CENTRAL BANK OF NIGERIA

UNDERSTANDING MONETARY POLICY SERIES NO 4

LIQUIDITY MANAGEMENT IN NIGERIA

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Aims and Scope

Understanding Monetary Policy Series are designed to improve monetary policy communication as well as economic literacy. The series attempt to bring the technical aspects of monetary policy closer to the critical stakeholders who may not have had formal training in Monetary Management. The contents of the publication are therefore, intended for general information only. While necessary care was taken to ensure the inclusion of information in the publication to aid proper understanding of the monetary policy process and concepts, the Bank would not be liable for the interpretation or application of any piece of information contained herein.

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Central Bank of Nigeria

Mandate

▪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 a Sound Financial System in Nigeria

▪Act as Banker and Provide Economic and Financial Advice to the Federal Government

Vision

"To be a people-focused Central Bank promoting confidence in the economy and enabling an improved standard of living"

Mission Statement

"To **ENSURE** Monetary, Price and Financial System Stability as a Catalyst for Inclusive Growth and Sustainable Economic Development."

Core Values

Integrity

Partnership

Accountability

Courage

Tenacity

MONETARY POLICY DEPARTMENT

Mandate

To Facilitate the Conceptualization and Design of Monetary Policy of the Central Bank of Nigeria

Vision

To be Efficient and Effective in Promoting the Attainment and Sustenance of Monetary and Price Stability Objective of the Central Bank of Nigeria

Mission

To Provide a Dynamic Evidence-based Analytical Framework for the Formulation and Implementation of Monetary Policy for Optimal Economic Growth

FOREWORD

The Understanding Monetary Policy Series is designed to support the communication of monetary policy by the Central Bank of Nigeria (CBN). The series therefore, explain the basic concepts/operations, required to effectively understand the monetary policy framework of the Bank.

Monetary policy remains a very vague subject area to the vast majority of people in spite of the abundance of literature on the subject, most of which tend to adopt a formal and rigorous professional approach, typical of macroeconomic analysis.

In this series, public policy makers, policy analysts, businessmen, politicians, public sector administrators and other professionals, who are keen to learn the basic concepts of monetary policy and some technical aspects of central banking, would be treated to a menu of key monetary policy subject areas that will enrich their knowledge base of the key issues.

In order to achieve the primary objective of the series therefore, our target audience include people with little or no knowledge of macroeconomics and the science of central banking and yet are keen to follow the debate on monetary policy issues, and have a vision to extract beneficial information from the process. Others include those whose discussions of the central bank makes them crucial stakeholders. The series will therefore, be useful not only to policy makers, businessmen, academicians and investors, but to a wide range of people from all walks of life.

As a central bank, we hope that this series will help improve the level of literacy on monetary policy and demystify the general idea surrounding monetary policy formulation. We welcome insights from the public as we look forward to delivering contents that directly address the requirements of our readers and to ensure that the series are constantly updated, widely read and readily available to stakeholders.

Hassan Mahmud
Director, Monetary Policy Department
Central Bank of Nigeria

Abstracts

A good understanding of liquidity and its underlying implications on financial system stability and economic resilience is essential for the effective conduct of monetary policy. This series, therefore presents a comprehensive description of the concept of liquidity, as well as a discourse on its management in Nigeria.

The work follows a systemic approach, highlighting two distinct aspects. The first aspect provided information tailored towards achieving a better understanding of the concept of liquidity, its sources and major drivers. It further examines various techniques of liquidity management and identifies their associated instruments. The second aspect focused on country experience in liquidity management. This showcases the process of liquidity management explained within two separate but complementary processes i.e., the institutional arrangement and the information flow framework.

Various liquidity management regimes and the country's challenges in managing liquidity are also discussed. A review of the obstacles and challenges in managing liquidity in Nigeria does not only provide insights to the peculiarity of the country's financial system but also serves as a trajectory for policy actions and reforms.

CONTENTS

CHAPTER ONE

INTRODUCTION

In macroeconomic management, liquidity is critical for the conduct of monetary policy, financial sector soundness and economic growth. Consequently, efficient and effective management of liquidity is essential to the conduct of monetary policy. From the central bank's point of view, liquidity management is critical in delivering the mandate of monetary and price stability. Adequate liquidity management promotes a sound banking and financial system which provides a conducive environment for sustainable economic growth and development.

Money, the most liquid financial asset, is the live wire of any economy. Therefore, the efficient flow of funds or liquidity from surplus to deficit spending units of the economy, promotes the smooth flow of transactions to eliminate the challenges of a barter economy.

As the ultimate supplier of banking system liquidity, central banks must supply as well as maintain the level of liquidity consistent with non-inflationary growth. Inadequate liquidity could render banks incapable of performing their traditional intermediation functions and thus, send wrong signals to economic agents, thereby compromising the achievement of monetary policy objectives. It could also precipitate a run in the banking system which might exacerbate structural distortions in the economy and impede the attainment of set macroeconomic goals.

