CENTRAL BANK OF NIGERIA

UNDERSTANDING
MONETARY POLICY SERIES
NO 2

CENTRAL BANK OF NIGERIA
MONETARY PROGRAMME

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.

Subscription and Copyright

Correspondence

Enquiries concerning this publication should be forwarded to: Director, Monetary Policy Department, Central Bank of Nigeria, P.M.B. 0187, Garki, Abuja, Nigeria, E-mail: info.dmp@cbn.gov.ng

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

This series provides a non-technical explanation of the Monetary Programme with the aim of providing a simplified outline of the internal workings of monetary policy. A Monetary Programme employs Financial Programing techniques to derive targets on monetary aggregates, consistent with desired macroeconomic objectives, under a monetary targeting framework of monetary policy. The theoretical framework is derived mainly from the absorption approach in which two main gaps, namely saving-investment gap and current account balance gap, are crucial for macroeconomic management in small open economies. The financial programming involves all the four sector macroeconomic accounts, namely: the Real Sector (National Accounts); External Sector (Balance of Payments Accounts); Fiscal Sector (Government Finance Accounts); and Monetary Sector (Monetary Accounts). The programme is based on the interrelationship among the macroeconomic accounts to ensure both internal and external balance. The benefits of financial programing include comprehensiveness, consistency, and forward-looking approach, among others. The major drawbacks, however, are its weak theoretical basis, econometric bias, and inadequate transparency in its iterative process.

Keywords: *Monetary programing, monetary policy, real sector, fiscal sector, external sector, and monetary sector*

CONTENTS

CHAPTER 1

BASIC CONCEPTS IN MONETARY PROGRAMMING

1.1   Introduction

Financial Programming is one of the most widely used models in macroeconomic policy. It is used to derive monetary measures to achieve desired macroeconomic targets by utilizing monetary, balance of payments, and fiscal identities. The accounting framework is very helpful in policy simulations as well as analyzing the impact of various policy options.

The Central Bank of Nigeria is the institution vested with the responsibility for designing monetary policy which has to be consistent with the overall macroeconomic objectives of the Federal Government. The monetary programme, also known as a financial programme, enables the Bank to determine the level of money supply and credit that would be adequate for the economy to achieve desired policy objectives.

A monetary programme encompasses all the four sector macroeconomic accounts, namely: The Real Sector (National Accounts); External Sector (Balance of Payments Accounts); Fiscal Sector (Government Finance Accounts); and Monetary Sector (Monetary Accounts). The macroeconomic objectives in a programme are set to enable the achievement of both internal and external macroeconomic balance. Internal balance implies low and stable inflation, sustainable economic growth, and low level of unemployment, while external balance refers to favourable terms of trade/positive Balance of Payments (BOP) position and stable exchange rate.

The process of designing the Central Bank of Nigeria's monetary programme involves the review of developments in the economy over a specific period, setting baseline requirements and targets that would enable the economy to move towards the desired equilibrium position. The key monetary aggregates in the programme are Broad Money Supply (M3 and M2), Narrow Money (M1), Reserve Money (RM), Credit to the Government (Cg), Credit to Private Sector (Cp) and Net Foreign Assets (NFA). Two consequential monetary variables, Money Multiplier (mm) and Income Velocity (v), are also determined under the Monetary Programme. Theoretically, the money multiplier and income velocity are assumed to be stable over time.

1.2   Theoretical Framework

There is a common mistake among policymakers and academics in most countries to regard Financial Programming as an IMF adjustment program but the reality is that while the Programme is widely utilized in most of the Fund's support programs, it has a strong theoretical underpinning in macroeconomics. Financial programming sometimes referred to as the "monetary approach to the balance of payments" is a framework that utilizes financial analysis to achieve a balance of payments, price stability, and satisfactory rate of output growth. As part of the basic requirements for achieving this outcome, the programme is built on the financial analysis of a proposed policy measure, while considering the accounting relationship among the four macroeconomic accounts.

The theoretical framework is rooted in the absorption approach which was later transformed by Polak (1957) and Robichek (1967, 1971). The two authors proposed that in an open economy operating a fixed exchange rate regime, the money supply is an endogenous variable and is influenced by the balance of payments position. The approaches the two authors mainly integrate monetary and credit conditions into the balance of payments analysis through which a relationship was derived between the domestic component (domestic credit) of the money stock and changes in external reserves. The proposition is represented by equation (1) below.

$$\Delta M = \Delta R + \Delta D \quad \dots\dots\dots\dots\dots\dots \text{eq (1)}$$

Where

M = the stock of money,

R = domestic-currency value of net foreign assets of the banking system (external reserves),

D = net domestic assets of the banking system (domestic credit),

Δ = a one-period change.

Equation (1) is an identity, representing the balance sheet relationship for the banking system, where liabilities (money) are equal to the sum of foreign and domestic assets.

The second building block in a financial programing framework is the money demand function, which can be specified in a number of ways. The specification could be in the form of a general relation in which (nominal) demand for money is related to variables such as domestic income, prices, and the opportunity costs of holding money. Alternatively, the specification could take a specific form in which a constant income velocity of money is assumed.

If we assume a general function of demand for money

$$\Delta M^d = f (\Delta y, \Delta P \dots) \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots (2)$$

Where

ΔM^d = change in nominal money balances

Δy = change in real income

ΔP = change in the domestic price level

Other unspecified variables would presumably include interest rates, wealth, and expected inflation, among others

A highly restrictive form of equation (2) would relate the change in nominal money (ΔM^d) to changes in nominal income (ΔY):

$\Delta M^d = k\Delta Y$ --------------------------------------(3)

Where

K = inverse of the income velocity of money and assumed to be constant over time.

The third building block in the model attempts to define a flow equilibrium in the money market, which is a condition that equates change in the demand for money with the change in the actual supply of money: This is represented by equation 4 below:

$\Delta M^d = \Delta M$ ----------------------------(4)

The three components expressed in equations 1, 2, and 4 could be combined to produce an equation that captures the change in net foreign assets (NFA). The new equation represents the balance of payments, which is the difference between the change in the money stock and the change in domestic credit. This is represented by equation 5 below:

$\Delta R = \Delta M - \Delta D = f(\Delta y, \Delta P \ldots) - \Delta D$ ....(5)

Equation 5 implies that the balance of payment would be surplus (NFA will be positive) if the change in the money stock is greater than a change in domestic credit.

Equation 5 could be extended by incorporating the relationship between income and expenditure as well as the role of private capital movements in an open economy. The demand for money function is still retained while the relationship between income and absorption is introduced.

