



CENTRAL BANK OF NIGERIA

**UNDERSTANDING
MONETARY POLICY SERIES
NO 2**

**CENTRAL BANK OF NIGERIA
MONETARY PROGRAMME**

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Aims and Scope

The *Understanding Monetary Policy Series* is designed to improve monetary policy communication as well as economic literacy. The series attempts to bring the technical aspects of monetary policy closer to the critical stakeholders who may not have had formal training in Monetary Economics. 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 one of the most efficient and effective of the world's central banks in promoting and sustaining economic development.

Mission Statement

To be proactive in providing a stable framework for the economic development of Nigeria through the effective, efficient and transparent implementation of monetary and exchange rate policy and management of the financial system.

Core Values

- Meritocracy
- Leadership
- Learning
- Customer - Focus

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CHAPTER 1

BASIC CONCEPTS IN MONETARY PROGRAMMING

1.1 Introduction

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 enables the Bank to determine the level of money supply and credit that would be adequate for the economy under a Financial Programming and Policy Framework. Financial Programming and Policy is a *comprehensive* and *consistent* set of policy measures aimed at achieving certain *desired* macroeconomic objectives of an economy in a forward looking time-frame.

The comprehensiveness of financial programming and policy implies that it 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 desirable macroeconomic objectives in a programme are those intended to achieve both internal and external balance. Internal balance means 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 arriving at the Central Bank of Nigeria's monetary programme involves the review of developments in the economy over a specific period of time and articulating policies that would ensure price stability. In addition, the Bank sets targets for various monetary aggregates required to ensure that the economy is operating optimally at low and stable inflation rates. The key monetary aggregates in the programme are Broad Money Supply (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 and are expected to be consistent with the Broad Money Supply and Gross Domestic Product (GDP) targets for the year.

1.2 Review of the Four Macroeconomic Accounts

A Monetary Programme is one of the frameworks used by the central bank to 'operationalise' Monetary Policy. The Central Bank of Nigeria's monetary policy is conducted 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 policy on 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 indicators of the monetary and credit situation over a period of time.

The most important 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 persistence rise in general price level of goods and services over a given period of time. It is measured by the rate of change in the general level of prices between two periods. It is measured using the Consumer Price Index (CPI) or the GDP Deflator.

When the actual inflation rate is higher than the desired level of employment, 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. One policy instrument that the central bank uses to manage money supply is Open Market Operations which is directed at controlling the Reserve Money (RM) with the DBMs and the short-term interest rate in the money market. The transmission mechanism of the short-term rate is expected to affect the long-term interest rate and other key macroeconomic variables in due course.

RM is variously called High-powered money, Base money and Monetary Base. It is made up of

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

Hence, RM is the liability of the Monetary Authorities. Policies that reduce RM decrease inflation, while those that increase it could cause rise in inflation. This is achieved by influencing the ability of DMBs to create money.

A Monetary Survey shows 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 asset 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 policy in the short to medium-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.

1.3 Policy Measures

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

$$GNDI - A = CAB \quad (1.1)$$

and

$$CAB + \Delta FI = \Delta NIR \quad (1.2)$$

where:

GNDI = Gross National Disposable Income;

A = Domestic Absorption, that is, residents' consumption and investment expenditures, including imports;

CAB = 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 in order to reduce inflation and engender 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 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 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 growth of the monetary aggregates—for example, by changing the amount of credit to the private and public sectors. Imports may grow rapidly as a result of exchange rate appreciation which exerts pressure on the current account. The Intervention of the central bank in the foreign exchange market may correct the currency misalignment and thereby, reduce the import level and thus increase export.

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 the monetary aggregates.

1.3.2 Expenditure-switching policies

These are policies used by government to switch consumer purchase from imported to domestically produced goods as well as increase export. 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 reduction in absorption by

expenditure-switching measures and, in particular, 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 home goods after a depreciation of the exchange rate. Broadly, depreciation aims at:

- increasing the global demand for domestic goods and services while reducing residents' 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 increased 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, 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 credit worthiness of a country and how efficiently the borrowed funds are used. In particular, if foreign borrowing is used to finance investments that generate sufficient returns to finance the repayment of such fund, 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 that 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 own 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.