The Central Bank of Nigeria (CBN) uses its Monetary Programme to monitor and manage banking system liquidity in the country. It operates through the interbank money market, to ensure financial system stability, adequate money supply and low inflation. The Bank supervises the domestic money market, ensures the smooth functioning of the payments system and provides financial and technical support to financial institutions.

CHAPTER TWO

THE CONCEPT OF LIQUIDITY

Liquidity is defined in different ways by different people and for different purposes. As a macroeconomic concept, liquidity refers to the overall monetary conditions, indicating the extent of mismatch between demand and supply of overall monetary resources. In the context of the financial markets, however, it is defined narrowly as the ease of undertaking transactions in financial assets at narrow bid-ask spreads. It could also be defined as the availability of funds, or assurance that funds would be available, to honour all commitments for cash outflow (both on-and-off balance sheet) as they fall due. Money in its basic form of banknotes and coins is the most liquid asset and is held as a medium of exchange and store of value. On the contrary, some assets are described as illiquid because they may not be easily traded or their full market value realized at short notice. Such assets include unsecured loans to bank customers, shares of moribund companies or real estate.

From a liquidity management perspective, there are three (3) broad types of liquidity. These are central bank liquidity, market liquidity and funding liquidity. Central bank liquidity refers to deposits of financial institutions at the central bank, often known as reserves or settlement balances. These reserves are held by financial institutions to meet statutory prudential requirements, if any, and to achieve final settlement of all transactions in the payments system. Such reserves are traded in the interbank money market. Market liquidity, on the other hand, relates to the ability to buy and sell assets in reasonably large quantities without significantly affecting the asset price. Funding liquidity describes the ability of an individual or corporation to raise cash or its equivalent, again in reasonably large quantities either through asset sales or by borrowing. Using this definition, for instance, a bank is said to be liquid as far as it can satisfy the demand for money.

In constructing monetary aggregates, it is necessary to evaluate the degree of liquidity of a wide range of financial assets to be included, focusing on the extent to which each type provides liquidity and serves as a store of value. Liquidity, therefore, refers to the extent to which financial assets can be sold at short notice at, or close to, full market value. To this end, the most liquid financial assets are currency and transferable deposits as they are exchangeable immediately at their full nominal value. Financial assets other than currency and transferable deposits must possess some liquid features to be included as part of monetary aggregates. Another dimension to liquidity is the availability of credit; or the ability of institutions to borrow or take on leverage.

From the perspective of the central bank, liquidity refers to the liability of the central bank, otherwise called the monetary base, high-powered money or reserve money. This is because any change in high-powered money usually leads to a more than proportionate change in credit and money supply. The composition of the monetary base differs from one country to another and, even within a country; more than one definition may be employed. Broadly speaking, it would include all central bank liabilities to financial corporations and other sectors (excluding central government holdings of central bank liabilities other than currency). A narrower definition, however, would exclude some categories of central bank liabilities to other depository/financial corporations and/or other sectors. In Nigeria, reserve money comprises currency in circulation, required reserves of deposit money banks (DMBs) with the CBN and other reserves.

CHAPTER THREE

SOURCES AND INDICATORS OF LIQUIDITY

3.1 Sources

The four primary sources of liquidity in the financial system are: monetary financing by the central bank; net foreign assets; monetary operations; and bank rescue.

3.1.1 Monetary Financing

This involves accommodative monetary policy by the central bank by lending to the government in the form of Ways and Means Advances (WMA) as in the case of Nigeria and outright deficit financing in other jurisdictions. Any time the central bank lends to the government to finance its deficits, it is injecting liquidity into the system.

3.1.2 Net Foreign Assets/External Reserves Build up

The level of net foreign assets of the central banks and DMBs could lead to an increase in the net domestic assets of the economy. This can occur in two ways, either by government monetizing its foreign assets, and hence increasing domestic liquidity or through the monetization of private flows by individuals and corporate organizations. Through this process, liquidity is injected into the financial system.

3.1.3 Monetary Operations

Central banks intervene in the domestic money market from time to time through open market operations (OMO) to alter liquidity conditions. This is achieved through the sale or purchase of treasury bills and foreign currency, complemented by REPO, Reverse REPO, standing deposit and standing lending facilities as well as trading in special instruments.

3.1.4 Bank Rescue

This is another source through which liquidity is injected into the financial system. As the central bank or government injects funds into a bank to shore up its capital base, liquidity is injected into the banking system.

3.2 Indicators of Liquidity Conditions

Economic managers are always interested in the liquidity conditions of the banking system. To do this effectively, some variables are employed to gauge the level of banking system liquidity. In this regard, the major indicators or variables relied upon to ascertain the level of liquidity in the banking system are, interest rates, closing balances of the DMBs with the central bank and the level of transactions in the standing facilities windows.

3.2.1 Interest Rate Movements

Generally, movements in the interbank interest rates vis-à-vis the policy rate indicate the level of liquidity in the banking system. As the level of liquidity in the banking system declines, interbank interest rates tend to rise. On the other hand, when the banking system is sufficiently liquid, interbank interest rates tend to fall.

