MEFMI

Macroeconomic and Financial Management
Institute of Eastern and Southern Africa

FINANCIAL PROGRAMMING AND POLICIES MANUAL

Macroeconomic and Financial
Management Institute of
Eastern and Southern Africa

BUILDING
SUSTAINABLE
CAPACITY

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Abbreviations and Acronyms

BOP	Balance of Payments
BPM6	Balance of Payment and International Investment Position Manual
CAB	Current Account Balance
CBS	Central Bank Survey
CIC	Currency in Circulation
CFK	Consumption of Fixed Capital
COE	Compensation of Employees
CRTf	Net current transfers from non-residents
CPI	Consumer Price Index
DC	Domestic Credit
DCp	Domestic Credit to Non-Government Sectors
DCS	Depository Corporations Survey
EXP	Exports of Goods and Services
FCN	Final Consumption
FCT	Foreign Current Transfers
FDI	Foreign Direct Investment
FCA	Foreign Currency Accounts
FCS	Financial Corporations Survey
FKT	Foreign Capital Flows
FPP	Financial Programming and Policies
GDP	Gross Domestic Product
GDPbp	GDP at Basic Prices
GDPfc	GDP at Factor Cost
GDPmp	GDP at Market Prices
GDPpp	GDP at Producer Prices
GFS	Government Finance Statistics Manual
GNDI	Gross National Disposable Income
GNI	Gross National Income
GVE	Government Expenditure
GVR	Government Revenue
IC	Intermediate Consumption
IMF	International Monetary Fund
IIP	International Investment Position
IMP	Imports of Goods and Services
IV	Gross Capital Formation (Gross Fixed Capital Formation and Change in Inventories)
MFSMCG	Monetary and Financial Statistics Manual and Compilation Guide
MB	Monetary Base
Mm	Money Multiplier
NBRg	Government Borrowing from Domestic Non-Bank Sources
NDA	Net Domestic Assets
NDC	Net Domestic Credit
NFA	Net Foreign Assets
NDCg	Net Domestic Credit to Government
NFB	Net Foreign Borrowing of the Non-Central Bank Sectors
NFBg	Net Government Foreign Borrowing
NFBp	Net Non-Government Foreign Borrowing
NFY	Net Income from Abroad
NL	Net Lending
NIR	Net International Reserves
NPISH	Non- Profit Institutions Serving Households
ODCS	Other depository corporations survey
OIN	Other Items Net
OP	Output
OSM	Operating Surplus and Mixed Income
OTP	Other Taxes on Production
PAYE	Pay As You Earn
PMY	Primary Income
PPI	Producer Price Index
PTY	Property Income
QTM	Quantity Theory of Money
RM	Reserve Money
S	Savings
SADC	Southern African Development Community
SBS	Sectoral Balance Sheet
SGO	Statement of Government Operations
SNA	System of National Accounts
TOP	Taxes on Products
TPI	Taxes on Production and Imports
VA	Value Added
VAT	Value Added Tax

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Foreword

Louis Kasekende
MEFMI Executive Director

Consistent macroeconomic data is critical for evidence-based economic policy making. In light of this, Financial Programming and Policy (FPP) remains a key analytical tool in the MEFMI region as it enables data collection, processing and analysis among the four (4) macroeconomic accounts (National Accounts; Statement of Government Operations; Balance of Payments; and Depository Corporation Survey). It also allows for the interrelations between these accounts in an integrated and consistent manner. FPP can be used to simulate the short-run and long-run effects of certain shocks to the economy's real growth rate, budget deficit, and the balance of payments position. Various policy exercises are suggested in this manual and illustrations are provided on the impact of key macroeconomic variables.

In recent years, MEFMI has received numerous capacity building requests from member countries in this area. Among other factors, the identified capacity gaps have been a result of high staff turnover in the region, new developments in the area and revisions of manuals guiding the four (4) macroeconomic accounts. As a result, some MEFMI member countries lack consistent frameworks suitable for policy analysis which are critical for economic development.

This manual therefore seeks to serve as a step-by-step instructional guide when developing an operational FPP for countries in the region. It also aims to provide useful techniques for consistency checks between the four (4) macroeconomic accounts and help member countries to present data based on the latest international statistical manuals.

The scope of the manual includes an introduction to a basic financial programming model; the structure of national accounts, statement of government operations, balance of payments and depository corporation survey; interrelations among macroeconomic accounts; and an overview of forecasting within a financial programming framework. The point of departure and major orientation of this manual is a special focus on the situation of MEFMI countries with deliberate efforts to put the whole financial programming framework within the regional context.

It is MEFMI's expectation that the manual will be used as a valuable tool for various levels of officials in the region who are involved in the compilation and analysis of the four (4) macroeconomic accounts data. We also envisage that the manual will provide countries with skills required to develop evidence-based economic policies which are critical for poverty reduction and economic growth. The adoption of consistent policies and frameworks will assist to achieve and maintain macroeconomic stability and hence, contribute to the goal of rapid and sustained growth.

Louis Kasekende
EXECUTIVE DIRECTOR

Acknowledgements

This manual serves as a step-by-step instructional guide when developing an operational financial programming and policy (FPP) framework for countries in the MEFMI region. It also aims to provide useful techniques for consistency checks among the four (4) macroeconomic accounts and helps member countries to present data based on the latest international statistical manuals. It was authored by Dr. William Kavila and Mr. Johnson Nyella who are both MEFMI Accredited Fellows in FPP under the Macroeconomic Management Programme. They have served as consultants in the same area over the years. Dr. Kavila is currently a Deputy Director in the Economics Division at the Reserve Bank of Zimbabwe while Mr. Nyella is a Senior Advisor in the Governor's Office at the Bank of Tanzania. MEFMI acknowledges their contribution in the production of the manual.

In developing the manual, MEFMI appreciates the expertise of Dr. Anna Lennblad, an independent FPP consultant, who did the external review of the first draft. MEFMI is highly indebted to Dr. Lennblad for her input in improving the quality of the manual. Internally, Dr Sehliselo Mpofu, Director - Macroeconomic Management Programme (MMP) and Mr. Senei Molapo, Programme Manager (MMP) guided and coordinated processes leading to the production of the manual. The manual was finally reviewed and edited by the MEFMI Editorial Committee comprising Mr. Tiviniton Makuve, Mr. Noel Mahombero, Mr. Casius Chuma and Mrs Gladys Siwela-Jadagu.