1.4 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 affects 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

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

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

Equation (1.3) can be rewritten as:

$$(S_p + S_g) - (I_p + I_g) = \text{CAB} \quad (1.4)$$

where the subscripts p and g refer to the private and government sectors, respectively. Here, "private" is used to mean non-government or primary households. This relationship can be rearranged as

$$(S_p - I_p) + (S_g - I_g) = \text{CAB} \quad (1.5)$$

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.

1.5 The Theoretical Basis of Financial and Monetary Programming

After the Second World War, the Marshall Plan helped to stimulate rapid economic growth in Europe through large scale transfer of capital from the United States. Economists started to work in the area of economic growth amid concerns that many countries in South America, Africa and Asia needed to speed up their economic growth to improve the welfare of their population. Analysis of the economic situation in these countries led economists, to suggest that the slow growth in these countries was the result of two financing gaps: domestic savings and foreign exchange gaps. The two gaps made it difficult to mobilise sufficient domestic savings to finance the level of investment and import the amount of foreign capital goods and services required to propel economic growth up to the take-off stage (Rostow, 1960).

The first gap manifested in the saving (S)-investment (I) balance less than zero, ($S - I < 0$), while the second resulted in deficit in the current account balance (negative CAB). Countries experiencing deterioration in the BOP could approach the International Monetary Fund (IMF) for support. The Polak's Macroeconomic model reflecting the monetary approach to the BOP was developed in the IMF in the 1950s as a framework for handling adjustment in countries requiring the Fund's support. Its objective was to integrate monetary, income and balance of payments analysis so that the causes of BOP deficit and the policies that will correct it will be appraised together. It was a simple model that relied on the

data that was commonly available. Trade and banking data helped policy makers and economists to understand the impact of autonomous changes in exports and the creation of domestic credit on income formation and the BOP. Treasury expenditure is autonomous but affects money creation, while exports increase foreign assets and hence money supply. This suggests that the Polak's model had to incorporate a demand-for-money function.

On the understanding that in a country, the demand for money is equal to its supply and proportional to the Gross National Product (GNP), it can be stated that a change in a country's broad money supply ($\Delta M2$) is proportional to the change in its income (ΔY) by a factor which is equal to the inverse of the velocity of money ($M2/Y = k$). Hence, the behavioural demand/supply for money can be stated as:

$$\Delta M2 = k \cdot \Delta Y. \quad (1.6)$$

Another behavioural equation necessary is the demand for imports (M) which depends on income, given the propensity to import, m . Thus we have:

$$M = m \cdot Y. \quad (1.7)$$

From the monetary survey, it is evident that the change in broad money supply, ($\Delta M2$) is by definition equal to the change in a country's net foreign assets (ΔNFA) plus the change in the net domestic credit of the banking system (ΔNDC) and other items net (ΔOIN). Also by definition, the change in a country's foreign reserves is equal to the sum of change in net exports ($X - M$) and net capital inflows of the non-bank sector (K). These two definitions amount to the following behavioural equations:

$$\Delta M2 = \Delta NFA + \Delta NDC + \Delta OIN \quad (1.8)$$

and

$$\Delta NFA = (X - M) + K \quad (1.9)$$

The most important macroeconomic indicator of actual and potential general welfare in an economy is the level of Real Gross Domestic Product (RGDP) and its growth rate. The Polak's/money demand model in (1.6) and (1.7) contains both income and change in income variables. Therefore, solving the model in the dynamic mode, using current and immediate-past data on exports, capital inflows of the non-bank sector and the change in the credit of the banking sector, will yield the final equilibrium values of the endogenous variables (Income and growth rate of income, etc) and the time-path towards them.

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 raising inflationary expectations 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 upward demand for imports is unleashed.
- Increases in domestic interest rates for the purposes of reducing growth in the monetary aggregates may induce capital inflows, which place upward pressure on the money supply and cause exchange rate appreciation.

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 sequential procedure is employed to ensure a consistent program. Projections are developed sector by sector, with the intention of providing 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. A 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 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 domestic and trading partners' inflation rates, then adoption of this rule could be another element of unchanged policies. In assessing the policy stance, it is important that the coverage is 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 a preliminary price and real output parameters, followed by forecasts for the balance of payments, the fiscal 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 have to be consistent with the structure of the economy and the designated 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. There are four separate accounts, they are interconnected as the impact of one affects one or more of the others. A brief description of each of the account is presented below.