3.2.2 Deposit Money Banks' Closing Balances

The daily closing balances of DMBs with the central bank reflect the level of liquidity in the banking system. Significantly low balances, other than the statutorily required reserves, indicate tight monetary conditions, while large balances signify that the system is highly liquid. Interbank rates are thus inversely related to the movement of the daily balances of the banking system.

3.2.3 Level of Transactions in the Money Market

The high level of activity in repurchase transactions is an indication that the market is tight, due to insufficient funds in the market. However, when the interbank market is faced with excess liquidity, banks tend to engage in reverse repos or place their excess funds at the standing deposit facility window.

3.2.4 Standing Facilities Window (Lending and Deposit)

High demand for central bank standing lending facility by money market operators is another indication of tight monetary conditions in the money market. During periods of liquidity shortage, money market operators access the standing lending facility window more frequently, requesting for large credit facilities to square up their positions at the close of business daily. In times of surplus, however, money market operators access the standing deposit facilities window to lodge their excess funds.

3.3 Techniques and Instruments of Liquidity Management

The techniques of liquidity management can be divided into two broad categories namely: Direct and Indirect techniques.

3.3.1 Direct Technique

The direct technique of liquidity management involves direct control of DMB assets/liabilities by the monetary authority to influence the quantity or price of money and credit in the banking system. This method is employed mainly in developing economies where the financial infrastructure necessary for operating indirect liquidity control is absent or underdeveloped. It employs instruments that tend to restrict DMBs from increasing their assets and liabilities at will. Examples of instruments of direct liquidity control are quantitative ceilings on bank credit, selective credit controls and administered interest and exchange rates. Though the direct technique of liquidity management might be an effective monetary control mechanism, its disadvantages far outweigh the advantages. It could lead to arbitrary allocation of scarce resources, devoid of market mechanism; credit ceiling circumvention by DMBs; encouragement of financial disintermediation; and inhibition of competition.

3.3.2 Indirect Technique

The indirect technique employs market-based instruments and requires a good level of financial market infrastructure to be effective. Most indirect or market-based instruments aim at the balance sheet of the central bank. They operate by taking advantage of the relationship between money and reserve money, and the special role of the central bank in the creation of reserve money. The central bank controls the price or quantity of the supply of its own liabilities which in turn can affect either (i) market interest rates or the quantity of money and credit in the banking system or (ii) the exchange rate. The market-based method relies on the power of the monetary authority to influence the availability and the rate of return on financial assets, thereby, affecting both the desire of the public to hold money balances and the willingness of financial agents to accept deposits and lend to users. The most common types of indirect instruments are the Open Market Operations (OMO), discount window operations, standing facilities window, reserve requirements and foreign exchange swaps.

CHAPTER FOUR

LIQUIDITY MANAGEMENT IN NIGERIA

4.1 An Overview

Liquidity management involves the control of the level of liquidity in the economy to maintain monetary and financial stability. Adequate control of liquidity is essential to achieve price stability as too much or too little liquidity affects the behaviour of banks, and indirectly the economy. In Nigeria, the central bank has, over the years, controlled the volume of liquidity in the banking system by employing various techniques and instruments depending on the level of development of the financial system. To achieve the objective of optimum liquidity, some processes and institutional arrangements are put in place.

4.2 The Process of Liquidity Management

The process of liquidity management is part of the larger risk management framework of the financial services industry against the background of the need to deliver on the mandate of monetary and price stability. The process could be direct or indirect, depending on the overall direction of policy. The direct system of liquidity management involves direct control of DMBs through regulations by the monetary authority to affect the quantity or price of money and credit. In this analysis, we focus on the indirect process of liquidity management because the advantages of direct controls are usually short-lived, while their disadvantages increase over time.

The indirect process of liquidity management is based on the employment of market-based instruments and requires, in most cases, some level of development of market infrastructure to be effective. The indirect process of liquidity management operates by taking advantage of the relationship between money and reserve money and the unique role of the central bank in the creation of reserve money.

The central bank controls the price or quantity of its own liabilities which in turn may affect either (i) market interest rates or the quantity of money and credit in the banking system or (ii) the exchange rate. The market-based method, used mainly in developed financial systems, relies on the power of the monetary authority to influence the availability and rate of return on financial assets, thereby, affecting both the desire of the public to hold money balances and the willingness of financial agents to accept deposits and lend to users. The process involves the following:

4.3 Objectives of Liquidity Management

Although the process of liquidity management differs among central banks depending on the nature and complexity of their operations as well as their risk profiles, identifying the overall objective of monetary policy is the first step in the process of liquidity management; and this becomes the determining factor of the overall success of the process. The objectives of liquidity management are basically to:

- honour all cash outflow commitments (both on- and off-balance sheet) on an ongoing, daily basis;
- avoid raising funds at a market premium or through the forced sale of assets; and
- satisfy statutory reserve requirements (liquidity ratio and cash reserve requirement).

