while
  - \[ R = CRR + OR \]
  - where, CRR = cash reserve Requirement and
  - OR = Other reserves
- i.e. \( C + \) DMBs deposits at CBN
Monetary Policy Framework...cont

- The main sources of base money in Nigeria:
  - Net Central Bank Claim on Government (NCBCg)
  - Net Foreign Assets of the Central Bank (NFACB)
  - Other Assets Net of the Central Bank (OACB)

- The balance sheet identity of the Central Bank can be written as:
  - $NCBCg + NFACB + OACB = C + R = BM$...................(6)

- The process of money creation derives from banks expanding money supply by a multiple of reserves

- To influence money supply, OMO is applied among other instruments
Monetary Policy Framework...cont

- $M_2 = C + D$ ................................................ (7)
- $BM = C + R$ ................................................ (8)
- $M_2 = 1 + c$ ................................................ (9)
- $BM = c + r$ ................................................ (10)
- $M_2/BM = K = (1+c)/(c+r); \ 0 < r, c < 1.....(11)$
- $M_2 = KBM = [(1+c)/(c+r)BM............(12)$
  - Where:
    - \(k\) = multiplier
    - \(R\) = DMBs’ Reserve with the Central Bank
    - \(C\) = Currency outside banks
    - \(c\) = currency/deposit ratio
    - \(r\) = reserve/deposit ratio
Monetary Policy Framework...cont

- Equation (12) can be used to estimate money supply (M2) arising from a given Base Money (BM) and the multiplier (k) through change in bank reserve (R) and currency outside bank (C) as shown above.

- Although the currency/deposit ratio (c) is a function of the cash preferences of the economic agents, it may be sensitive to interest rate movements.

- Bank reserves/deposit ratio (r) may be influenced by CBN through the use of reserve requirements.

- The Central Bank can also influence the multiplier (k) in the desired direction.
Short-Term Monetary Policy Framework in Nigeria

- Before 2002, the Central Bank of Nigeria had designed monetary policy in line with fiscal duration of one year.

- Monetary policy had always faced the problem of non-committal to both intermediate and ultimate targets.

- The optimal long-term policy was not consistent with both the short-term objectives of government and the events that emerged over time – time inconsistency problem.
## Key Policy Targets and Outcomes (%)

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
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<tbody>
<tr>
<td><strong>Targets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M2</td>
<td>10</td>
<td>14.6</td>
<td>12.2</td>
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<tr>
<td>M1</td>
<td>4.1</td>
<td>9.8</td>
<td>4.3</td>
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<td><strong>Outcomes</strong></td>
<td>31.4</td>
<td>48.1</td>
<td>27</td>
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<td><strong>Outcomes</strong></td>
<td>19.9</td>
<td>62.2</td>
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<td><strong>Agg. Credit to the Economy</strong></td>
<td>18.3</td>
<td>27.8</td>
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<td>Net Credit to Govt.</td>
<td>10.2</td>
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<td>Net Credit to Private Sector</td>
<td>19.9</td>
<td>21.9</td>
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<td>Inflation</td>
<td>9</td>
<td>9</td>
<td>7</td>
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<tr>
<td>Real GDP Growth</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>2.7</td>
<td>3.8</td>
<td>4.6</td>
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</table>
Medium-Term Monetary Policy Framework

- With effect from January 2002, the CBN adopted the medium-term perspective in monetary policy formulation.
- The medium-term framework gives the Bank the opportunity to set targets on a two yearly basis rather than on annual basis.
- However, in the course of the implementation, reviews could be made to reflect current economic developments.
Medium-Term Monetary Policy Framework

- Rationale:

- This shift was necessitated by the fact that monetary policy actions affects the ultimate target with substantial lags

- The shift freed monetary policy implementation from the problem of time inconsistency and minimized overreaction to some temporary shocks
Key Policy Targets and Outcomes

Table 2: Key Policy Targets and Outcomes (% except otherwise stated)

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
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<th>2004</th>
<th>2005</th>
<th>2006</th>
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<td>Targets</td>
<td>Outcomes</td>
<td>Targets</td>
<td>Outcomes</td>
<td>Targets</td>
</tr>
<tr>
<td>M2</td>
<td>15.3</td>
<td>21.55</td>
<td>15</td>
<td>24.11</td>
<td>15</td>
</tr>
<tr>
<td>M1</td>
<td>12.4</td>
<td>15.9</td>
<td>13.8</td>
<td>29.5</td>
<td>10.8</td>
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<tr>
<td>Agg. Credit to the</td>
<td>57.9</td>
<td>56.59</td>
<td>25.7</td>
<td>58.44</td>
<td>24.5</td>
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<td>Economy</td>
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<td>Net Credit to the</td>
<td>96.6</td>
<td>-6,316.31</td>
<td>-150.3</td>
<td>26.8</td>
<td>29.9</td>
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<td>Govt.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Net Credit to the</td>
<td>34.9</td>
<td>11.79</td>
<td>32.3</td>
<td>24.11</td>
<td>30</td>
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<td>Private Sector</td>
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<tr>
<td>Inflation</td>
<td>9.3</td>
<td>12.2</td>
<td>9</td>
<td>23.8</td>
<td>12</td>
</tr>
<tr>
<td>Real GDP Growth</td>
<td>5</td>
<td>3.48</td>
<td>5</td>
<td>10.24</td>
<td>5</td>
</tr>
</tbody>
</table>
New Monetary Policy Implementation Framework