2.2 Real Sector

The real sector of an economy embodies 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 real sector forms the national accounts, the circular flow of income and expenditure provides the conceptual framework for showing the relationship among the aggregates that make up the national accounts. This framework provides the fundamentals for understanding the national accounts, which shows that aggregate income equals aggregate expenditure and also aggregate production. The real sector accounting framework is designed to measure the monetary value of aggregate output of goods and services in an economy in a particular period, usually one year.

The measure of the monetary value of 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. 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:

$$Y = C + I + (X-M) \quad (2.1)$$

$$Y = A + B \quad (2.2)$$

Where:

$$A = C + I = C_p + C_g + I_p + I_g \quad (2.3)$$

$$B = X - M \quad (2.4)$$

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,

$$\text{GDP} + Y_f = C + I + (X - M + Y_f) \quad (2.5)$$

$$\text{GDP} + Y_f = \text{GNI}$$

GNI = Gross National Income

Add Net Foreign Transfer Payment (Trf)

$$\text{GDP} + Y_f + \text{Trf} = C + I + (X - M + Y_f + \text{Trf}) \quad (2.6)$$

$$\text{GDP} + Y_f + \text{Trf} = \text{GNDI}$$

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 of time. The BOP is concerned with transactions and thus deals with flows and not stocks. The BOP compilation is based on the general principles of double entry system reflecting economic transactions into two entries: credit and debit, which are expected to be equal values. BOP statistics are expressed in the domestic currency or in a stable unit of account.

Table 2.1
The Balance of Payments Accounts

Balance of Payments	
(i)	Current Account Goods Exports (fob) Import (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 embodies government expenditure, revenue and borrowing. The fiscal sector account is 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's 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 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.

$$\text{Current Fiscal Balance} = \text{Total Current Revenue} - \text{Total Current Expenditure} \quad (2.7)$$

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 authorities 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 clearing house for all financial flows, the monetary account provides 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, average price level in the economy and the balance of payments position.

The monetary accounts are based on central bank balance sheets of banking system (central bank and deposit money banks) and compiled in form of stock

data, that is, in terms of aggregate value of assets and liabilities at a particular point in time, rather than as a flow data, which record transactions carried out over a period of time. The monetary survey is obtained through the consolidation of DMB's and the Central Bank analytical balance sheet. The component 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

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

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

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 account and BoP, respectively, that is,

$$\begin{aligned} \text{GNDI} &= \text{GDP} + Y_f + \text{Trf} \\ &= C_p + C_g + I_p + I_g + (X - M + Y_f + \text{Trf}) \end{aligned} \quad (2.10)$$

$$\begin{aligned} S &= \text{GNDI} - C_p - C_g \\ &= I_p + I_g + (X - M + Y_f + \text{Trf}) \end{aligned} \quad (2.11)$$

$$S - I = \text{CAB} \quad (2.12)$$

$$\text{Recall } S_p + S_g - I = \text{CAB} \quad (2.13)$$

$$(S_p - I_p) + (S_g - I_g) = \text{CAB} \quad (2.14)$$

Or

$$\text{Recall } (S_p - I_p) + (T_x - G) = \text{CAB} \quad (2.15)$$

Note: The current account imbalance could result from the private ($S_p - I_p$) or public sector ($T_x - G$) sectors. The overall balance of payments position gives the change in external reserves as shown in equation (2.16) below:

$$CAB + \Delta FI = \Delta R \quad (2.16)$$

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 $NFA = M2 - NDC - OIN$

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

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 $S - I = CAB$

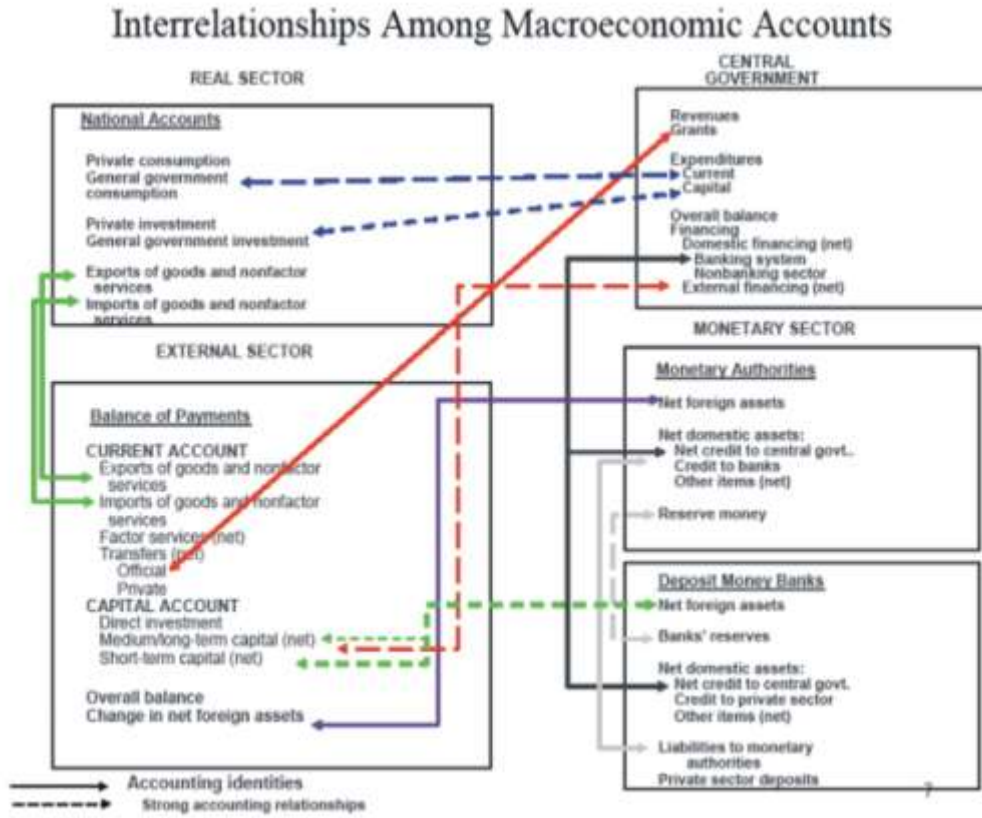
$$S - I + \Delta FI = \Delta NFA = \Delta M2 - \Delta NDC - \Delta OIN \quad (2.18)$$

$$\Delta M2 = S - I + \Delta FI + \Delta NDA = (S_p - I_p) + (S_g - I_g) + \Delta FI + \Delta NDA \quad (2.19)$$

$$NDA = C_p + C_g \text{ (Assets)}$$

The 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) and public sector (fiscal) and external sector (BoP). The figure below shows the diagrammatical linkages.

Figure 2.1



Note: The production of goods and service are 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 Introduction

Monetary programme is used to set benchmarks for the various monetary and credit aggregates consistent with the desired overall economic activity for a given period on a forward-looking time-frame. These benchmarks are set in consonance with the expectations of the performance of all sectors of the economy to ensure the achievement of low and stable inflation as well as sustainable output growth, positive balance of payments position and stable exchange rate.

3.2 Monetary Programme and Monetary Policy Formulation

The Monetary Policy Committee (MPC) is charged with responsibility for formulating monetary and credit policies. To carry out its function, the MPC relies on macroeconomic data in order 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 the budget and budget implementation play in monetary development;
- how the balance of payments (BOP) has affected monetary operation;
- whether growth in credit to private sector has been excessive or has declined; and
- the behaviour of real interest rate among others.

The monetary survey is used to evaluate the performance of the major monetary aggregate benchmarks set under the monetary programme. The outcome of the comparison is one of the major considerations that guide MPC in monetary and credit policy formulation. The monetary Programme is the bedrock for monetary policy formulation.

3.3 Monetary Programme and Monetary Policy Implementation

Monetary policy implementation is the day- to-day actions of the monetary authorities to ensure that the overall goal of monetary policy is achieved. To carry out this effectively, the monetary authorities through various measures compare outcomes to targets on daily, weekly, monthly, quarterly and annual bases. At any point when the outcome or forecast deviates from the benchmark, the monetary authorities take actions to bring the deviation within tolerable limits.

3.4 Monetary Programme and Liquidity Forecasting

Liquidity forecasting has become a major component (tool) employed in monetary policy implementation. The monetary programme sets the benchmark for the major monetary policy aggregates. Reserve Money gives an indication of liquidity conditions in the economy. The deviation of RM forecast from target shows the direction of liquidity condition. A positive (+) deviation shows surplus and hence calls for policy action that would withdraw excess liquidity using the most appropriate instruments while negative (-) deviation indicates a shortfall and monetary policy actions that would inject liquidity into the system.