(i) Targets

Target setting is an important activity in the liquidity management process. Targets are designed to generate an assessment of achieved performance. Setting appropriate and realistic targets is vital in the liquidity management process. Target values are used to evaluate performance measurement data, usually to assess performance achieved, compared with expected performance.

(ii) Indicators

An identification of the leading indicators such as interest rates, DMB balances, and transactions at the SDF/SLF windows, is also carried out to gauge performance against targets. The CBN uses these key performance indicators (KPIs) to evaluate its success in the liquidity management process.

(iii) Instruments

Currently, the CBN has a comprehensive set of instruments for conducting monetary operations. The use of market-based instruments such as treasury instruments and discounting of securities are favoured where the financial system is relatively well developed. In both cases, macro-prudential ratios such as reserve requirements are employed as complementary measures. In performing this task, central banks, especially in developing countries have had to develop the money market as well as facilitate the development of the payments system. To assist central banks, achieve the mandate of price stability, an effective liquidity management framework is imperative to analyze developments in the economy.

The process of liquidity management must have the following features to function effectively:

a. Central Bank independence;

b. Policy transparency to send the right signals to the market and to ensure market discipline and effective participation;

c. Sensitivity for output growth and price fluctuations; and

d. Financial stability.

Following these features, the process of liquidity management can be explained under two separate but complementary frameworks. These are the institutional arrangement and information flow framework.

4.4 The Institutional Process of Liquidity Management

As the ultimate supplier of banking system liquidity, the central bank must supply, as well as, maintain the level of liquidity that is consistent with non-inflationary output growth. In situations where the financial system is underdeveloped, administrative fiat of managing liquidity becomes handy.

The level of excess/deficit reserves, i.e. the amount by which current reserves are above or below target is discussed at the weekly meeting of the Monetary Policy Implementation Committee (MPIC) and the implementing Departments (Trade & Exchange Department [TED] and Financial Markets Department [FMD]), are advised on appropriate actions to take after members reach a consensus. The institutions that operate in the process of liquidity management can be classified in various ways, depending on the use to which the classification is to be put. The institutions involved in the process of liquidity management in Nigeria can be classified into three groups namely:

4.4.1 The Monetary Authority

This is the agent of government with direct responsibility for designing and implementing monetary policy. In Nigeria, between 1959 and 1999, the Presidency, Federal Ministry of Finance, and the Central Bank of Nigeria were jointly responsible for this task but since 1999, it has been the sole responsibility of the Central Bank of Nigeria.

4.4.2 The Facilitators

The facilitators operate largely to support the monetary authority to execute monetary policy as well as improve the effectiveness and efficiency of the financial system. The facilitators in Nigeria include the Nigerian Deposit Insurance Corporation and Discount Houses.

4.4.3 The Operators

Deposit Money banks and other specialized banks, e.g., Microfinance banks, Merchant banks, Development banks etc. are the principal agents through which the CBN conducts monetary operations. The main market is the domestic money market (comprising primary and secondary segments) and foreign exchange market. At the primary segment of the money market, treasury instruments of 91 – 182 and 364-day tenor are sold weekly, mainly to raise revenue for the government, from banks and non-bank public, while the unsubscribed portion is underwritten by the CBN. In recent times however, given the near market rate of treasury instruments, Treasury bills (TBs) are often over-subscribed.