Executive Summary

Nowadays, profound changes are increasingly occurring in all areas of the world economy. While the industrialised and emerging economies are able to contain the multiple external and internal shocks generated by these changes, the MEFMI region still faces difficulties. Faced with the challenges of globalisation, sluggish growth and uneven economic development, debt risk due to improved access to international financial markets, deepening poverty, fiscal risks and other policy challenges, the region requires a basic tool for measuring accounting relationships. This tool should be able to integrate macroeconomic accounts to provide a framework for analysis, help to ensure consistency in the macroeconomic policies, guide an orderly adjustment through early adoption of corrective policy measures, provide for appropriate amounts of financing and forecast based on the assumptions associated with the economic policies. Macroeconomic disequilibrium usually manifests itself in unsustainable fiscal and balance of payment gaps, rising inflation, and low or negative output growth. The measures usually employed include monetary, fiscal, and exchange rate policies.

In 2019, the global and regional developments have had contagion effects on MEFMI member countries. Furthermore, the region is also prone to extreme weather conditions which saw some countries declaring 2019 as a drought year while others were adversely affected by the intensity of cyclone Idai and hurricane Kenneth. These developments are expected to put pressure on the fiscal and external positions of member countries, and in turn, minimize growth prospects in the region. With the outbreak of the COVID-19 pandemic in early 2020, the region is facing new challenges such as averting the risk of an economic recession and significant increase in unemployment. Many economies imposed economic lockdowns, travel restrictions and had to create additional fiscal space for stimulus packages, tax concessions, credit guarantee facilities, deferred payments, and salary subsidies, amongst others.

In light of this, it is also important for countries to institutionalise financial programming as a policy management tool. To do this, there is a need for close cooperation between the institutions responsible for the formulation and implementation of economic policy. Close cooperation in policy formulation and implementation will ensure that fiscal and monetary developments are in harmony. Consistent macroeconomic data is critical for evidence-based economic policy making. Financial Programming remains a key analytical tool in the MEFMI region as it enables data collection, processing and analysis among the four macroeconomic accounts (National Accounts; Government Finance Statistics; Balance of Payments; and Monetary and Finance Statistics). It also allows for the interrelations between these accounts in an integrated and consistent manner.

The importance of imparting skills in the area of financial programming and policy in the region in a simplified and guided step-by-step process remains a priority for MEFMI. The objective of this manual is to serve as an instructional guide when developing an operational Financial Program. The manual also provides useful techniques for consistency checks among the four macroeconomic accounts, and helps member countries present data based on the statistical manuals produced by the International Monetary Fund.

PART 1: INTRODUCTION TO FINANCIAL PROGRAMMING AND THE STRUCTURE OF THE FOUR MACROECONOMIC ACCOUNTS

CHAPTER 01

EXECUTIVE SUMMARY

CHAPTER ONE

THE BASIC FINANCIAL PROGRAMMING MODEL

1.1 Introduction

A financial program refers to a set of policy measures designed to achieve certain macroeconomic goals. The goals can simply be to maintain the existing level of economic activity or, in case the economy is in disequilibrium, to restore equilibrium between aggregate domestic demand and supply.

Macroeconomic disequilibrium usually manifests itself in unsustainable fiscal and balance of payment gaps, rising inflation, and low or negative output growth. The measures usually employed include monetary, fiscal and exchange rate policies. While it is common to prepare an active financial program, one can also use financial programming passively. In an active financial program, the aim is to identify the desired policy measures in order to achieve given objectives. The passive program can also be referred to as a baseline scenario, which entails forecasting based on the assumption of unchanged economic policies. In the baseline scenario forecasting, it is imperative to take into account available information about the economy and its projected course.

Where macroeconomic imbalances exist, some adjustment will be necessary, and a financial program can be used to guide an orderly adjustment through early adoption of corrective policy measures and provision of appropriate amounts of financing.

A financial program is constructed using an integrated system of macroeconomic accounts namely, national accounts, balance of payments, statement of government operations, and the monetary accounts. These accounts provide a framework for analysis and help to ensure consistency in the macroeconomic policies. The accounting framework can be complemented with behavioural relationships.

The accounting relationships among the various accounts is summarized in the flow-of-funds account, which functions as a control measure to ensure that any sector that spends beyond its income is financed by the savings of other sectors, and that excess spending by the entire economy is only possible if external financing is available.

1.2 The Basic Financial Programming Model

The basic financial programming model relates the balance of payments with domestic bank credit in a manner that generates domestic credit targets that are necessary to achieve targeted balance of payments objectives. The balance of payments objectives are primarily measured in terms of changes in official foreign exchange reserves. An increase in foreign exchange reserves occurs when inflows of financial resources from the rest of the world exceed outflows and the opposite occurs when inflows of financial resources fall short of outflows.

The model is built by a comprehensive set of accounting identities and behavioural relationships among macroeconomic variables. The first basic relationship is derived from the consolidated account of the banking sector - the depository corporations' survey. This accounting identity

highlights the fact that money supply (M) must equal net foreign assets (NFA), net domestic assets (NDA) of the depository corporations and other items net (OIN).

$$M3 = NDA + NFA + OIN \quad [1.1]$$

Where

M3 is broad money
NDA is net domestic assets (credit)
NFA is net foreign assets
OIN is other items net

From equation [1.1], it follows that:

$$\Delta M = \Delta NDA + \Delta NFA + \Delta OIN \quad [1.2]$$

The central bank balance sheet is expressed as follows:

$$RM = NFA + NDA + OIN \quad [1.3]$$

Where

RM is reserve money
NFA is net foreign assets
NDA is net domestic assets
OIN is other items net

It follows that:

$$\Delta RM = \Delta NFA + \Delta NDA + \Delta OIN \quad [1.4]$$

Reserve money or high-powered money is the monetary liability of the central bank. It is made up of the currency outside the central bank and deposits of other depository corporations at the central bank.

If we factor out ΔNFA in equation [1.4] we get

$$\Delta NFA = \Delta RM - \Delta NDA - \Delta OIN \quad [1.5]$$

A change in the foreign exchange reserves is positive when the change in domestic assets of the central bank is less than the change in reserve money.

Since the change in foreign reserves reflects the overall balance of payments position, then when foreign reserves are increasing, the balance of payments is generating overall surpluses, which is being added to international reserves, and the opposite becomes true if the balance of payments is generating overall deficits and thus, depleting international reserves.

Equation [1.5] shows how the balance of payments is related to the change in reserve money and change in net domestic assets of the central bank. It highlights the fact that a change in net international reserves can only be positive if the change in net domestic assets of the central bank is less than the change in the stock of reserve money. This means that monetary policy has an important role to play in the pursuit of balance of payments objectives.

In a broader context represented by equation [1.1], a change in the net foreign assets of the banking system can only be positive if the change in net domestic assets is less than the change in money supply. This is the basis upon which the central bank domestic assets ceilings are set in order to achieve balance of payments objectives. Such ceilings have featured in most International Monetary Fund (IMF) supported economic adjustment programs.
Next is a behavioural equation that represents the demand for money function. In its simple form, demand for money is presented as a function of nominal income, Y.

$$\Delta MD = k\Delta Y \qquad [1.6]$$

Where

k is the inverse of income velocity of money and
MD is demand for broad money.