3.5 Monetary Programme and Instruments of Monetary Policy

The design of the monetary programme states the key policy thrust and strategies that would be adopted to realize the programme objectives. To realize the programme objectives, the monetary authorities decide on monetary policy instruments that could be used during the programme period to avoid the actualization of the aggregate benchmarks. The instruments used; are Open Market Operation (OMO), Discount Window Operation (DWO), Liquidity Ratio (LR), Cash Reserve Requirements (CRR), Currency Swaps (CS), Moral Suasion (MS), and so on. The frequency, tenor and type of instruments are determined by the deviation of forecast reserve money from target and on how long it persists.

CHAPTER 4

THE FRAMEWORK OF THE CENTRAL BANK OF NIGERIA 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, such as the economy's total output growth, inflation rate, balance of payments and exchange rate. The CBN monetary programme is derived using the financial programming framework which depends on the four sector macroeconomic accounts.

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 the key macroeconomic variables are termed scenarios. Generally, monetary programme is prepared under two scenarios: 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 course of 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 the 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 assumptions that there is no policy change.

The limitations of the forecast obtained under this scenario are quite 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 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 of 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 programmes are discussed below:
- Optimistic scenario: This scenario is based on expectation of much higher performance during the programme period. It assumes higher output and very low price level because of greater efficiency in resource utilization. Oil price and output plays a major role in Nigeria's economy. The scenario assumes overly high oil prices and output, which will lead to an increase in fiscal revenue. Furthermore, the high oil revenue is expected to generate higher external reserve position, which would be sterilized to achieve low and stable price levels. Consequent upon sterilization, the growth in money supply is expected to be moderate.
 - Realistic Scenario: This scenario is based on expectation of moderately favourable economic development during the programme period. The projections for real output growth and inflation as well as other variables are realistic and attainable based on the 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 security situation in the Niger-Delta a factor in the estimation of realistic oil output. Under this scenario, moderate oil price and output is assumed which will lead to moderate increase in fiscal revenue and expenditure. The moderate oil revenue is expected to generate moderate accretion to the external reserve position resulting in moderate growth in money supply. This is expected to lead to low and stable price level.
 - Pessimistic Scenario: This scenario is built on the assumption that economic developments during the programme period would be unfavourable. A pessimistic scenario is the worst case scenario, where

negative shocks, lower output and higher inflation are expected. For example, one of the assumptions under this scenario is that oil output and prices would be lower than their benchmarks, hence, higher fiscal deficit. The deficit is assumed to be financed from the banking system. Irrespective of the sources of banking system financing, the outcome is always detrimental to the economy. For example, if the banking system financing is from the DMBs, it will lead to the crowding out of the private sector, resulting in lower output growth. If the banking system financing is from the monetary authorities, it would 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. Then, the fiscal account and monetary accounts are projected. 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; Real GDP growth, inflation, monetary aggregates.
- Review current policies and identify reasons for the deviation of actual from target.
- Highlight outstanding problems in various sectors of the economy.
- Suggest policies that will address the identified sectoral problems.
- Start projections which 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 on the basis of 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 on the basis of the forecasts of nominal GDP and its components, the balance of payments, and relevant revenue policy measures.
- Project expenditures on the basis of 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) using real GDP growth rate and inflation.
- Estimate the Reserve Money (RM).
- Forecast Net Foreign Assets (NFA) using the 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 (non-government).
- Forecast Other Items Net (OIN) as 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 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 OF THE FINANCIAL PROGRAMME

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 balance of payments problem, high inflation rate, and low or falling output.

The benefits of Financial Programme include the following:

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). This provides 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 rightly, 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 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 had a pessimistic scenario. It is important to note that in the Nigerian context, the economy is exposed to shocks such as fiscal surprises; oil price and exchange rate volatility.

v Provision of Policy Alternatives/Trade-offs

It highlights the trade-offs among macroeconomic objectives and provides policy makers with alternative policy choices. 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 desirable level of economic activities to achieve internal and external balances.