$CA = Y - A$ ……………………………..(6)

Where

CA = Current account balance

Y= Income

A = Output

The current account balance must be equal to the difference between changes in the net foreign assets of the banking system and the net foreign indebtedness of all non-bank residents,

$CA = \Delta R - \Delta FI$ ……………………… (7)

Where

R = net foreign assets of the banking system

FI = net foreign indebtedness of all nonbank residents

From equation (5), the change in NFA is also equal to the difference between the change in the money supply and the change in domestic credit from the balance sheet of the banking system. Combining equations (5) and (7) gives:

$CA + \Delta FI = \Delta M - \Delta D$ ………………………….. (8)

Based on the difference between nominal income (Y) and domestic absorption (A), equation (8) can be rewritten as:

$Y - A + \Delta FI = \Delta M - \Delta D$ ………………………..(9)

Equation 9 implies that absorption will exceed the level of domestic income and foreign savings when the change in domestic credit exceeds the change in the money stock.

 If it is assumed that the determinants of M^d are independent of ΔD, then a ceiling for ΔD will determine ΔR, that is, the balance of payments.

Finally, equation 9 can be extended to accommodate the structure of Balance of Payment, Government sector, and the monetary sector.

1.3   Review of the Four Macroeconomic Accounts

The Monetary Programme is one of the instruments used by the central bank for Monetary Policy, under a monetary targeting framework. The Bank reviews economic developments in the current and immediate past periods through an assessment of major macroeconomic indicators. These indicators are instrument variables that measure the effect of several target variables. The Central Bank analyses the Monetary Survey, which is a Consolidated Balance Sheet of the assets and liabilities of the Deposit Money Banks (DMBs) and the Central Bank. The Monetary Survey, therefore, shows at a glance, the monetary and credit indicators over a period of time.

The key objective of monetary policy is the maintenance of price stability. Price stability exists when there is a sustainable low and stable inflation rate. Inflation is the persistent rise in general price levels over a given period of time. It is measured by the rate of change in the general level of prices from one period to another, using the Consumer Price Index (CPI) or the GDP Deflator.

When the actual inflation rate is higher than the desired level of unemployment, the central bank might be moved to introduce measures that would help correct it. When inflation exceeds the target rate without full employment, a central bank would introduce appropriate policy instruments to reduce it. The central bank uses Open Market Operations to manage the money supply and indirectly control the growth rate of Reserve Money (RM) and short-term interest rates in the money market.

RM, also called High-powered money, Base money, or Monetary Base, is made up of;

- Currency in circulation (CIC), and
- Deposit Money Bank's (DMBs) deposits with the Central Bank (comprising legally required reserve and other reserves / DMBs current account balance).

Hence, RM is a liability of the Monetary Authority. Policies that decrease RM, thus reduce inflation, while those that increase it, lead to a rise in inflation.

A Monetary Survey comprises the following broad indicators:

Table 1
Monetary Survey

Assets	Liabilities
Net Foreign Assets (NFA) Net Domestic Assets (NDA) 　Net Domestic Credit (NDC) 　Net Claims on the Government Sector 　Claims on the private sector Other Items, Net (OIN)	Narrow Money (M1) Currency in Circulation (CIC) Demand Deposits Broad Money (M2) Narrow Money (M1) Quasi money Time & Savings deposits Foreign currency deposits

It is important to take note that what is shown on the asset side of the Monetary Survey as the Net Foreign Assets (NFA) is foreign assets less foreign liabilities. In the Foreign Assets account, the asset side consists of; Official International Reserves (including gold, foreign exchange, the reserve position of the country in the International Monetary Fund (IMF), and holdings of Special Drawing Rights), while the liability side is made up of short-term liabilities to foreign central banks, including their deposits, swap facilities, overdrafts, and some medium and long-term foreign debt, such as the country's sovereign debt.

For monetary policy management, central banks focus on the indicators that are quickly affected by the policy in the short term such as; level of reserve money, credit to the domestic economy, broad money supply, etc. relative to the target set out in the monetary programme.

1.4   Policy Measures

Choice of policy measures in financial programming can be linked to two accounting identities, namely:

$$GNDI - A = CAB \qquad\qquad (1.1)$$
and
$$CAB + FI = NIR \qquad\qquad (1.2)$$

where:

$GNDI$ =   Gross National Disposable Income;

= Domestic Absorption, that is, resident's consumption and investment expenditures, including imports;
CAB =   the External Current Account Balance;

FI = Net Capital flows; and

NIR = Net Official International Reserves.

Equation (1.1) indicates that an improvement in the external current account balance requires either an increase in a country's output or a reduction in its expenditure. Accordingly, adjustment policies may aim to increase output or reduce domestic expenditure to reduce inflation and drive a favourable current account balance. Equation (1.2) is the balance of payments identity: any excess of absorption over income, as reflected in a current account deficit, must be financed either by capital inflows or a drawdown in reserves. Broadly, the following policies are used to effect changes in the economy:

1.3.1   Demand Management (Expenditure-Reducing) Policies
Demand management policies are used to control real effective aggregate demand in an economy. They are usually applied when the current account deficit and/or inflationary pressures need to be reduced. Demand management policies are usually implemented through a combination of monetary, fiscal, and exchange rate policies. In many instances, the source of excess domestic demand is fiscal imbalance arising from excessive government expenditure. A combination of a reduction in public sector expenditure and an increase in tax revenues may be used to reduce domestic absorption. Domestic expenditure can also be dampened by restraining the growth of monetary aggregates—for example, by changing the amount of credit to the private and public sectors. Imports may grow rapidly because of exchange rate appreciation which exerts pressure on the

current account. The Intervention of the central bank in the foreign exchange market may correct currency misalignment and thereby, reduce import levels and increase exports.

Monetary and fiscal policies are linked to the extent that the banking system provides net financing (either positive or negative) to the public sector. For example, a narrowing of the public sector deficit that reduces the need for bank financing (or increases recourse to nonbank financing of a given deficit) will directly affect the balance sheet of the banking system. Other things being equal, this would result in a decline in the growth of monetary aggregates.

1.3.2   Expenditure-switching Policies

These are policies used by the government to switch consumer purchases from imported to domestically produced goods as well as increase exports. By changing the relative prices of domestic and foreign goods and services, expenditure switching policies can be used to improve the current account balance. Many programmes seek to complement the reduction in absorption by expenditure-switching measures and by using exchange rate policy. Exchange rate depreciation changes the relative price of foreign and domestic goods—from a resident's perspective. Generally, the price of a country's exports and imports increases relative to the price of homemade goods after the depreciation of the exchange rate. Broadly, depreciation aims at:

- Increasing the global demand for domestic goods and services while reducing resident's foreign expenditure by discouraging imports; and

- Redirecting production towards exports and import-competing industries to minimize the negative effects of demand restraint on domestic output.

1.3.3   Structural Policies

These are policies aimed at increasing the aggregate supply of goods and services to close the absorption-output gap. These are broadly divided into:

- policies designed to raise output from existing resources through improvement in allocative efficiency; and

- Policies to expand the productive capacity of the economy.