The final equation presents the flow equilibrium of the money market - assuming that the money market always clears.

$$\Delta MD = \Delta MS \qquad [1.7]$$

Where

MS refers to the broad money supply

The relationship depicted by equation [1.7] enables the central bank to target the supply of money that is consistent with income. The nominal income in equation [1.6] has two elements, real income y and the price level p.

$$Y = p \times y \qquad [1.8]$$

By targeting nominal income, the central bank therefore also targets the evolution of the price, depending on the level of real income. For a given amount of money supply, the low level of real income generates a higher price, and the opposite happens when real income is high.

The practical effectiveness of the framework we have just discussed, depends on the stability or predictability of velocity of money circulation and money multiplier, which might have been shaken by the transformative technological advancements in financial services that have taken place in the past two decades.

Besides the instability of velocity of money circulation and reserve money multiplier, the nominal income, upon which the forecasts of broad money and reserve money supply are constructed, is a product of forecasting, which implies that actual levels of broad money and reserve money supply may turn out to be different from the forecasted levels for the same target of foreign exchange reserves. This means that, although the credit ceilings may be observed, the required levels of foreign exchange reserves may not be achieved. This calls for setting a target of minimum foreign exchange reserve assets, as an additional target, and this has featured in most IMF supported adjustment programs, just like the NDA ceilings.

In addition to ensuring that the balance of payments takes a sustainable path, the floor benchmarks under the level of foreign official reserves, serve as a tool for keeping authorities from intervening excessively in the foreign exchange market in order to defend the value of the domestic currency. A market determined exchange rate is essential for the maintenance of external competitiveness, and growth using the existing resources.

1.3 Extension of the Basic Financial Programming Model

The basic financial programming model generates targets of change in international reserves as part of restoration and/or sustenance of external equilibrium. This is primarily achieved by containing domestic absorption within levels that are consistent with national disposable income.

The change in international reserves represents the overall balance of payments position and therefore, the net international reserves target coming from the basic financial programming model can be expanded to program the entire balance of payments as shown in the identity.

ΔNIR = CAB + FKT + FDI + NFB **[1.9]**

Where

CAB is the current account balance,
FKT is foreign capital transfers,
FDI is foreign direct investment and
NFB is net foreign borrowing of non-central bank sectors.

It should be noted that because in identity [1.9] NFB refers to borrowing, a positive change implies increase in financial liabilities or decrease in financial assets. It is on this ground that NFB and NIR (which is defined as a financial asset) take opposite signs if placed on one side of the identity.

0 = CAB + FKT + FDI + NFB – ΔNIR **[1.10]**

Once ΔNIR is set as a target, the right-hand side of equation [1.10] is programmed to generate that target. For instance, in a case where the objective of the financial program is to restore external equilibrium - i.e. to get the economy out of unsustainable balance of payment deficits - policies that will increase exports, reduce imports and attract capital inflows may be necessary, in order to generate increase in foreign exchange reserves sustainably.

The national accounts are brought into the basic financial programming model through the identity that underscores the relationship between gross disposable income, domestic absorption and the external balance.

GDP = FCN + INV + EXP – IMP **[1.11]**

Where

GDP is gross domestic product;
FCN is final consumption;
INV is gross capital formation, which includes gross fixed capital formation and change in inventories;
EXP is exports of goods and non-factor services and
IMP is imports of goods and non-factor services.

GNI = GDP + NFY **[1.12]**

Where

GNI is gross national income and
NFY is net factor income from abroad

GNDI = GNI + FCT **[1.13]**

Where

GNDI is gross national disposable income and
FCT is foreign current transfers
By substitution we get identity [1.14]

GNDI = FCN + INV + EXP – IMP + NFY + FCT [1.14]

The right hand side of identity [1.14] is made up of two components namely: domestic absorption (A)

A = FCN + INV [1.15]

and current account balance (CAB)

CAB = EXP – IMP + NFY + FCT [1.16]

Thus, the current account can be expressed in terms of gross national disposable income and absorption as follows

CAB = GNDI – A [1.17]

Combining [1.16] and [1.17] gives an expression, which relates change in reserves with domestic absorption

ΔNIR = GNDI – A + FKT + FDI + NFB [1.18]

Identity [1.18] implies that the balance of payments will worsen to the extent that domestic absorption exceeds disposable income and change in foreign liabilities of the non-central bank sectors. Linking this with identity [1.17] indicates that credit ceilings can be used to control domestic absorption to achieve domestic and external balances. In other words, ceilings on domestic assets of the banking system can be used to align supply with domestic demand such that the resulting resource gap can be sustainably filled by the savings of non-residents represented by FKT + FDI + NFB.

Fiscal policy is introduced by first expanding foreign financial account of the balance of payments and domestic bank credit from the depository corporations' survey. Net foreign borrowing can be divided into government borrowing NFBg and non-government borrowing NFBp.

NFB = NFBp + NFBg [1.19]

Domestic credit of the banking sector can also be divided into net government bank borrowing NDCg and non-government domestic bank borrowing DCp

ΔDC = ΔDCp + ΔNDCg [1.20]

Assuming that government borrowing from domestic non-bank sources is constant, total government financing can be seen as the sum of government foreign borrowing and domestic bank and non-bank borrowing, hence the following government budgetary constraint:

GVE – GVR = NFBg + ΔNDCg + PBRg [1.21]

Where

GVE stands for government total expenditure,
GVR for total government revenue and
PBR for government net borrowing from non-banks.

This identity shows, in the light of identity [1.20], the importance of setting ceilings on government borrowing from the banking system in order to achieve balance of payments objectives.

In early years of Tanzania's program with the IMF, for instance, the set of program ceilings included lending to central government and public enterprises because the enterprises were taking up large proportions of domestic credit of the banking system. Successive tightening of credit to the enterprises, coupled with structural reforms reduced their share of credit to negligible amounts and therefore, the enterprises ceased to appear in the domestic credit ceilings.

Ceilings on credit to government serve as a tool for managing domestic demand within levels consistent with supply. They also serve as a long-term mechanism for increasing existing factor productivity and expanding the productive capacity of the economy by redirecting the flow of credit from the less-productive public entities to private enterprises. As in the case of Tanzania, this may have to be supported by restructuring of the public sector and streamlining the intermediation infrastructure.

CHAPTER 02

THE STRUCTURE OF NATIONAL ACCOUNTS

CHAPTER TWO

THE STRUCTURE OF NATIONAL ACCOUNTS

2.1 Introduction

The System of National Accounts (SNA) consists of a coherent, consistent and integrated set of macroeconomic accounts, balance sheets and tables based on a set of internationally agreed on concepts, definitions, classifications and accounting rules. It provides a comprehensive accounting framework within which economic data can be compiled and presented in a format that is designed for purposes of economic analysis, decision-taking and policy making.