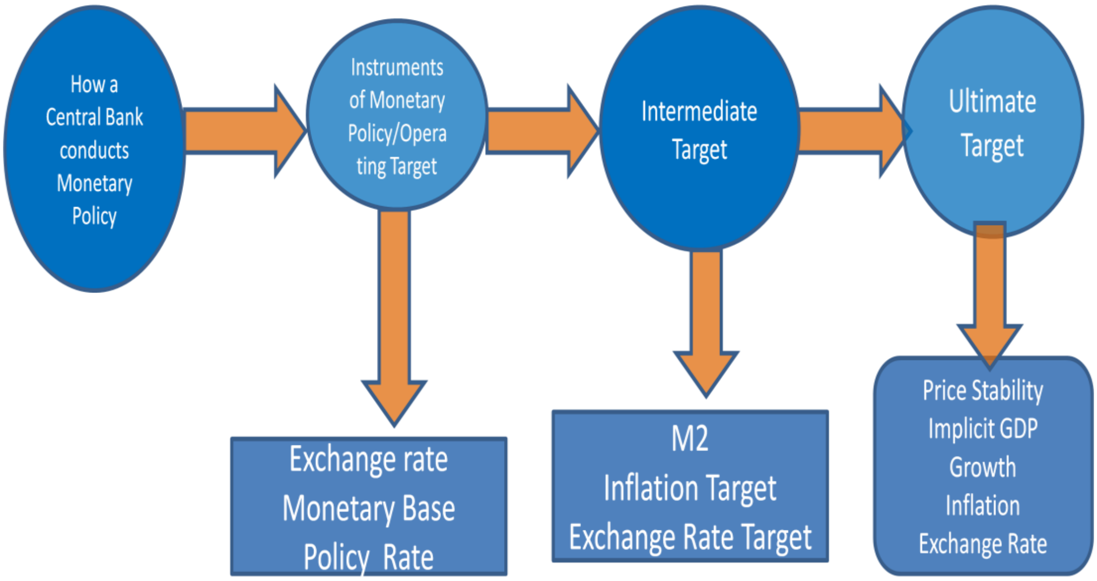
4.4.4 The Secondary Market

The CBN implements its monetary policy in the secondary market through the conduct of open market operations in which various securities are bought and sold, depending on how it wants to influence liquidity conditions in the banking system. At inception banks as well as discount houses submit their bids but must do so through discount houses. Since the second half of 2005, both banks and discount houses had equal access to the CBN window. Although, the operation was formally conducted as an auction, there is no fixed amount, and the rate is set in a manner similar to the primary market for Treasury Bills.

OMO securities have tenors ranging from 14 to 66 days, while reverse repos are for shorter durations. With the introduction of the new monetary policy framework in 2006, a new Monetary Policy Rate (MPR) was introduced to replace the Minimum Rediscount Rate (MRR). The purpose of the MPR was to ensure that rates were market-driven and to reduce interest rate volatility. The MPR was thus, designed to signal the direction of policy.

Apart from the domestic money market instruments, the CBN uses the sale of foreign exchange at the wDAS window to withdraw liquidity from the banking system, although in general the CBN's activities in the foreign exchange market appear to be driven mainly by foreign exchange considerations and less on monetary conditions. For instance, liquidity may be tightened if there is reasonable speculative demand for foreign currency. In addition, swaps were introduced to mop excess liquidity from the banking system. However, swap transactions are carried out mainly for monetary policy purposes where other instruments fail to effectively remove excess liquidity.

Process of Liquidity Management



4.5 Assessment of Daily Liquidity Position

The process of liquidity management involves the constant assessment of the liquidity path to enable the central bank to decide the direction of monetary policy. On a day-to-day basis, the Liquidity Assessment Units of the relevant Departments in the Bank assess the daily liquidity position of the entire banking system as well as for the economy. The liquidity position of the banking system consists mainly of the balances of deposit money banks.

The DMB balances consist of bank deposits and their other reserves, while overall system liquidity (reserve money) includes currency in circulation. However, Reserve money is of utmost importance as this is is influenced by the central bank on a day-to-day basis to control money supply. Often referred to as the operating targets (base money, reserves, etc.), it is more responsive to the central bank's policy tools. The demand for and supply of liquidity can be derived from the central bank's analytical balance sheet. In the manner of IMF Monetary and Financial Statistics Manual (2000), we present a simplified stylized balance sheet of the central bank.

Table 4.1
Stylized Central Bank Balance Sheet

Assets	Liabilities
Net foreign assets	Currency in circulation
Net position of the government	Banks' reserves
Lending to banks/OMO	Free reserves
Other items net	

4.6 The Liquidity Forecasting Template

Liquidity forecasting is a critical element in the overall monetary management framework. This is because it provides short horizon inputs for tracking day-to-day changes in the central bank balance sheet, currency in circulation and bank reserves, as well as forecast of their future values. The overall objective of liquidity forecasting is to provide quantitative guidance for the appropriate level and direction of monetary operations. Liquidity forecasting is aimed at monitoring the day-to-day path of the central bank's balance sheet with a view to determining the future course/path of liquidity in the system. The main purpose of producing short-term liquidity forecasts is to create an information set, which puts the central bank in a position to moderate changes in liquidity conditions.

Nigeria: Daily Liquidity Forecasting Template (In Naira Billion)

Adjusted Base Money (Reserve Money) - (D)
Target Base Money

Excess/shortfall of Base Money (- ve =shortfall, +ve =excess)

Opening Reserves

Autonomous Supply/withdrawal of Reserves

changes in net foreign assets

DAS Purchases (+)
DAS sales (-)
Bills Office sales (-)
Travelex transaction (-)
BDC Sales (-)
JVC Accounts (-) (+)

changes in net position of Federal Govt Revenue (-)

Expenditure (+)

Changes in other items net (-) (+)

Changes in currency in circulation (-) (+)

Demand for reserves

changes in required reserves (-) (+) changes in Other reserves (-) (+)

Supply of liquidity before CBN Action

Supply /withdrawal of liquidity by CBN policy actions

Supply /withdrawal of liquidity by CBN policy actions (t - 1) maturing transactions Primary Treasury bills (+)

Maturing OMOs (+)

Maturing repos/Lending Facility (-)

Maturing reverse repos/Deposit Facility

Supply/ withdrawal Maturing CBN Bills **of liquidity by CBN policy actions(t)**

Current transactions

CBN Bills (-)

Primary market purchases(-)

Discount window operations (+)

4.7 Assessment of External Liquidity Position

The bi-weekly foreign exchange auctions and the sale of foreign exchange to BDCs lead to significant daily withdrawal of liquidity from bank reserves. In addition, the system's demand for reserves varies daily, reflecting factors such as the requirements for banks to hold additional reserves on the day of a foreign exchange auction to pre-fund their bids.