In practice, it is difficult to distinguish between policies serving these two purposes. The first policy serves to reduce the size of the wedge between price and marginal costs. Distortions can arise from price controls, imperfect competition, taxes and subsidies, and trade and exchange restrictions. In the second category of policies,

the aim is to encourage investment and savings through the maintenance of realistic interest rates, reallocation of fiscal expenditures toward economic development activities, the direction of new resources towards investment with the highest rate of returns. Given the nature of structural change, substantial time is required for structural policies to positively impact the economy.

1.3.4   Financing Options

The ability to attract capital inflows to sustain an external current account deficit without recourse to debt service problems is a function of the creditworthiness of a country and how efficiently the borrowed funds are used. If foreign borrowing is used to finance investments that generate sufficient returns to finance the repayment of such funds, then debt servicing problems will not arise. Otherwise, it could be a burden when resources are used inefficiently or used to support domestic consumption. In addition, changes in world financial and economic conditions may significantly affect the availability and affordability of funds. For example, rising interest rates in the early 1980s exacerbated the debt servicing difficulties experienced by many developing countries at the time.

Considerations relating to **external debt management** have become an increasingly important part of programme design. Important debt relationships are monitored on a medium-term basis under alternative assumptions about the country's policies and the behaviour of the external environment, including foreign interest rates. Financing may also take the form of a reduction in international reserves. However, such possibilities are limited by the size of the initial stock of reserves.

In addition to voluntary external financing, in some circumstances, countries have resorted to financing external deficits by accumulating arrears. Arrears constitute payment restrictions and therefore militate against the beneficial effects of a more open world trading system. In addition, they complicate relations with external creditors and undermine creditor confidence.

1.5   Accounting Consistency

The four macroeconomic accounts, namely, the Real sector (National) accounts; External sector (Balance of Payments) accounts; Fiscal sector (Government finance) accounts; and Monetary Sector (Monetary) accounts are interconnected. Changes in the values in one account affect related values in the other accounts. The linkages can be represented by identities.

The identity between the economy-wide resource gap and the current account balance may be shown as:

Economy-wide saving-investment
gap   = Current account balance

$$(S - I) \text{ or } (Y - A) \quad = \quad CAB \qquad (1.3)$$

$$CAB \text{ deficit} \quad = \quad \text{Use of foreign savings}$$

Equation (1.3) can be rewritten as:
$$(Sp + Sg) - (Ip + Ig) = CAB \qquad (1.4)$$

In this form, the equation shows that:

(Private Sector Saving – Investment) + (Government Sector Saving–Investment) = Current Account Balance

This identity suggests that there are important relationships among

- the saving-investment gap of the private sector;

- the overall fiscal position of the government sector; and

- the current account of the balance of payments.

It focuses on the separate roles that the private and government sectors play in a current account imbalance. Complemented by behavioural relationships between the private and government sectors, the identity can be extremely useful in macroeconomic analysis.

The interrelationships among sectors are brought together within a flow of funds table. The flow of funds combines the non-financial transactions, the resource gap, and the financial transactions for each sector in a matrix in which the sectors are in columns and the transactions are in rows.

1.6   Programme Objectives and Trade-off among Objectives

For policies, to be effective, they need to be constructed and implemented in a mutually supportive manner. For example, a depreciation of the exchange rate, if not supported by demand restraint, may fail to redirect resources to the external sector while rising inflationary pressures in the economy. In designing the objectives of a policy package, consideration should be given to trade-offs among different objectives and, thus, to the policies needed to achieve them. Some examples are:

- The removal of price controls is likely to raise inflation, at least initially, although such a policy is desirable from the viewpoint of improving resource allocation.

- A depreciation of the exchange rate, aimed at reducing the external current account deficit, will also raise the domestic currency costs of servicing the external debt. In the absence of other measures, this will raise the fiscal deficit.

- Measures to liberalize trade may result in an initial deterioration in the overall balance of payments position as the demand for imports rises.

- Increases in the domestic interest rate to reduce the growth of money supply, may induce capital inflows, which place downward pressure on money supply and cause exchange rate appreciation.

The preparation of a financial programme requires an assessment of economic problems and the quantification of a coordinated set of policy instruments to achieve a given outcome. It requires the preparation of an internally consistent set of projections of the major sectoral accounts that incorporate the impact of proposed policy measures. Given the linkages among the accounts, an iterative, rather than the sequential procedure is employed to ensure a consistent program. Projections are developed on a sector-by-sector basis, to provide an understanding of the issues and methods needed for forecasting individual accounts. However, while the focus at any point is on a particular sector, the overall aim is to develop consistent macroeconomic projections for the economy. The first step is the preparation of a **baseline scenario**, constructed on the assumption that policies remain unchanged from the recent past. The baseline scenario is intended to indicate whether the existing problems are likely to be resolved by them, remain the same, or even become worse.

An assessment of what constitutes an unchanged policy stance involves elements of judgment. For example, if budgeted expenditures have regularly been overrun by wide margins, then the continuation of this practice could be considered to constitute one element of an unchanged policy stance. Similarly, if the exchange rate has been allowed to adjust according to the differential between the domestic inflation rate and that of trading partners, then the adoption of this rule could be another element of unchanged policies. To assess the policy stance, the coverage must be comprehensive, including fiscal, monetary (interest rate and exchange rate), and structural issues.

Given the iterative nature of the exercise, there are many possible approaches and starting points in developing scenarios. The approach usually taken is to start with preliminary price and real output parameters, followed by forecasts for the balance of payments, the financial sector, and finally the monetary sector. However, at various stages, there will be a need to iterate among the sectoral forecasts to ensure accounting and behavioural consistency and the feasibility of achieving the stated targets. Values of the various model parameters also must be consistent with the structure of the economy and the desired policy objectives and measures.

CHAPTER 2

THE FINANCIAL PROGRAMMING FRAMEWORK

2.1   Introduction

In financial programming, understanding each of the four macroeconomic accounts is important for economic analysis and policy formulation. The four accounts are interconnected as a change to one impacts the value of variables in the others. A brief description of each of the accounts is presented below.

2.2   Real Sector

The real sector of an economy is involved with the production and distribution of goods and services. It includes agriculture, manufacturing, mining/quarrying, building and construction, information communication and technology (ICT), and services. The circular flow of income and expenditure provides the conceptual framework for showing the relationship between the aggregates which make up the national accounts. This framework provides the fundamentals for understanding the national accounts. This framework shows that aggregate income equals aggregate expenditure and also aggregate production. The real sector accounting framework is designed to measure the monetary value of the aggregate output of goods and services in an economy in a particular period, usually one year.