The national accounts statistics cover transactions of all resident economic units for a specific period of time. Although they are commonly seen in their aggregate forms such as GDP, GNI and GNDI, these statistics can be presented for each institutional unit and are commonly consolidated by industry or sector classification. SNA defines a transaction as an economic flow arising from interaction between institutional units by mutual agreement or an action within an institutional unit that is analytically useful to be treated like a transaction, often because the unit is operating in two different capacities. Residence of an economic agent is determined on the basis of the country in which the agent's predominant economic interest lies (Annex 1).

The general principle in national accounting is to record transactions on accrual basis, i.e. when claims and obligations arise, get transformed or get cancelled. Accrual accounting requires that all transactions be recorded, even if they do not involve cash flows. Discussion in the rest of this chapter is arranged according to the sequence of national accounts.

2.2 The sequence of national accounts

2.2.1 Current accounts

The current accounts record the production of goods and services, the generation of incomes by production, the subsequent distribution and redistribution of incomes among institutional units or sectors, and the use of incomes for purposes of consumption or saving. In the following part of this chapter, we are going to discuss the key macroeconomic aggregates with their corresponding accounts in the system of national accounts.

2.2.2 Output, value added and gross domestic product

Output, value added and intermediate consumption are items in the production account of the system of national accounts. This account records the activity of producing goods and services with output being recorded as resource and intermediate consumption, as use. The balancing item in this account is gross value added - defined as the value of output less the value of intermediate consumption.

VA = OP – IC **[2.1]**

Where

VA is value added

OP is output

IC is intermediate consumption

Output is measured differently depending on whether the unit engaging in production is established for production of market or non-market products. In the case of a market establishment, output is measured by the value of sales plus goods added to inventories. On the other hand, output for non-market establishment is measured as cost of production, i.e. the sum of intermediate consumption, compensation of employees and consumption of fixed capital. Establishments are considered to be non-market if they are created to produce goods and services supplied without charge or sold at prices that are not economically significant. Falling under this category, are government and non-profit entities. The value of output of the general government and non-profit institutions serving households is therefore measured as cost of production as shown in identity [2.2].

OP = COE + IC + CFK **[2.2]**

Where

COE is compensation of employees

CFK is consumption of fixed capital

The rest are as defined above. If we apply the value added formula in identity [2.1] to a non-market establishment, gross value added becomes the sum of compensation of employees and consumption of fixed capital.

VA = COE + CFK **[2.3]**

Intermediate consumption refers to the value of the goods and services consumed as inputs in the process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. **Value added** - the balancing item in the production account — is obtained as output minus intermediate consumption for an institutional unit, sector, or industry. It measures the value created by production and can be computed without deducting consumption of fixed assets as gross value added or with consumption of fixed assets deducted as net value added. The sum of the gross values added by all producers in the economy is gross domestic product (GDP).

GDP = ∑VAi **[2.4]**

GDP can be compiled by individual units and can be aggregated by institutional sectors or activities (industries). The consolidated production account presents GDP from the production side and therefore it corresponds with GDP from production approach. Table 2.1 shows a typical presentation of GDP production approach by activity.

Table 2. 1: GDP by activity – current prices (billions of shillings)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
GDP at 2015 Prices by Economic Activity										
Economic Activity										
Agriculture, Hunting and Forestry	19,947	20,585	21,097	21,807	22,408	23,952	25,235	26,436	28,012	29,770
Crops	9,568	10,032	10,378	10,821	11,298	12,360	13,296	14,014	14,918	16,006
Livestock	5,982	6,058	6,097	6,213	6,512	6,830	7,168	7,516	7,887	8,277
Forestry and hunting	2,339	2,418	2,494	2,582	2,700	2,829	2,924	3,039	3,185	3,358
Fishing	2,058	2,077	2,128	2,191	1,899	1,933	1,846	1,867	2,023	2,129
Industry and construction	14,135	15,432	17,258	17,987	19,872	21,057	23,104	25,818	28,574	31,623
Mining and quarrying	2,731	2,929	3,105	3,315	3,465	3,687	4,056	4,357	4,589	4,843
Manufacturing	5,010	5,458	5,822	6,067	6,293	6,920	7,412	8,213	8,890	9,626
Electricity, gas	598	678	647	669	724	815	799	869	878	902
Water supply	345	353	348	358	368	382	391	418	453	487
Construction	5,452	6,014	7,335	7,578	9,023	9,253	10,447	11,961	13,765	15,765
Services	25,134	27,104	29,333	31,224	32,809	35,864	38,147	40,550	42,691	45,382
Trade and repairs	5,813	6,392	7,097	7,371	7,682	8,444	8,748	9,261	9,821	10,432
Hotels and restaurants	1,168	1,211	1,258	1,344	1,356	1,398	1,422	1,480	1,528	1,578
Transport	4,749	5,258	5,478	5,710	6,051	6,578	6,930	7,325	7,816	8,354
Communications	768	956	1,035	1,267	1,414	1,560	1,681	1,719	1,824	1,940
Financial intermediation	2,538	2,858	3,273	3,444	3,406	3,764	4,189	4,236	4,115	4,239
Real estate and business services	3,653	3,958	4,081	4,346	4,761	5,253	5,652	6,295	6,799	7,358
Public administration	3,021	2,870	3,317	3,623	3,974	4,242	4,549	4,794	4,907	5,132
Education	1,596	1,697	1,788	1,923	1,928	2,186	2,413	2,665	2,859	3,074
Health	1,061	1,097	1,152	1,285	1,245	1,350	1,419	1,498	1,612	1,734
Other social and personal services	765	808	853	910	991	1,088	1,144	1,278	1,410	1,540
Gross value added before adjustments	59,216	63,121	67,688	71,018	75,089	80,873	86,485	92,804	99,278	106,775
less FISIM	0	0	0	0	0	0	0	0	0	0
Gross value added at constant 2001 basic prices	59,216	63,121	67,688	71,018	75,089	80,873	86,485	92,804	99,278	106,775
Add Taxes on products	5,959	6,183	6,934	6,962	8,179	8,001	7,865	8,025	8,393	8,392
GDP at constant 2015 market prices	**65,175**	**69,305**	**74,622**	**77,980**	**83,268**	**88,874**	**94,349**	**100,828**	**107,670**	**115,168**

Gross value added is a source of primary incomes. It is carried forward from the output account to the generation of primary income account, an account that shows the destination of the incomes generated by resident institutional units or sectors. The generation of income account can be compiled for establishments and industries, as well as for institutional units and sectors. The value added is distributed to labour as compensation of employees, government as taxes on production and imports minus subsidies and capital as operating surplus and mixed income.

$$VA = COE + OSM + TPI \qquad [2.5]$$

Where

OSM is operating surplus and mixed income

TPI is taxes on production and imports

The rest are as defined above.