- With effect from December 2006, the Bank introduced a new monetary policy implementation framework with the aim of:
  
  - Reducing interest rate volatility to ensure that money market rates especially the overnight interbank rates are more responsive to policy rates
  
  - Preparatory steps towards transiting to full fledged inflation targeting
New Monetary Policy Implementation Framework

- Main features of the framework
  - A new monetary policy rate (MPR) replaces the minimum rediscount rate (MRR) as anchor for monetary policy
  - The operating target is the overnight interbank interest rate
  - The transmission mechanism is largely through the term structure of interest rates
  - The intermediate target include the prime lending rates

Central Bank of Nigeria
New Monetary Policy Implementation Framework

- An interest rate corridor was introduced with the upper band representing the CBN overnight lending rate to the DMBs under Standing Lending Facility (SLF)
- The lower band represents the overnight deposit rate at which the CBN accept deposits from DMBs under (SDF)
- Provision of Standing Facility limited by collaterals
- Standing Lending Facility is a window that provides overnight lending to DMBs at a fixed rate above MPR
# Appraisal of the Current Monetary Policy Framework

<table>
<thead>
<tr>
<th>Period</th>
<th>MRR/MPR</th>
<th>CRR</th>
<th>OMO sales (N’b)</th>
<th>SLF (N’b)</th>
<th>SDF (N’b)</th>
<th>Forex Swap (N’b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>13.5</td>
<td>9.8</td>
<td>318.1</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2001</td>
<td>13.5</td>
<td>10.8</td>
<td>386.9</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2002</td>
<td>16.5</td>
<td>10.6</td>
<td>591.95</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2003</td>
<td>15</td>
<td>12.5</td>
<td>794.5</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2004</td>
<td>15.0</td>
<td>11.0</td>
<td>1099.5</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2005</td>
<td>13.0</td>
<td>5.0</td>
<td>989.9</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>2006</td>
<td>14.0</td>
<td>5.0</td>
<td>1808.4</td>
<td>1350.46</td>
<td>82.44</td>
<td>N/A</td>
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<tr>
<td>2007</td>
<td>9.5</td>
<td>3.0</td>
<td>3582.60</td>
<td>3430.69</td>
<td>15359.49</td>
<td>116.44</td>
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<td>2008</td>
<td>9.75</td>
<td>2.0</td>
<td>2331.34</td>
<td>29644.04</td>
<td>0</td>
<td>122.80</td>
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Appraisal: Volatility in OBB Rates Before (2005/06) and After (2007/08) Current MP
APPRAISAL: Uncollaterized Call Rates Before (2005/06) and After (2007/08) Current MP
Appraisal of the Current Monetary Policy Framework ...
Appraisal of the Current Monetary Policy Framework ...
Appraisal of the Current Monetary Policy Framework ...
Appraisal of the Current Monetary Policy Framework ...

- The use of MPR provides better signal of monetary policy stance than when the MRR was used.
- Inter-bank rates are stabilizing
- Deviation from M2 target in the last five years have moderated.
- Inflation rates have moderated significantly in relative terms
Key Challenges of Monetary Policy in Nigeria

- Fiscal Dominance
- Relative volatility of the inter-bank rates
- Low Level of Inter-bank Trading and
- Inadequate Infrastructure
- Banking Habit is low
- Cost of Liquidity Management
OBB rates 5-days before and after FAAC

<table>
<thead>
<tr>
<th></th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep t.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before FAAC</td>
<td>10.52</td>
<td>9.84</td>
<td>7.24</td>
<td>10.07</td>
<td>10.08</td>
<td>10.73</td>
<td>10.54</td>
</tr>
<tr>
<td>After FAAC</td>
<td>7.23</td>
<td>7.38</td>
<td>8.29</td>
<td>7.93</td>
<td>6.82</td>
<td>10.09</td>
<td>9.1</td>
</tr>
</tbody>
</table>
Low Level of Inter-bank Trading

Individual Share / Total Securities of the industry
Going Forward....

- Need for policy harmonization between monetary and fiscal authorities
- Development of the Financial Infrastructure is fundamental to efficient and effective monetary policy
- Strengthening of the legal framework
- Enhance Central Bank Independence
- Need to broaden and strengthen regulation and supervision
Going Forward...

- Inflation Targeting......?
Concluding Remarks

- This paper presents an overview of monetary policy framework in Nigeria

- The challenge of monetary policy management rest wholly on monetary authorities which has over the years been committed to its effective control

- The performance of monetary policy has improved greatly in recent times - inflation has remained at moderate levels accompanied by high growth of domestic output

- To sustain the efforts, there is need for appropriate collaboration with the fiscal authorities as well as the development of confidence in inter-bank market and the necessary financial market infrastructure is still relevant
Thanks for Listening