The measure of the monetary value of the aggregate output of goods and services in a nation is captured using the Gross Domestic Product (GDP). The GDP is the most important variable in the compilation of national accounts as It measures the value of all goods and services produced in the economy during a given period. Using the expenditure approach of estimating the GDP, the value of the GDP is as shown below:

$$Y = C + I + (X-M) \tag{2.1}$$

$$Y = A + B \tag{2.2}$$

Where:

$$A = C + I = Cp + Cg + Ip + Ig \tag{2.3}$$
$$B = X - M \tag{2.4}$$

Y = Gross Domestic Product (GDP)

A = Domestic Absorption (Domestic Consumption + Investment)

B = External Balance or Current Account

By adding Net Factor Income (Yf) from abroad,

$$GDP + Yf = C + I + (X - M + Yf) \quad (2.5)$$

$$GDP + Yf = GNI$$

GNI = Gross National Income

Add Net Foreign Transfer Payment (Trf)

$$GDP + Yf + Trf = C + I + (X - M + Yf + Trf) \quad (2.6)$$

$$GDP + Yf + Trf = GNDI$$

2.3   External Sector

The external sector account is presented in the Balance of Payments (BOP). It is a statistical compilation that systematically summarizes the financial value of economic transactions between a nation and the rest of the world for a given period. The BOP is concerned with transactions and thus deals with flows and not stocks. The compilation of the BOP is based on the accounting principle of double-entry which reflects economic transactions in two entries: credit and debit, both with equal values. BOP statistics are expressed in the domestic currency or a stable unit of account.

Table 2.1
The Balance of Payments Accounts

(i)   Current Account Goods
Exports (fob) Imports (fob) Services, etc.
(ii)   Financial Account and Capital Account
Financial Account
Assets
Direct Investment (Abroad)
Portfolio Investment
Other Investments, etc.
Capital Account
Capital Account Net
Capital transfer
Acquisition/disposal of non-produced, nonfinancial Assets, etc.
(iii)   Net Errors and Omission

2.4   Fiscal Sector

The fiscal sector covers government expenditure, revenue, and borrowing. The fiscal sector account comprises the consolidated account of all tiers of government. Government financial statistics (GFS) is obtained from the fiscal sector account. The benefits of government financial statistics are as follows: It shows the (i) overall magnitude of government operations in a country; (ii) allocation of government resources for various purposes; (iii) impact of fiscal policy on the economy; and (iv) level of overall fiscal balance.

GFS is concerned with measuring the impact of government on the rest of the economy. Its transactions are recorded on a payment or cash basis and depreciation is not recorded in the GFS unlike in the national accounts. The current fiscal balance is defined as current revenue minus current expenditure, which is a measure of overall fiscal balance.

Current Fiscal Balance = Total Current Revenue – Total Current Expenditure   *(2.7)*

The overall fiscal balance can be in deficit or surplus. Macroeconomic managers are, however, more concerned when it is in deficit because of its implications for economic stability. The sources of finance of fiscal deficit have different impacts on the economy. Financing fiscal deficit by borrowing from the central bank or the monetary authority implies an increase in high-powered money, which is inflationary. Borrowing from deposit money banks to finance fiscal deficit would crowd out the private sector which hampers their investment capacity, thereby, affecting economic output. Government may borrow from the non-banking public by issuing securities to finance its deficit. This would exert pressure on interest rates and increase domestic public debt. Foreign financing of government's fiscal deficit would also lead to external debt burden.

2.5   Monetary Sector

The monetary sector plays a very crucial role among the four sector macroeconomic accounts. In a market-driven economy, the financial system provides intermediation for the resources flowing among economic sectors. Since the monetary sector serves as the clearinghouse for all financial flows, the monetary account provides an insight into the behaviour of monetary and credit variables that are important in macroeconomic analysis. The monetary accounts are important because changes in liquidity can affect spending, output, and employment, the average price level in the economy, and the balance of payments position.

The monetary accounts are based on balance sheets of the central bank and the banking system (central bank and deposit money banks) compiled as a stock of money at a given point in time.

The monetary survey is obtained through the consolidation of the Central Bank and Deposit Money Bank's analytical balance sheet. The components of these balance sheets are shown below.

Table 2.2
Balance Sheet of the Deposit Money Banks (DMBs)

Assets	Liabilities
(i) Reserves	(i) Demand Deposits
(ii) Vault Cash	(ii) Savings Deposits
(iii) Balances with Central Bank	(iii) Time Deposits
(iv) Claims on Central Government	(iv) Foreign Currency Deposits
(v) Claims on Private Sector	(v) Central Government Deposits
(vi) Other Assets	(vi) Credit from Central Bank
(vii) Deposits/Claims on Other Banks	(vii) Other Liabilities

Table 2.3
Balance Sheet of the Central Bank

Assets	Liabilities
(i) Foreign Assets	(i) Base Money
(ii) Claims on Central Government	• Currency Outside Banks
(iii) Claims on DMBs	• Bank Reserves
(iv) Other Assets	(ii) Central Government Deposits
	(iii) Other Liabilities

Table 2.4
The Monetary Survey
(Consolidated Balance Sheet of the Banking System)

Assets	Liabilities
(i) Net Foreign Assets (NFA)	(i) Narrow Money (M1)
(ii) Net Domestic Credit (NDC)	Currency Outside Banks (CoB)
i Net Claims on Government (NCG)	Demand Deposits
ii Claims on Private Sector	(ii) Quasi Money (QM)

(v) Other Items Nets (OIN)	Savings Deposits
	Time Deposits
	Foreign Currency Deposits

$$M2 = M1 + QM \qquad (2.8)$$

$$M2 = NDC + NFA + OIN \qquad (2.9)$$

2.6   Interrelations among the Macroeconomic Accounts

The interrelationship existing among the macroeconomic accounts is derived starting with the savings gap and current account balance of national accounts and the BOP, respectively, that is,

$$GNDI = GDP + Yf + Trf \qquad (2.10)$$
$$= Cp + Cg + Ip + Ig + (X-M + Yf + Trf)$$

$$S = GNDI - Cp - Cg \qquad (2.11)$$
$$= Ip + Ig + (X-M + Yf + Trf)$$

$$S - I = CAB \qquad (2.12)$$

$$Recall \; Sp + Sg - I = CAB \qquad (2.13)$$

$$(Sp - Ip) + (Sg - Ig) = CAB \qquad (2.14)$$
Or
$$Recall \; (Sp - Ip) + (Tx - G) = CAB \qquad (2.15)$$

Note: The current account imbalance could result from the private (Sp – Ip) or public sector (Tx – G) sectors. The overall balance of payments position gives the change in external reserves as shown in equation (2.16) below:

$$CAB + \Delta FI = \Delta R \qquad (2.16)$$
Where:

CAB = External Current Account balance

ΔFI = Change in Net Capital flows

ΔR = Change in External Reserve Position

Linking monetary survey with the change in the external reserve,

Recall that $M2 = NDC + NFA + OIN$

and

$$\Delta R = \Delta NFA,$$

Where NFA = M2 – NDC – OIN

$$\Delta R = \Delta NFA = \Delta M2 - \Delta NDC - \Delta OIN \qquad (2.17)$$

Substituting ΔR from equation (2.17) in equation (2.16)

$$CAB + \Delta FI = \Delta NFA = \Delta M2 - \Delta NDC - \Delta OIN$$

$$CAB + \Delta FI = \Delta (M2 - NDC - OIN)$$

Recall that S – I = CAB

$$S - I + \Delta FI = \Delta NFA = \Delta M2 - \Delta NDC - \Delta OIN \qquad (2.18)$$

$$\Delta M2 = S - I + \Delta FI + \Delta NDA = (Sp - Ip) + (Sg - Ig) + \Delta FI + \Delta NDA \qquad (2.19)$$

NDA = Cp + Cg (Assets)

Equation (2.19) links the four macroeconomic accounts and states that changes in the money stock (monetary account) can be influenced by activities in the real sector (national accounts), public sector (fiscal), and external sector (BOP). The figure below shows the diagrammatical linkages.

Figure 2.1

Interrelationships Among Macroeconomic Accounts
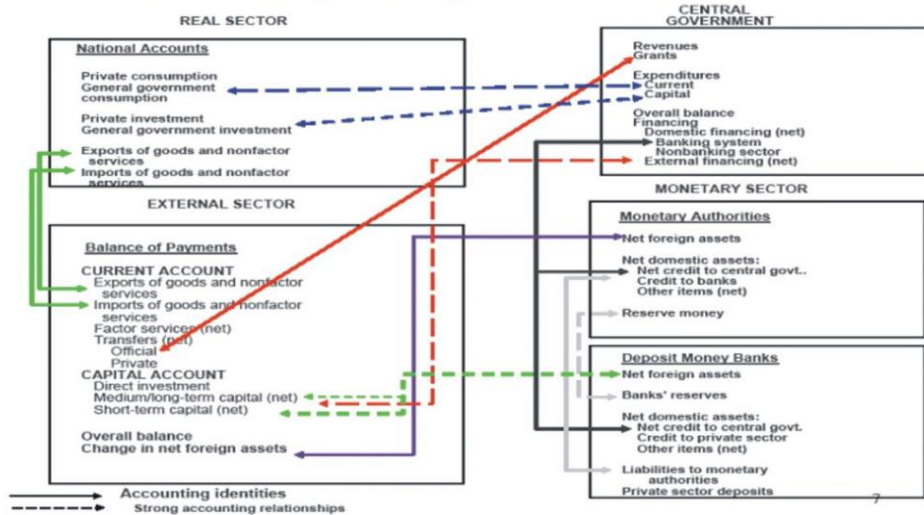
Note: The production of goods and services is captured under private and government investment.

Source: Adopted from IMF lecture handouts on Financial Programming and Policies

CHAPTER 3

THE MONETARY PROGRAMME IN MONETARY POLICY FORMULATION AND IMPLEMENTATION IN NIGERIA

3.1 Monetary Programme and Monetary Policy Formulation

The Monetary Policy Committee (MPC) is charged with the responsibility for formulating monetary and credit policies. To carry out its function, the MPC relies on macroeconomic data to make informed decisions. The information provided by the Monetary Programme shows:

- How recent growth in money supply compares with that of previous years;

- The source of growth in money supply;

- The roles played by the budget and its implementation in monetary development;

- How the balance of payments (BOP) has affected monetary operations;

- Whether growth in credit to the private sector has been excessive or has declined; and

- The behaviour of real interest rates among others.

The monetary survey is used to evaluate the performance of major monetary aggregates relative to their set benchmarks in the monetary programme to guide the MPC in the formulation of monetary and credit policy.

3.2 Monetary Programme and Monetary Policy Implementation

Monetary policy implementation is the day-to-day actions of the monetary authority in ensuring that the overall goal of monetary policy is achieved. To carry out this effectively, the monetary authority through various measures compares outcomes to targets on a daily, weekly, monthly, quarterly, and annual basis. At any point when the outcome or forecast deviates from the benchmark, the monetary authority takes action to bring the deviations within tolerable limits.

3.3   Monetary Programme and Liquidity Forecasting

Liquidity forecasting has become a major tool employed in monetary policy implementation. The monetary programme sets the benchmark for key monetary policy aggregates to enable periodic monitoring of actual performance. Reserve Money indicates liquidity conditions in the economy, therefore, the deviation of RM from its benchmark, indicates liquidity conditions in the economy. A positive (+) deviation shows surplus and hence calls for policy action that would withdraw excess liquidity using the most appropriate instruments while a negative (-) deviation indicates a shortfall and thus requires monetary policy actions that would inject liquidity into the system.

3.4   Monetary Programme and Instruments of Monetary Policy

The design of the monetary programme shows the key policy thrust and strategies that would be adopted to realize its objectives. To realize the programme objectives, the monetary authority decides on monetary policy instruments to be used during the programme period to ensure the actualization of the aggregate benchmarks. The instruments used; are Open Market Operations (OMO), Discount Window Operations (DWO), Liquidity Ratio (LR), Cash Reserve Requirements (CRR), Currency Swaps (CS), and Moral Suasion (MS). The frequency, tenor, and type of instruments are determined by the deviation of actual from target and duration of persistence.

CHAPTER 4

THE FRAMEWORK OF THE CENTRAL BANK OF NIGERIA'S MONETARY PROGRAMME

4.1   Introduction

The overall goal of the CBN monetary programme is to obtain monetary aggregates that are consistent with the desired macroeconomic objectives of the Bank, such as price stability, output growth, and Balance of Payments

4.2   Scenarios in the CBN Monetary Programme

The monetary programme, like all plans, is based on key assumptions about the course of future economic developments. In financial programming, different sets of assumptions about key macroeconomic variables are termed scenarios. Generally, the monetary programme is prepared under two scenarios, termed baseline and programme scenarios. The Central Bank of Nigeria operates under three programme scenarios which are: optimistic; realistic; and pessimistic. This is because we forecast in a very uncertain environment and whichever scenario that emerges in the year, the Bank would have ready/ policy options for implementation.

     i.   Baseline Scenario: The baseline scenario consists of a forecast of the main macroeconomic variables which show what will happen to the economy given likely developments in exogenous factors and no policy changes. In other words, it shows the expected outcome of major macroeconomic indicators when there is no change in policy in the programme year. Trend analytical tools are always employed to generate the forecast under the baseline scenario because of the assumption that there is no policy change.