Compensation of employees refers to total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the latter during the accounting period. It is made up of two components: a) wages and salaries; and b) social contributions paid into a social insurance scheme by the employer.

Taxes on production and imports are taxes levied on goods and services at the time they are produced, sold or imported, or possibly on other occasions, together with taxes which become due as a consequence of engaging in production.

Operating surplus and mixed income is computed as balancing items. This is surplus or deficit accruing from production before taking account of any interest, rent or similar charges payable on financial or tangible, non-produced assets borrowed or rented by the enterprise, or any interest, rent or similar receipts receivable on financial or tangible, non-produced assets owned by the enterprise.

Operating surplus refers to the part that accrues to incorporated enterprises while mixed income refers to the part that accrues to unincorporated enterprises owned by households. It is described as mixed income because these enterprises do not maintain accounts, and therefore it is not possible to separately identify compensation of employees from the return to the owner as entrepreneur. It is also not possible to impute ratios on the basis of the corporation sector because the conditions of unincorporated enterprises owned by households are different from those of corporation sector.

Because the generation of income account presents the incomes from the perspective of the paying unit, if presented by sector, each sector will show how much of the primary income it paid out to the factors of production and the government. In this case, the household sector, the primary income paid will appear under unincorporated enterprises owned by households.

By showing how value added is paid out as compensation of employees, taxes on production and imports, and operating surplus and mixed income, the generation of primary income account underscores the equivalence of GDP measured from production side and GDP measured from the income side.

2.3 Allocation of primary income and the national income

The allocation of primary income account focuses on resident institutional units or sectors in their capacity as recipients of primary incomes. This account does not have direct link with production and can only be compiled for institutional units and sectors. Primary incomes are received by the factors that participate in production. Labour receives compensation of employees and capital receives operating surplus. The account also includes property income, which is received by the owners of financial assets and tangible, non-produced assets, mainly land and subsoil assets. Property incomes accrue when the owners of such assets put them at the disposal of other institutional units.

$$PMY = OSMr + COEr + TPIr + PTYr - PTYp \quad [2.6]$$

Where

PMY is balance of primary income

Subscript r stands for receivable

Subscript p stands for payable

The rest are as defined above

When individual units' accounts are consolidated, the property income paid and received by domestic units are netted out; hence, at aggregate level the property income paid and received by domestic units add up to zero leaving only the net inflows of property income from non-residents. As for compensation of employees, the amount received by residents is equivalent to the amount received from domestic sources, plus receipts from non-resident sources. Since the entire amount of operating surplus comes from resident units, the value of national income can be obtained by adding net primary income from non-residents to the value of domestic product.

GNI = GDP + PMYf **[2.7]**

Where

GNI is gross national income

PMYf is net primary income from non-residents

Table 2.2: Gross National Income

	2014	2015	2016	2017	2018
GDP at current market price	82,603.4	94,349.3	108,362.3	118,744.5	129,364.4
Net primary income from ROW	-875.0	-1,438.0	-2,079.3	-2,184.5	-1,969.2
Gross national income (GNI)	**81,728.4**	**92,911.3**	**106,283.0**	**116,560.0**	**127,395.2**

National income is identical to gross national product (GNP), as traditionally understood in national accounts, but conceptually, GNI is a measure of income, and therefore it is not proper to refer to it as product.

2.4 Secondary distribution of income and the national disposable income

The secondary distribution of income account shows how the balance of primary incomes of an institutional unit or a sector is transformed into its disposable income by adding net receipts of current transfers, including *inter alia* current taxes on income and wealth, social contributions, social benefits and other current transfers. The outcome for individual units is disposable income and the corresponding aggregate for the entire economy is gross national disposable income (GNDI).

Current taxes on income and wealth consists mainly of taxes levied on the incomes and profits of households and corporations, as well as virtually all other taxes payable by households, such as motor vehicle licences. The taxes may be payable by non-residents and possibly by government units or non-profit institutions. Current taxes on income and wealth would have been described as "direct taxes" in the past, but the terms "direct" and "indirect" are not used in the SNA.

Social contributions by employees and employers are payable by households to social security funds and privately funded social insurance schemes. They consist of the actual contributions payable each period plus, in the case of privately funded schemes, the contribution supplements payable out of the property income attributed to insurance policy holders received by employees participating in the schemes less the service charges, when appropriate.

Social benefits are current transfers received by households intended to provide for the needs that arise from certain events or circumstances, for example sickness, unemployment, retirement, housing, education or family circumstances. They include social insurance benefits and social assistance benefits.

Other current transfers consist of all current transfers between resident institutional units, and between residents and non-residents. They do not include transfers of funds committed to finance gross fixed capital formation such transfers being treated as capital transfers.

Disposable income is the maximum amount of resources that an institutional unit can afford to spend on final consumption goods and services in the accounting period without having to reduce its cash, dispose of other assets or increase its liabilities.

When the accounts of residents' units are consolidated the transfers among them add up to zero as each debit representing an outflow of transfer from one resident unit to another resident unit is matched with a counter-entry in the receiving resident unit such that, at the aggregate level, only the net current transfers from non-residents appears and hence GNDI is equivalent to GNI plus net current transfers from non-residents.

GNDI = GNI + CRTf **[2.8]**

Where

GNDI is gross national disposable income

CRTf is net current transfers from non-residents

Table 2.3 presents aggregated disposable income at national level.

Table 2. 3: Gross national disposable income (billions of shillings)

	2014	2015	2016	2017	2018
Gross national income (GNI)	81,728.4	92,911.3	106,283.0	116,560.0	127,395.2
Net secondary income from ROW	788.7	952.9	830.4	896.0	1,060.7
Gross national disposable income (GNDI)	**82,517.1**	**93,864.2**	**107,113.4**	**117,456.0**	**128,455.9**

The gross disposable income from this account is carried forward to the use of disposable income account.

2.5 Use of disposable income, final consumption and saving

The use of disposable income account takes disposable income from the secondary distribution of income account as a resource and final consumption as use. It shows how saving is derived as a remaining balance after subtracting final consumption from disposable income. Saving therefore, represents that part of disposable income that is not spent on final consumption of goods and services. Households, government and NPISH have final consumption, but financial and non-financial corporations do not. Thus, the saving of financial and non-financial corporations is equal to their disposable income.

At aggregate level the balance in the use of income account represents the saving available for domestic capital formation and net acquisition of financial assets. This balance is thus carried forward to the capital account.