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 the fiscal accounts come with a lag. The audited statement of account of the fiscal authorities, which are actual values of revenue and expenditure, come with even 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 mostly estimates. The fiscal account data are not always complete due to excessive bureaucracy, which hamper the disclosure of government fiscal operations, especially on the revenue side and because of the use of accrual system in accounting for expenditure. Informal import and export trade may affect the completeness of BOP data. The 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 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 Programme

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 realisation 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 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 co-ordination 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, which causes disconnect 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 employs the monetary programme framework in the formulation and implementation of monetary policy. The adoption of the framework is based on the monetary targeting approach, while its theoretical basis is rooted in the quantity theory of money as well as the Polak's model and the two gap analysis. Essentially, monetary programme is used to project monetary aggregates that are consistent with the desired macroeconomic objectives, which include real GDP growth, low inflation and exchange rate stability.

The CBN monetary programme is based on the interrelationship among the four sector macroeconomic accounts, namely; real sector, external sector, government sector and monetary sector. Generally, the monetary programme is produced under two scenarios; baseline and programme scenarios. The programme scenario is further sub-divided into three, namely; 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 period.

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

BIBLIOGRAPHY

- Anyanwu, J.C. (1993) "Monetary Economics: theory, policy, and institutions", Hybrid publishers, Onitsha, Nigeria.
- CBN Monetary Programme volume 1.
- 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.
- Omoruyi, S. (2006), " Interrelationships Among Macroeconomic Accounts", Paper presented at the Introductory Course on Macroeconomic Accounts and Monetary Policy Management for Staff of the Monetary Policy Department, CBN.
- 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.
- Rostow, W.W. (1960), "The Stages of Economic Growth: A Non-communist Manifesto", Cambridge University Press, pp. 4-16.
- Solow, R. (1956), "A Contribution to the Theory of Economic Growth", Quarterly Journal of
Economics, Vol.70, No. 1, pp 65 – 94.

GLOSSARY OF TERMS

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

Balance of Payment: A statistical statement that systematically summarizes transactions involving payment or receipt of foreign exchange for a specific period, the economic transactions of an economy with the rest of the world.

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

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

Benchmarks: Macroeconomic target against which policy outcomes are assessed.

Broad money (M2): is the widest measurement of the money supply. It is generally one measure of money supply that includes narrow money (M1) savings and time deposits.

Budget: Estimate of revenue and expenditure of the government 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 in the form of securities trading, the acquisition of companies and loan by foreign companies.

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

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

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

Demand Management: Policies on either interest rate, taxation or public expenditure policies to influence economic decision relating to consumption,

investment, the balance of trade, and public sector borrowing to avoid recession.

Deposit Money Banks (DBMs): Financial intermediaries that accept deposits and channels those deposits into lending activities.

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. An economic agent makes an optimization decision/choice.

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 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: Is a comprehensive and consistent set of policy measures aimed at achieving certain desired macroeconomic objectives of an economy.

Financing Option: Financial transaction classified as derivative contract between two counterparties with the terms of the option specified.

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

Full Employment: Is a condition of the national economy, where all or nearly all persons willing and able to work at the prevailing wages and working conditions are able to do so.

Gross Domestic Product (GDP): Is the value of total output actually produced in the whole economy over some period of 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 contribution to current production, whether it is located at home or abroad.

High Powered Money: The monetary magnitude that is under the direct control of the central bank. It consists of currency in the 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 of time. It is also called velocity of circulation.

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

Interest Rate: Rate charge or paid for the use of money, often expressed as annual percentage of the principal.

Liquidity Forecasting: The forecast of the balance sheet of the Central Bank, so that by residual the central bank can judge the scope of its market intervention in order to maintain the appropriate level of high 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 medium of exchange, 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, a 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 with a given reserve ratio.

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

Monetary Policy Committee (MPC): The committee of the Central Bank of Nigeria that formulates 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 DMB's 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, claim on DMB's and claims on domestic sector.

Net Foreign Asset: The balance on 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 expectation of much higher performance during the programme period. It assumes higher output and very low price level because of greater efficiency in resources utilization.

Other Item 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 in minority holdings of shares that do not establish legal control.

Price Stability: low and stable inflation rate in an economy over a 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. It includes currency in circulation.

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

Trade-off: Involves losing one quality or aspect of something in return for gaining another quality.

Transmission Mechanism: The transmission mechanism is the process by which monetary policy affect the economy. It involves the timing as well as the channel through which monetary policy affect 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.