          The limitations of the forecast obtained under this scenario are obvious. Firstly, the nature of the problem confronting the economy could be cyclical or structural. Secondly, the government may intervene to prevent the current trend from continuing. Consequently, the forecasts generated under the baseline scenario are normally considered sub-optimal. Nevertheless, the baseline scenario provides a framework for highlighting the main problems that the economy could face and helps focus policy on

those problems. It helps in determining the measures required, type as well as the magnitude of adjustments required.

ii.   Programme Scenario: This scenario is normally prepared under the assumption that developments in the economy would be different from the current trend and policy changes would be introduced during the programme period. A comprehensive technical analysis of major developments in the four macroeconomic sectors including the use of judgment based on the knowledge of the economy is always taken into consideration to derive the various macroeconomic aggregates. The building blocks comprise programme objectives, policy measures, and consistent projections. The scenario may assume overly favourable economic developments (optimistic), moderately favourable economic developments (realistic) and unfavourable economic developments (pessimistic). The various programme scenarios are discussed below:

- Optimistic scenario: This scenario is based on the expectation of much higher performance during the programme period. It assumes higher output and a low level of prices because of greater efficiency in resource utilization. Oil price and output plays a major role in the Nigerian economy. This scenario assumes very high oil prices and output, which will lead to an increase in fiscal revenue. Furthermore, the high oil revenue is expected to lead to higher accretion to the external reserves, which would be sterilized to achieve low and stable price levels.

- Realistic Scenario: This scenario is based on the expectation of moderately favourable economic conditions during the programme period. The projections for real output growth and inflation as well as other variables are realistic and attainable, based on prior knowledge of the economy. For example, the price of crude oil under this scenario is obtained from future oil prices quoted on the New York Mercantile Exchange (NYMEX) as well as OPEC oil price and output projections.

    Nigeria's recent experience makes the security situation in the Niger Delta a factor in the estimation of realistic oil output. Under this scenario, moderate oil price and output

are assumed which will lead to a moderate increase in fiscal revenue and expenditure. The moderate oil revenue is expected to generate moderate accretion to reserves, resulting in moderate growth in money supply, which is expected to lead to low and stable prices.

- Pessimistic Scenario: This scenario is built on the assumption that economic conditions during the programme period will be unfavourable. A pessimistic scenario is the worst-case scenario, where negative shocks, lower output and high inflation is expected. For example, one of the assumptions under this scenario is that oil output and prices will be lower than their benchmarks, hence, higher fiscal deficit. The deficit is assumed to be financed by the banking system. Irrespective of the sources of banking system financing, the outcome is always detrimental to the economy. For example, if banking system finance is from the DMBs, it will lead to the crowding out of the private sector, resulting in lower output growth. If the banking system finance is from the monetary authority, it will lead to higher inflation.

4.3   Steps in Preparing a Monetary Programme

The preparation of the CBN monetary programme involves several steps. It begins with the projection of the real sector followed by the projection of the balance of payments accounts. The projection of the fiscal account and monetary accounts then follows. Thereafter, the flow of funds matrix is prepared. These steps are discussed below.

4.3.1   Review of Macroeconomic Performance in the Current Year

- Compare outcome with targets set for the current year in respect of various macroeconomic indicators such as; Real GDP growth, inflation, monetary aggregates, etc.

- Review current policies and identify reasons for the deviation of actual from the target.

- Highlight outstanding problems in various sectors of the economy.

- Suggest policies that will address the identified sectoral problems.

- Start projections that will produce the baseline and other scenarios.

4.3.2   Projection of the Real Sector

- Specify the initial growth objective (real GDP).

- Project the inflation rate.

- Use the above projections to forecast nominal GDP.

- The real GDP and inflation forecasts will be important for projecting many other items (including M2, Net Domestic Credit, Import, Export, etc.).

4.3.3   Projection of the Balance of Payments Accounts

- Forecast exports, imports, and other components of the current account based on the nominal GDP forecast and other policy measures.

- Forecast the elements of the capital and financial accounts: Foreign Direct Investment, foreign debt, medium- and long-term capital (disbursements and principal repayments), short-term capital.

- Project the overall balance and its financing.

- Compare key aggregates with objectives.

4.3.4 Projection of the Fiscal Sector

- Project revenues based on the forecasts of nominal GDP and its components, the balance of payments, and relevant revenue policy measures.

- Project expenditures based on the macroeconomic forecasts and relevant policy measures.

- Project the overall budget deficit and its financing sources.

- Ensure that the deficit and its financing are within the acceptable threshold.

4.3.5 Projection of the Monetary Sector

- Forecast Broad Money (M2 or M3 as the case may be) using real GDP growth rate and inflation.

- Estimate Reserve Money (RM).

- Forecast Net Foreign Assets (NFA) using accretion to external reserves in the BOP as well as the DMB's foreign assets.

- Forecast Net Domestic Credit to the economy.

- Use the fiscal projection of required net credit to government to calculate net credit to the private sector (non-government).

- Forecast Other Items Net (OIN) as a residual.

- The allowable credit to the private sector is reviewed against the identity (Sp-Ip)=CAB-(Sg-Ig).

4.3.6 Check for consistency among the four sector macroeconomic accounts

- Check and ensure consistency of the projections across all sectors.

- Will the objectives of the programme be realized?

- If not, adjust policies or objectives.

- Adjust policies to realize objectives.

- Change objectives if their realization requires policy changes that are not feasible.

- Keep iterating (repeating projections) until policies yield objectives with consistent forecasts across sectors.

CHAPTER 5

BENEFITS AND DRAWBACKS OF FINANCIAL PROGRAMMING

5.1   Benefits of Financial Programing Framework

Financial Programming is a comprehensive and consistent set of policy measures designed to achieve a given set of macroeconomic goals. These goals could simply be to maintain a given level of economic performance. More often, the policies are designed to eliminate disequilibrium between aggregate demand and supply, which typically manifests itself in the balance of payments problems, volatility in the rate of inflation and low or falling output.

The benefits of Financial Programme include :

i   Comprehensiveness
Financial programming is a comprehensive process in the sense that it captures the four macroeconomic accounts of an economy [the National Account (real sector); Balance of payments (External Sector); Government Accounts (Fiscal Sector); and Monetary Account (Monetary Sector)], thus providing a comprehensive overview of the state of the economy.

ii   Consistency
It ensures that data and the policy recommendations do not contradict, or present conflicting results across the accounts of the four macroeconomic sectors. It helps to achieve accounting consistency, behavioural consistency, and consistency between instruments and objectives.

iii   Forward-looking time-frame
The forward-looking time frame helps to anchor expectations of economic agents appropriately, by ensuring that the policy measures to actualize set targets are pursued vigorously.

iv   Safeguard against Economic Shocks
It reduces the effect of economic shocks through policy responses designed to mitigate the impact, as well as re-focus development objectives both in the short to medium term. This is premised on the fact that the financial programme already involves a pessimistic scenario. It is important to note that in the Nigerian context, the economy is exposed to shocks such as fiscal surprises; oil prices, and exchange rate volatility.

v.   Provision of Policy Alternatives/Trade-offs

It highlights the trade-offs among macroeconomic objectives and provides policymakers with alternative policy choices. The Financial Programme helps in deciding the choice of policy to adopt in an economy. For example, it could be used to decide the level of mix between expenditure-reducing and expenditure-switching policies. The financial programme framework makes this task a coordinated process.

vi   Setting Macroeconomic Benchmark

Financial Programmes allow the setting of appropriate benchmarks for major macroeconomic indicators consistent with a desirable level of economic activities to achieve internal and external balances.