S = GNDI – FCN **[2.9]**

Table 2.4 Use of disposable income (billions of shillings)

	2014	2015	2016	2017	2018
Gross national disposable income (GNDI)	82,517.1	93,864.2	107,113.4	117,456.0	128,455.9
Final consumption	62,297.8	69,619.6	74,761.7	81,577.2	88,207.3
Government	8,151.1	9,366.3	9,824.7	10,097.4	10,467.8
Nousehold	53,954.5	60,047.1	64,699.5	71,211.5	77,443.0
Non profit institutions serving households	192.2	206.1	237.5	268.3	296.5
Discrepancy	9,491.5	11,757.4	13,672.3	17,079.5	19,260.9
Saving	**10,727.8**	**12,487.2**	**18,679.4**	**18,799.3**	**20,987.7**

2.6 Fixed capital formation and change in inventories

The capital account records changes in non-financial assets on one side, and savings and capital transfers on the other. It combines saving and capital transfers net to arrive at change in net worth due to saving and capital transfers. Among the changes in non-financial assets, the capital account includes the various types of investment in non-financial assets.

Capital transfer in kind consists of the transfer of ownership of an asset (other than inventories and cash) or the cancellation of a liability by a creditor, without any counterpart being received in return. A capital transfer in cash consists of the transfer of cash that the first party has raised by disposing of an asset, or assets (other than inventories), or that the second party is expected, or required, to use for the acquisition of an asset, or assets (other than inventories).

The change in the assets side of the capital account includes gross capital formation, change in inventories, consumption of fixed capital and acquisition less disposal of valuables and non-produced assets. Consumption of fixed capital is a negative change in fixed assets, and therefore it is recorded with a negative sign. Recording gross fixed capital formation less consumption of fixed capital on the same side is equivalent to recording net fixed capital formation.

Gross fixed capital formation is measured by the total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain additions to the value of non-produced assets realised by the productive activity of institutional units. Fixed assets are tangible or intangible assets produced as outputs from processes of production that are themselves used repeatedly or continuously in other processes of production for more than one year.

Changes in inventories is the value of the inventories acquired by an enterprise less the value of the inventories disposed of during the accounting period. Some of these acquisitions and disposals are attributable to actual purchases or sales, but others reflect transactions that are internal to the enterprise. It deserves mention that changes in the value of inventory is not a transaction and therefore is not included in the value of *changes in inventories.*

Valuables are assets that are not used primarily for production or consumption, that do not deteriorate over time under normal conditions and that are acquired and held primarily as stores of value. They include works of art, precious metals and stones and articles of jewellery formed out of them.

Non-produced assets occur in nature and over which ownership may be enforced and transferred. Environmental assets over which ownership rights have not, or cannot, be enforced, such as open seas or air, are excluded. Tangible, non-produced assets consist of land, subsoil assets, non-cultivated biological resources and water resources.

Table 2.5: Capital account (billions of shillings)

	2014	2015	2016	2017	2018
Saving	10,727.8	12,487.2	18,679.4	18,799.3	20,987.7
Gross capital formation	31,103.4	30,907.6	34,865.3	40,427.4	50,383.1
Fixed capital formation	27,399.8	30,070.2	35,492.8	42,141.9	50,316.2
Change in valuables	756.5	903.0	1,105.4	1,006.2	1,215.1
Change in inventories	2,947.1	-65.6	-1,732.9	-2,720.7	-1,148.2
Saving *minus* capital formation	**-20,375.6**	**-18,420.4**	**-16,185.9**	**-21,628.1**	**-29,395.4**

At aggregate level, the balancing item in the capital account represents the domestic saving investment gap or net lending, which must be financed by foreign saving in case it is a deficit or in case it is a surplus it must be lent out to non-residents.

NL = S – INV **[2.10]**

CHAPTER 03

THE STRUCTURE OF THE STATEMENT OF GOVERNMENT OPERATIONS

CHAPTER THREE

THE STRUCTURE OF THE STATEMENT OF GOVERNMENT OPERATIONS

3.1 Introduction

This chapter provides an overview of the general government sector, the public sector and then proceeds to discuss the structure of the statement of government operations. The discussion of the structure of the statement of government operations follows the economic classification of the government transactions.

3.2 The general government and the public sector

3.2.1 General government sector

The general government sector is one of the five institutional sectors identified in the System of National Accounts 2008 (SNA). Three levels of the general government sector are identified in the Government Finance Statistics Manual (GFS 2000) namely central government, state government and local government.

The general government sector has three sub-sectors, which may exist in any of the three levels. The subsectors are the government units, social security funds and non-market non-profit institutions. Social security funds are financed and controlled by the government, while non-market, non-profit institutions are controlled and mainly financed by government units. Examples of non-market non-profit institutions include water authorities, electricity companies, schools, hospitals, munition factories and printing units.

The general government units are established by political process and are able to exercise legislative, judicial and executive authority over other institutional units. They are the only institutions with authority to raise funds through taxes and other compulsory transfers. They redistribute income from taxes and other transfers to members of the community. Government units engage mainly in production of non-market products. A non-market product is a product that is sold at economically insignificant prices. A price is considered significant or market price when it is sufficiently high to influence significantly, the economic decisions of buyers and suppliers — it is usually higher than the cost of production.

Within government there can also be market establishments. If a certain part of government provides goods or services at economically significant prices but does not have the degree of independence required for a corporation or quasi-corporation, then a market establishment can be said to exist within government.

Government products are mainly public administration, defence, law enforcement, education, social services and public health. Some of these products like education, social services and health are also produced by non-government units.

3.2.2 Public Sector

The public sector is made up of the general government sector, government-owned corporations and government quasi-corporations. Government owned corporations are corporations established for production of market products or products sold at economically significant price. They maintain separate set of accounts and balance sheets and can incur liabilities and enter into contracts on their own. They can therefore be held accountable for the consequences of their actions. If these entities are incorporated, they are considered to be government corporations, but if they are not incorporated, they are considered to be quasi-corporations. Examples of government corporations include government owned banks and utilities, while examples of government quasi-corporations include government printing units.

3.3 The Structure of the Statement of Government Operations

Classifications of the government operations

The Government Finance Statistics (GFS) manual recommends two (2) classifications of the government operations: economic classification and classification of functions of Government (COFOG). This section proceeds with discussion of the economic classification, which is based on the system of national accounts (SNA). Economic classification is crucial for computation of important balancing items like saving, net lending, change in net worth as well as government sector's contribution to economy in terms of output, value added, final consumption and capital formation.

Coverage

The coverage of operations recommended in the GFS system is the entire general government sector as described in the first section of this chapter. Divergence from this coverage is, however, common among the countries in the MEFMI region where, for most the statement covers the units of the central government alone.