4.8 Projections/Estimates of Macro Variables

Liquidity forecasting is a critical element in the overall liquidity management process. This is because it provides a short horizon of inputs for tracking day-to-day changes in the balance sheet of the central bank, currency in circulation and bank reserves, as well as forecast of their future values. The objective of the forecast is to provide quantitative guidance for the appropriate level and direction of monetary operations. There is also financial programming which encompasses a longer-term perspective and sets targets for base money and monetary aggregates, liquidity forecasting deals with day-to-day projections of reserve money to ensure that monetary policy achieves its set objectives.

Base money forecast is the result of both autonomous and CBN policy actions, which is compared with the target for each period. Where the current outcome and the forecast for the rest of the period is above the target level, there would be need for restrictive policy actions to take reserve money back to the desired level.

4.9 Assessment of Balance of Risks

There is a monthly disbursement cycle, which imposes a pattern of expenditure on the Federal, States & Local Governments and Ministries, Departments & Agencies of Government following the distribution of funds from the Federation Accounts Allocation Committee (FAAC). The variation in both supply and demand for bank reserves, leads to large movements in money market rates. The liquidity management process assesses the following risk elements;

- Opening reserves: Opening reserves comprise the closing balance of the previous day.

- Autonomous factors: Autonomous factors are those factors that are beyond the control of the central bank. They include:

  i) Changes in net government position (Banking & Payment System Department (BPSD);)

  ii) Changes in other items net

  iii) Changes in currency in circulation (Finance Dept. [FD]). The application of the time series approach is being used to forecast CIC. This involves the use of deterministic time series models;

  iv) Net foreign assets (wDAS sales and forex sales to BDCs by Trade and Exchange Department (TED) and Reserve Management (RM) or Financial Markets Department (FMD).

  v) Demand for Reserves: Demand for bank reserves consists of those reserves held for fulfilling reserve requirements of the CBN and other reserves (free reserves). While the computation of changes in required reserves is done on monthly basis by Banking Supervision Department (BSD), the change in other reserves is computed using moving averages.

4.10 CBN's Policy Actions

The CBN's policy actions are designed to affect the level of liquidity in the economy. They include wDAS and BDC sales by Trade and Exchange Department, OMO operations, Discount window operations, repo/lending facility, reverse repo/deposit and swaps by Banking & Payment System Department. The actions are divided into transactions carried out the previous day(s), (t-1) and current day (t). The t-1 transactions refer to the unwinding of sales/purchases of OMO reverse repos in the money market and swap transactions in the wDAS.

4.11 The Institutional Arrangements

(i) The Monetary Policy Committee (MPC)

The Monetary Policy Committee (MPC) is the committee responsible for making monetary policy in the CBN. The process of liquidity management by the Bank starts with the design of a short-to-medium term monetary programme. Periodic targets of reserve money that are consistent with non-inflationary growth are set. Liquidity assessment and forecast are carried out regularly to determine the current liquidity position as well as its future path to guide policy decisions and interventions.

The Committee, which is chaired by the Governor of the CBN, meets every two months or may hold special meetings regularly to make monetary policy decisions. It is served by many operational committees highlighted hereunder.

(ii) The Monetary Policy Technical Committee (MPTC)

The MPTC keeps track of economic and financial system developments on a monthly basis and provides technical support to the MPC. The Committee is chaired by the Deputy Governor, Economic Policy and is represented by the Director, Monetary Policy Department (MPD), whenever the DG is absent. The MPTC meets once a month and one week before the MPC meeting to deliberate on developments in the global and domestic economies and present its report to the MPC at its bi-monthly meetings.

(iii) The Monetary Policy Implementation Committee (MPIC)

The MPIC serves as the implementation arm of the MPC. It is chaired by the Deputy Governor (Economic Policy). The Committee is responsible for the review and implementation of monetary policy as decided by the MPC. It meets weekly to assess the liquidity position of the banking system and to review issues regarding banking system infrastructure to ensure a seamless operation of the interbank money market.

(iv) The Liquidity Assessment Group (LAG)

The LAG meets daily to assess liquidity conditions in the economy and to suggest policy actions to be taken on each day in both foreign exchange and domestic money markets. It follows up the implementation of monetary policy measures and reports to the MPIC. The LAG is chaired by the Director, Financial Market Department (FMD) with the Director, Trade and Exchange Department (TED) as the alternate Chair.

(v) The Fiscal Liquidity Assessment Committee (FLAC)

The FLAC meets weekly, with membership drawn from relevant CBN departments that have responsibility for monetary policy formulation, operations and monitoring; and ministries, departments and agencies of the Federal Government involved in fiscal operations. The terms of reference of the Committee include: (a) providing information on the operations of the Treasury to the Liquidity Assessment Group (LAG) for forecasting the level of liquidity in the economy; (b) providing policy advice on fiscal issues to the Management of the Bank; and (c) generating a robust database on the operations of the Treasury that have implications on domestic liquidity. The Committee is chaired by the Director, Monetary Policy Department.