5.2   DRAWBACKS OF FINANCIAL PROGRAMING

The drawbacks identified in the Financial Programing framework are mainly from the theoretical perspective. Some of the issues are discussed below.

i.   Weak Link of Targets with Theory:

The quantitative targets on various performance criteria are not based on strong macroeconomic models. The targets are mainly based on the simple flow of fund accounting framework of key macroeconomic relationships. Hence, monetary and fiscal variables and the balance of payments are linked by balance sheet identities in what is commonly referred to as internal consistency. A model based on mere identities is considered unsuitable in light of current advancements in macroeconomic theory. It is recognized that a change in a policy variable could alter the course of many items in each macroeconomic identity and as such these identities provide little guidance with respect to how policy variables impact targets

ii.   Econometric Bias:

Some elements in the identities are projected exogenously or with the aid of econometric equations. The mere fact that a variable is exogenous does not imply that it cannot be affected by some other economic variables. In financial programming, however, the exogenous variables are assumed not to respond to policy changes, an assumption that is considered flawed in modern economic theory.

iii.   Deviation from Formal Documentation in Program Iterations:

Projections of variables are undertaken through a combination of the econometric equations and qualitative judgment while the program is always obtained through an iterative process. In addition, some conditions may be

waived if desirable outcomes do not evolve. It has been acknowledged that the implementation of financial programming is significantly different from what is written in formal documentation. This iterative approach, as well as deviation from the documentation, makes the process less transparent to both policymakers and external assessors, thus constraining the acceptance of monetary programming by academic researchers as well as the broader society.

CHAPTER 6

6.1   CHALLENGES TO THE PREPARATION AND USE OF FINANCIAL PROGRAMME IN CBN MONETARY PROGRAMME

The preparation of the CBN monetary programme is faced with several challenges. Some of the challenges are discussed below.

i   Timely Availability of Data

Data for the four sector macroeconomic accounts are not readily available on a timely basis. In particular, the national income, real sector, and fiscal accounts come with a lag. The audited statement of account of the fiscal authorities, which are actual values of revenue and expenditure, comes with a much greater lag due to the several levels of approval required.

ii   Quality of Available Data

Some of the data in the national accounts are incomplete and are mostly estimates. Fiscal account data are not always complete due to red tape, which hampers the disclosure of government fiscal operations, especially on the revenue side and because of the use of the accrual principle of accounting for expenditure. Informal import and export trade may affect the completeness of BOP data. Bank and non-bank capital flows may also not be fully captured in the BOP because of non-disclosure by some economic agents. Monetary data is frequently revised because of the cut-off time in the accounts. Frequent changes in estimated values in the data make it necessary to repeat the preparation of the programme to incorporate the most recent estimates or confirmed data.

iii   Overly Optimistic Objectives

Insufficient information about developments in the economy sometimes could lead to setting objectives that are difficult to attain in the programme. This affects the estimates of key monetary variables.

6.2   Challenges of Implementation of the CBN Monetary Programmel

i   Poor budget implementation which manifests in bunching of expenditure, non-implementation of some budget programmes, and substantial extra-budgetary activities that cause fiscal surprises affect the realization of the programme benchmarks.

ii   Non-implementation of sectoral and structural policies expected under the programme leads to a non-realization of set targets, particularly in the real sector.

iii   Pressure on the monetary authorities to take policy actions outside the programme to correct fiscal failures, especially in respect of inflation, exchange, and interest rate outcomes, which leads to a high cost of monetary management.

iv   Structural problems that make it impossible or difficult for the economy to respond to some policy actions.

v   Ineffective coordination of fiscal and monetary policy actions due to lack of programme discipline.

vi   Limited stakeholder buy-in, especially on the part of the private sector, leads to a disconnection between the programme and some economic sectors.

vii   Low level of development of the financial market that limits the efficiency of monetary policy transmission.

CHAPTER 7

SUMMARY AND CONCLUSION

7.1   SUMMARY AND CONCLUSION

The Central Bank of Nigeria uses the monetary targeting framework to formulate and implement monetary policy. This framework follows the theoretical foundation of the quantity theory of money, the Polak model, and the two-gap analysis model. The monetary programme is thus, used to project the behaviour of monetary aggregates which are consistent with desired macroeconomic objectives.

The CBN monetary programme, which is based on the interrelationship among the four sector macroeconomic accounts (real sector, external sector, government sector, and monetary sector) is produced under two scenarios; baseline and programme scenarios. The programme scenario is further sub-divided into three separate scenarios known as; optimistic, realistic, and pessimistic scenarios. The difference among the various programme scenarios lies in the underlying assumptions about the performance of the economy during the review period.

The programme has been quite useful in the conduct of monetary policy in Nigeria. Precisely, it is used to set targets for various macroeconomic indicators to ensure consistency among the four sector macroeconomic accounts. It provides information to all stakeholders and safeguards against economic shocks and has also contributed immensely to the formulation and implementation of monetary policy in Nigeria. Despite the advantages of the monetary programme, its preparation and implementation have not been without challenges. Some of the major challenges are data quality issues, considerable lag in data generation, constant revision of Federal Government budgets, lack of effective coordination between the fiscal and monetary authorities, late approval of Federal Government budgets, and extra-budgetary spending.

BIBLIOGRAPHY

Anyanwu, J.C. (1993). Monetary Economics: theory, policy, and institutions, *Hybrid publishers*, Onitsha, Nigeria.

Central Bank of Nigeria Monetary Programme volume1.

Central Bank of Nigeria (2009). 50 Years of Central Banking in Nigeria 1958-2008. *Central Bank of Nigeria*, Abuja.

Chenery, H. & Strout, M. (1966). Foreign Assistance and Economic Development. *American Economic Review*, 66: 679-733.

IMF (1986). A Manual of Government Finance Statistics. *International Monetary Fund*, Washington, DC. USA.

IMF (1992). The Monetary Approach to the Balance of Payments. *International Monetary Fund,* Washington, DC. USA.

IMF Institute Lecture Handouts on Financial Programming and Policies.

Okafor P. N. (2009). Monetary Policy Framework in Nigeria: Issues and Challenges. *Bullion* Vol. 30, No. 2, April-June, 2009.

Polak, J.J. (1957). Monetary Policy Analysis of Income Formation and Payments Problems. *International Monetary Fund Staff papers* 6: 1-60.