Basis of recording

The basis for recording operations recommended in the GFS is accrual, but most countries compile SGO on cash basis. Accrual accounting requires that flows be recorded at a time when a claim or liability arises or falls due. For instance, if debt falls due and it is not paid, it will under accrual accounting, be recorded as accumulation of arrears with a counter entry in exceptional financing. Under cash accounting flows are recorded when they involve cash flow, i.e. when monetary settlement occurs. Thus, accumulation of arrears will not be recorded under cash accounting because it does not involve cash flow. This is among the major sources of inconsistency between the statement of government operations and other macroeconomic accounts since the standard of recording used in national accounts, depository corporations survey and the balance of payments is accrual.

Economic classification of government operations

Two types of economic flows are recorded in the GFS framework: **transactions** and **other economic flows.** The statement of government operations presents transactions only, classified into revenue, expense, net acquisition of nonfinancial assets, net acquisition of financial assets, and net incurrence of liabilities. Government transactions can further be classified into transactions affecting net worth, transactions in nonfinancial assets and transactions in financial assets and liabilities. Transactions affecting net worth are the government revenues and expenses including capital grants. Transactions in nonfinancial assets include net acquisition of fixed assets, inventories, valuables and non-produced assets.

Table 3.1 shows a summary of the statement of government operations with sub-headings placing the items under three (3) categories namely: transactions affecting net worth, transactions in non-financial assets and transactions in financial assets and liabilities. As shown, the revenues and expenses also include capital grants which are not part of current transactions. Brief definitions of the items in the statement of government operations are provided in the glossary.

Table 3.1: Structure of the Statement of Government Operations

TRANSACTIONS AFFECTING NET WORTH

Revenue

- Taxes
  - On income, profits and capital gains
  - On payroll and workforce
  - On property
  - On goods and services
  - On international trade and transactions
  - Other
- Social contribution net
- Grants
  - Current
  - Capital
- Other revenue
  - Property income receivable
  - Sale of goods and services
  - Fines penalties and forfeits
  - Transfers not elsewhere classified
- Premiums, fees, and claims related to nonlife insurance and standardized guarantee schemes

Expense

- Compensation of employees
- Use of goods and services
- Consumption of fixed capital
- Interest payable
  - To residents
  - To non-residents
- Subsidies on production
- Grants
  - Current
  - Capital
- Social benefits
- Other expense
  - Property expense other than interest
  - Other transfers
  - Other

BALANCE: NET/GROSS OPERATING BALANCE

TRANSACTION IN NON-FINANCIAL ASSETS

Capital expenditure

Acquisition of fixed assets

Change in inventories

Acquisition of valuables Acquisition of non-produced assets

BALANCE: NET LENDING/BORROWING

TRANSACTIONS IN FINANCIAL ASSETS AND LIABILITIES

Financing

Net acquisition of financial assets

Domestic

Foreign

Net incurrence of liabilities

Domestic

Foreign

Table 3. 2: Government Budgetary Operations (billions of shillings)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Revenue	4,440	5,113	6,413	7,949	9,091	10,794	12,211	15,659	17,233	18,410
Tax revenue	4,180	4,787	5,872	7,191	8,321	9,807	10,927	13,492	14,660	15,277
Taxes on imports	1,673	2,057	2,497	2,731	3,266	3,693	4,244	5,149	5,188	5,556
O/w VAT	686	837	991	1,162	1,279	1,430	1,557	1,762	1,929	2,201
Sales/VAT and excise on local goods	896	999	1,158	1,415	1,581	1,650	1,928	2,544	3,358	3,614
O/w VAT	660	731	771	1,016	1,292	1,096	999	1,601	2,384	2,453
Income taxes	1,250	1,467	1,907	2,708	3,131	4,007	4,082	4,736	5,003	5,107
Other taxes (mainly Inland Revenue)	361	264	309	337	342	458	674	1,062	1,110	999
Non-tax revenue	260	326	541	758	771	987	1,284	2,168	2,573	3,133
LGA Own sources		72	206	179	280	326	388	458	539	588
Total expenditure and net lending	-7,590	-8,765	-10,222	-11,548	-13,346	-14,033	-16,491	-18,255	-19,710	-19,840
Recurrent expenditure	-5,198	-6,064	-6,781	-7,965	-9,422	-10,107	-12,500	-12,630	-12,374	-12,530
Wages and salaries	-1,577	-2,254	-2,999	-3,526	-4,180	-4,911	-5,811	-6,600	-6,290	-6,038
Interest payments	-258	-280	-395	-541	-954	-986	-1,431	-1,645	-1,844	-2,047
Domestic	-220	-223	-323	-424	-731	-711	-1,001	-1,150	-1,276	-1,366
Foreign	-38	-58	-72	-117	-223	-275	-430	-496	-568	-681
Other goods, services and transfers	-3,363	-3,530	-3,386	-3,898	-4,288	-4,210	-5,258	-4,384	-4,241	-4,445
Development expenditure and net lending	-2,393	-2,701	-3,441	-3,583	-3,924	-3,925	-3,991	-5,625	-7,335	-7,310
Overall balance (cheques issued) before grants	-3,151	-3,652	-3,809	-3,599	-4,254	-3,238	-4,279	-2,596	-2,477	-1,430
Grants:	1,405	1,555	1,769	1,602	1,525	943	843	872	930	585
Project	474	382	793	736	742	646	477	694	596	246
Other	932	1,173	976	866	783	296	366	178	334	339
Overall balance (cheques issued) after grants	-1,745	-2,097	-2,040	-1,997	-2,729	-2,296	-3,437	-1,724	-1,546	-846
Adjustments to cash and other items (net)	196	-8	-236	167	-233	-591	122	302	-6	-599
o/w expenditure float	-436	-480	-184	-351	-611	-248	-69	-60	-72	-10
Overall balance (cheques cleared)	-1,549	-2,105	-2,276	-1,830	-2,962	-2,887	-3,315	-1,422	-1,552	-1,445
Financing :	1,549	2,105	2,276	1,830	2,962	2,887	3,315	1,422	1,552	1,445
Foreign Financing (net)	1,105	1,434	1,267	1,305	2,425	2,073	1,710	849	1,717	1,307
Borrowing	1,136	1,505	1,327	1,386	2,591	2,274	2,041	1,696	2,758	2,745
Program loans	535	592	196	469	623	547	654	247	230	210
Development project loans	600	913	1,131	917	1,969	1,727	1,387	1,449	2,528	2,536
Amortization	-31	-71	-60	-82	-167	-201	-331	-847	-1,041	-1,439
Domestic (net)	444	671	1,009	525	537	814	1,605	572	-165	138
Bank borrowing (net)	463	678	665	548	535	1,097	1,230	-611	-1,006	-99
Non-bank borrowing (net)	-19	-7	344	-23	466	3	375	1,183	842	237
New borrowing	421	635	708	1,833	1,834	1,498	2,606	3,632	4,761	4,290
Amortization	-421	-635	-708	-1,833	-1,834	-1,498	-2,606	-3,632	-4,761	-4,290
Amortization of contingent debt	0	-9	0	0	-464	-286	0	0	0	0
Privatization proceeds	0	10	0	0	0	0	0	0	0	0
Memorandum items:										
Domestic amortization		678	665	548	535	1,097	1,230	-611	-1,006	0
VC	0	0	0	0	0	0	0	0	0	0

THE STRUCTURE OF BALANCE OF PAYMENT

CHAPTER FOUR

THE STRUCTURE OF BALANCE OF PAYMENTS

4.1 Introduction

"The balance of payments is a statistical statement that summarises transactions between residents and non-residents during a period" (IMF, 2009). The balance of payments (BOP) conveys detailed information on receipts and payments as well as transactions in financial assets and liabilities between residents and non-residents and is an important instrument for the determination of a country's external payments position and foreign exchange rate movements.