CHAPTER FIVE

LIQUIDITY MANAGEMENT REGIMES IN NIGERIA

The CBN has applied both the direct and indirect methods of liquidity management to ensure that adequate level of system liquidity required to achieve the Bank's objective is available to economic agents. The direct approach was applied from 1959-1993 while the indirect or market-based method has been in operation since 1993.

5.1 Era of Direct Control (1959 – 1993)

The period between 1959 and 1993 witnessed the use of direct method of liquidity management in the implementation of monetary policy. It involved the use of direct instruments which were, fine-tuned to suit the needs of the economy at various times. Under this approach, the CBN simply fixed liquidity and monetary policy instruments such as interest rates, cash reserve requirements and liquidity ratios by administrative fiat. Other administrative instruments were aggregated with sectoral credit ceilings, stabilization securities, and transfer of the accounts of Ministries, Departments, and Agencies (MDAs) of the Federal Government to the CBN. Another feature of the period was the underwriting of a large portion of treasury instruments by the CBN due to the underdeveloped nature of the money market at the time. Liquidity management under the direct control method was characterized by the lack of competition in products/services and prices amongst DMBs.

5.2 Era of Indirect Liquidity Management (1993 – Date)

In 1993, the CBN introduced the indirect or market-based technique of liquidity management using its Open Market Operations (OMO). The instruments of OMO are Nigerian treasury bills (NTBs), CBN bills and special NTBs. These are complemented by the traditional prudential guidelines of cash reserve ratio (CRR) and liquidity ratio (LR). In addition, the Monetary Policy Rate (MPR), intra-day facility, the Standing facilities, discount window/expanded discount window (EDW) operations, Repo and Reverse repo as well as foreign exchange swap transactions were introduced to augment the effectiveness of OMO. As part of the developmental efforts of the CBN, discount houses (DHs) were licensed to act as intermediaries to warehouse and create the market for treasury bills.

OMO, which is a market-based technique, involves the purchase and sale of government securities to influence the ability of deposit money banks (DMBs) to create credit. Under OMO, the Bank influences the volume of deposit money bank reserves and indirectly influences the level of interest rate as well as the availability of credit and money supply and ultimately the investment and consumption decisions of economic agents.

The MPR replaced the Minimum Rediscount Rate (MRR) in December 2006 to serve as the operating target rate of the Bank. The main operating principle of the MPR, which has an interest rate corridor, is to control the supply of settlement balances of banks and motivate the banking system to target zero balances at CBN, through active interbank trading or transfer of balances at the CBN. The upper limit of the MPR corridor serves as the applicable rate for the standing lending facility while the lower limit applies to the standing deposit facility.

The standing facilities encourage interbank trading, thereby deepening the money market, smoothening or eliminating volatility of short-term overnight interest rates, providing liquidity in the money market, reducing or eliminating excess bank reserves and influencing other rates in the economy.

The severe liquidity shortage experienced by the banking system in 2008, due to the global financial crisis led to the introduction of the Expanded Discount Window (EDW). The EDW involved extending the tenor of liquidity provided through the discount window from overnight to maturities of up to 360 days. Also, non-Federal Government bills were admissible at the EDW. These were: NDIC Accommodation Bills; State Government Bonds; Bankers' Acceptances/ Guaranteed Commercial Papers/Promissory Notes and any other instruments approved by the Bank. In July 2009, the EDW was replaced with the CBN Guarantee of interbank transactions. This was to reinforce confidence and trading in the market to enhance liquidity in the market.

Foreign exchange swap, which is employed in cases of domestic money market liquidity surfeit, is a simultaneous purchase and sale of identical amounts of one currency for another with two different value dates (normally spot and forward). The foreign exchange swap was used by the Bank as part of the liquidity contracting measures taken to meet reserve money targets. This policy action was successfully employed during the period the Bank had the Policy Support Instrument (PSI) programme with the International Monetary Fund (IMF) from July 2005 to June 2007.

5.3 Challenges of Liquidity Management in Nigeria

The financial system in Nigeria is largely structured along the dividing lines of urban/rural and formal/informal. The combined effects of financial dualism and low level of investor sophistication impede the responsiveness of market-based liquidity management initiatives.

A major challenge to liquidity management in Nigeria is the unreliability of forecasts of fiscal revenue and expenditure profile, due to the volatility of oil output and price, which account for about 80.0 per cent of the fiscal revenue. Large swings in fiscal revenues tend to distort the smooth flow of liquidity in the system. As a result, it is extremely difficult to manage fiscal liquidity in Nigeria, using any of the above approaches.

In the past, recourse by fiscal authorities to financing deficits through ways and means tended to generate fiscal dominance which weakened monetary policy effectiveness. There is a need to further strengthen the complementary relationship between fiscal and monetary policies to reduce the incidence of fiscal surprises and the consequent mop-up operations by the central bank.

The poor state of the payments system infrastructure is another challenge to liquidity management in Nigeria. The existing payments system infrastructure is limited in terms of reach, depth and credibility.