Quanes, A. & Thakur, S. (1997). Macroeconomic Accounting and Analysis in Transition Economies. *IMF*, Washington, DC, USA.

GLOSSARY OF TERMS

Accounting Consistency: Data in the accounts of the various sectors reflect the same development and are not contradictory.

Balance of Payments: A statistical statement that systematically summarizes transactions involving payments or receipts of foreign exchange for a specific period. It is also known as the balance of a country's economic transactions with the rest of the world.

Base Money: The amount of money in the economy, made up of the currency in circulation.

Baseline Scenario: Forecast of the main macroeconomic variables given likely developments in exogenous factors if the government does not change its economic policies.

Benchmark: Macroeconomic target against which policy outcomes are assessed.

Broad money (M2 or M3): is the widest measure of money supply. It includes narrow money (M1) plus savings and time deposits.

Budget: Estimate of the government's revenue and expenditure, usually over a year**.**

Capital Inflow: This arises when overseas residents buy assets in the domestic economy. It is the movement of capital into a country from abroad to finance the purchase of domestic assets.

Credit: The provision of resources such as loans by one person to another.

Currency-in-Circulation (CIC): Paper currency and coins held by the public and in the vaults of deposit money banks. Currency in circulation is one of the most liquid measures of money supply.

Current Account Balance (CAB): The difference between credits and debits for all current transactions in goods, services, income, and capital transfer.

Demand Management: Policies on either interest rate, taxation, or public expenditure policies to influence aggregate demand, investment, the balance of trade, and public sector borrowing to avoid recession.

Deposit Money Banks (DBMs): Financial intermediaries that accept deposits and channel those deposits to deficit areas of the economy.

Domestic Absorption: Is the sum of private consumption, general government consumption, and gross domestic investment, symbolically shown as C+I+G

Economic Agent: An actor and decision-maker in an economy.

Economic Shocks: An unexpected or unpredictable event that affects an economy.

Exchange Rate: The rate at which two national currencies exchange for each other. It is often expressed as the amount of domestic currency needed to buy one unit of a foreign currency or vice versa.

Expenditure Switching Policies: Economic policy that is designed to persuade consumers to buy fewer imported goods and services by altering prices through exchange rate depreciation.

Financial Programme: This is a comprehensive and consistent set of policy measures aimed at achieving certain desired macroeconomic objectives.

Financing Options: A derivative contract between two parties with the terms of the option specified.

Fiscal Deficit: The excess of government expenditure over revenue (excluding borrowing)

Full Employment: This is a condition of the economy, where all or nearly all persons willing and able to work at the prevailing wages and working conditions can do so. Theoretically, the economy is said to be in full employment when the unemployment level is at or below 5%.

Gross Domestic Product (GDP): Is the value of total output produced in the whole economy over some time, usually a year (although quarterly data are also available).

GDP Deflator: Implicit price deflator for GDP. A measure of the level of prices of all new domestically produced final goods and services in an economy.

Gross National Disposable Income (GNDI): The sum of gross domestic income, net income from abroad, and net transfer from abroad.

Gross National Product (GNP): Measures of income earned by domestic residents in return for a contribution to current production, whether it is located at home or abroad.

High Powered Money: The aspect of money that is under the direct control of the central bank. It consists of currency in circulation and DMB's reserves with the central bank.

Income Velocity: The average frequency with which a unit of money is spent in a specific period. It is also called the velocity of circulation.

Inflation: General rise in the level of prices of goods and services over a period.

Interest Rate: This refers to the cost of money or capital in an economy and is often expressed as an annual percentage of the principal.

Liquidity Forecasting: The forecast of the balance sheet of the Central Bank, to enable the central bank to judge the scope of its market intervention by residual to maintain the appropriate level of liquidity in the economy. The estimation of autonomous factor cash in circulation, net government balances, and net foreign assets by the Central Bank.

Monetary Aggregate: Measure of the money stock, the sum of highly liquid assets that serve as a medium of exchange, the standard of deferred payment, or store of value.

Monetary Authority: The entity which controls the money supply of a given currency and has the right to set interest rates and other parameters which control the cost and availability of money. Generally, the monetary authority is a Central Bank.

Monetary Base: (See high-powered money.)

Money Multiplier: The maximum amount of money that an initial deposit can be expanded into. It is computed as a ratio of 100/the cash reserve ratio.

Monetary Policy: The regulation of money supply and interest rates by the Central Bank to control inflation and stabilize prices.

Monetary Policy Committee (MPC): The committee of the Central Bank of Nigeria responsible for the formulation of monetary policy.

Monetary Programme: A method of forecasting the net financing capacities of the individual institutional sectors, the key monetary aggregates, the balance sheet of the Central Bank, and the consolidated balance sheet of the banking system.

Monetary Survey: The sum of the aggregates in the consolidated balance sheets of the DMBs and the central bank.

Money Supply: This is the total money available in the entire economy. It is also called money stock.

Narrow Money: A measure of the money supply used by various central banks that includes only currency in circulation and current account deposits.

Net Domestic Asset (NDA): The sum of net domestic credit and other items not in the analytical balance sheet.

Net Domestic Credit (NDC): the sum of claims on government, claims on DMBs, and claims on the domestic sector.

Net Foreign Asset: The balance on the foreign assets account. The sum of the foreign assets of the monetary authorities and DMB's less any foreign liabilities.

Net International Reserve (NIR): Foreign assets of the monetary authorities, less any foreign liabilities.

Optimistic Scenario: This scenario is based on expectations of much higher performance during the programme period. It assumes higher output and very low price levels because of greater efficiency in resources utilization.

Other Items Net (OIN): Items not assigned to other categories in the analytical balance sheet of the Central Bank.

Pessimistic Scenario: This scenario is built on the assumption that economic development during the programme period would be unfavourable.

Portfolio Investment: Non-resident investment in bonds and other debt instruments that do not imply ownership or minority holdings of shares that do not establish legal control.

Price Stability: low and stable inflation rate in an economy over a time period.

Price System: The market system as a means of allocation of resources in an economy.

Programme Scenario: This scenario is normally prepared under the assumption that developments in the economy would be different from the current trend and policy changes would be introduced during the programme period.

Quasi Money: Deposits held in the bank that cannot be used as direct means of payment. They include savings, fixed and foreign currency deposits.

Reserve Money: High powered money, base money or monetary base plus currency in circulation.

Subsidy: This is a form of financial assistance paid to a business or economic sector.

Trade-off: Involves losing one quality or aspect of something to gain another quality.

Transmission Mechanism: The transmission mechanism is the process by which monetary policy affects macroeconomic variables. It involves the timing as well as the channel through which monetary policy affects the economy. It works mainly through the financial system.

Vault Cash: Cash in a bank's vault that is used for day-to-day business needs, such as cashing checks for customers.