The current bank branch/population ratio is inadequate for the effective flow of liquidity in the Nigerian economy. Efforts should therefore be made by the authorities to expand the payments system infrastructure and strengthen the supervisory and regulatory framework of the banking sector in Nigeria.

BIBLIOGRAPHY

Bank of Jamaica (2005). Standards of Sound Business Practices- Liquidity Management.

Gray, S. (2007). Liquidity Forecasting. *Paper presented at a Seminar on Liquidity Forecasting for the Monetary Policy Department CBN*, at the Chelsea Hotel, Abuja.

IMF (2000). *Monetary and Financial Statistics Manual.* Washington, D. C.: IMF Publication Services.

Reserve Bank of India (2002). A Short-term Liquidity Forecasting Model for India. *Reserve Bank of India*, Mumbai, India.

GLOSSARY OF SELECTED TERMS

Bid-Ask Spread
Also called the bid/offer spread, is the difference between the price quoted by a market-maker for an immediate sale (bid) and an immediate purchase (ask) of a security (such as stocks, futures, contracts, options, or currency pairs).

Cash Reserve Requirement (CRR)
The CRR is the proportion of specified total deposit liabilities of DMBs that is kept with the central bank. It is referred to as reserves.

CBN Certificates/Bills/Special NTBs
These are interest-bearing instruments issued by the central bank for liquidity management purposes. The instruments which are usually held to maturity are non-rediscountable and non-tradable. These classes of instrument were once used in 2001, 2005, and 2006 respectively by the CBN.

Deflation
This is a sustained and persistent decline in the general price level. In Nigeria, it is measured by the percentage change in the CPI between two periods.

Discount Window Operations
This is a lending outlet by the central bank to DMBs and Discount Houses (DHs) experiencing temporary funding needs that could not be met on reasonable terms from the money market, to adjust their liquidity positions.

Expanded Discount Window (EDW)/CBN Guarantee
The Expanded Discount Window (EDW) involves extending the tenor of liquidity provided through the discount window from overnight to maturities of up to 360 days and making non-Federal Government bills admissible. The EDW was succeeded by the CBN Guarantee of all transactions in the interbank market.

Financial Sector
A country's financial sector includes banks, discount houses, securities & exchanges, pension funds, insurers and their regulatory agencies.

Financial System Stability
A stable financial system is resilient to internal and external shocks.

Inflation
Inflation is a sustained and persistent rise in the general price levels. In Nigeria, it is measured by the percentage change in the consumer price index (CPI) between two periods.

Interbank Money Market
This is a short-term money market where banks lend to/or borrow from each other.

Intra-day Facility
This is a facility created by the central bank to enhance access to temporary liquidity by DMBs within a business/working day.

Liquidity Ratio (LR)
This is the ratio of the specified total liquid assets to the total current liabilities of DMBs. The LR is kept in liquid instruments such as cash, treasury bills, treasury bonds, and other specified liquid securities.

Monetary conditions
This refers to the prevailing level of liquidity, credit, interest rates, and exchange rates in the financial market.

Monetary Policy
This refers to the regulation of money supply and interest rates by a central bank to achieve certain macroeconomic objectives such as low inflation.

Monetary Policy Rate (MPR)
The Monetary Policy Rate (MPR) is the interest rate set by the Central Bank of Nigeria to serve as an indicative rate for transactions in the interbank money market, and eventually other interest rates of DMBs.

Moneyness
This is the extent to which a financial asset can be converted to cash at/or close to full market value at short notice.

Nigerian Treasury Bills (NTBs)
NTBs are short-term negotiable securities of the Federal Government of Nigeria that are issued for various tenors not exceeding 364 days.

Non-inflationary growth
Economic growth is usually associated with a low and stable level of inflation.

Open Market Operations (OMO)
OMO is a market-based technique employed by central banks to purchase or sell securities in the financial markets, to influence the volume of liquidity and levels of interest rates which ultimately will affect the money supply.

Price Stability
Price stability means low and stable inflation.

Repurchase Agreement (Repo)
A repurchase agreement is the sale of securities for immediate payment and the commitment by the seller to buy back the securities later, under an agreed term. Repo transaction helps to inject liquidity into the banking system.

Reverse Repo
This is done at the instance of the DMBs, whenever there are surplus funds in the banking system. Reverse Repo is used to withdraw funds from the banking system.

Stabilization Securities
These are non-negotiable and non-transferable instruments of the central bank that are usually not eligible for classification as liquid assets.

Stagflation
This situation arises when both inflation and unemployment rates are high in an economy, i.e. an economic condition where both inflation and economic stagnation occur simultaneously.

Standing Lending and Deposit Facilities
The standing lending and deposit facilities provide overnight accommodation to banks with deficit balances and remunerate banks with surplus funds. The interest rate on the standing deposit facility is usually below the MPR, while that on the standing lending facility rate is usually above the MPR.

Ways and Means
This constitutes a portion of credit by the CBN to the government. These are temporary loans to the government to bridge short fall of revenue.