4.2 International recommendations, main accounting rules and coverage

The compilation of external sector statistics is based on the Balance of Payment and International Investment Position Manual (BPM6). There are three (3) main accounts for external sector statistics, namely, balance of payments; other flow account; and the international investment position (IIP). Transactions between residents and non-residents are recorded in the balance of payments, which is the more important of the two (2) accounts.

The other flow account consists of the other flow categories, namely, holding gains/ losses and other changes in volume of assets. The international investment position is the balance sheet for financial assets and liabilities vis-à-vis non-residents and is useful in the analysis of a country's external debt position and debt sustainability.

4.3 Flows versus stocks and flow categories

4.3.1 Flows versus stocks

Flows represent changes over given time periods, while stocks are positions at a given point in time. All assets and liabilities are stock positions and their changes are depicted as flows. Transactions in goods and services, as well as in income are classified as flows. While external statistics are largely about transactions, external debt and assets held abroad are stock concepts.

Flows

The three (3) flow categories include transactions; holding gains/losses; and other changes in volume of assets.

Transactions

The exchange or transfer of financial assets, services, goods or non-financial, non-produced assets, e.g. land, patents and copyrights, between residents and non-residents are classified as external transactions. The creation or cancellation of new financial claims and liabilities between residents and non-residents are also external transactions. In this regard, foreign exchange transactions involving two (2) residents are excluded in the compilation of BOP statistics.

There are three (3) main types of transactions, namely, current, capital and financial. Exports, imports, compensation of employees and current transfers are examples of current transactions. Capital transfers and net acquisitions of non-

produced, non-financial assets fall into the category of capital transactions. Borrowing, lending and acquisition of equity financial transactions are examples of financial transactions.

Holding gains/ losses

These are changes in the monetary value of assets and liabilities in the recording period that emanate from price changes. Unrealised holding gains/losses are also referred to as capital gains/losses or valuation changes and are recorded in the revaluation account. They are not part of the balance of payments.

Other changes in volume of assets

Other changes in volume of assets account are changes which are due neither to transactions nor to unrealised holding gains/losses. The writing-off of debt is an example of other change in volume of assets and is not deemed to be a transaction, since one of the parties to the transaction does not voluntarily engage in the process. Other examples of other changes in volume of assets include the involuntary seizure of assets without compensation, for example, nationalisation, debt repudiation and theft.

4.4 Valuation

Transactions in the balance of payments are valued based on the principle of market price, that is, the actual price used in the transaction. This principle applies to the other macroeconomic accounts.

4.5 Double-entry principle

The balance of payments is a double-entry account which implies that for each transaction there is a positive and a negative entry of the same magnitude. In principle, given that the two (2) sides of the same transaction is often derived from different sources, the value of all the positive entries must be equal to the value of all the negative entries but this does not happen in practice. The statistical discrepancy or mismatch between the positives and negatives is referred to as errors and omissions.

Receivables for all current transactions are recorded with positive signs (credits), while payables are recorded with negative signs (debits). Decreases in assets and increases in liabilities are recorded with positive signs, while increases in assets and decreases in liabilities are recorded with negative signs. In the balance of payments, positive current transactions are normally referred to as credits and negative current transactions as debits.

Examples of the double entry recording system are shown in Tables 4.1, 4.2, 4.3 and 4.4.

Case number 1: A resident of country B exports goods worth US$100 to country C. The transaction will be recorded as follows:

Table 4.1: Standard Components presentation

ITEM	CR	DR
Current account	100	
Goods and services account	100	
Exports and imports of goods & Services	100	
Capital account		
Financial account		100
Direct investment		0
Portfolio investment		0
Other investment		100
Currency and deposits		100
Banks		100

Table 4.2: Analytical presentation

ITEM	CR	DR
Current account	**100**	
Goods and services account	100	
Primary income account		
Secondary income account		
Capital account		
Financial account		**100**
Direct investment		0
Portfolio investment		0
Other investment		100
Deposits		100
Errors and omissions		
OVERALL BALANCE		
FINANCING		

Case number 2: A multinational enterprise in country A issues bonds to raise funds and non-residents buy some of the bonds. It pays interest of US$20 to non-residents. The transaction is recorded as follows:

Table 4.3: Standard components presentation

ITEM	CR	DR
Current account		20
Goods and services account		0
Exports and imports of goods & Services		0
Primary income account		20
Compensation of employees		0
Investment income		20
Direct investment		0
Portfolio investment		20
Capital account		
Financial account	**20**	
Direct investment	0	
Portfolio investment	0	
Other investment	20	
Currency and deposits	20	
Banks	20	
Transactions in reserve assets		

Table 4.4: Analytical presentation

ITEM	CR	DR
Current account		**20**
Goods and services account		0
Primary income account		20
Secondary income account		0
Capital account		**0**
Financial account	***20***	
Direct investment	0	
Portfolio investment	0	
Other investment	20	
Deposits	20	
Errors and omissions		
OVERALL BALANCE		
FINANCING		
Transactions in reserve assets		
Exceptional financing		

4.6 Accounting base

Balance of payments transactions are recorded on accrual basis, and this implies that all transactions should be recorded, irrespective of whether they give rise to a cash flow or not. In accrual accounting, the timing of entry of the transaction should reflect the time of the underlying economic event or process. In this regard, the transaction should be captured at the point when the economic benefit associated with the transaction flows from one institutional unit to the other.

4.7 Non-consolidated account

The balance of payments is not a consolidated account just as the national accounts. Consolidation is the elimination of stocks and flows that occur between institutional units that are grouped together for statistical purposes and presented as if they constituted a single unit." (IMF 2016). The depository corporations survey and statement of government operations are consolidated accounts.

4.8 Criterion for residence for all economic agents

The fact that the BOP is a record of transactions between residents and non-residents, brings to the fore the need to define the concept of residence. Residence is a purely economic concept, not legalistic, nationalistic or geographic (See Annex 1). The primary condition for an institutional unit to be designated as a resident of a country is the centre of predominant economic interest. An institutional unit is always considered a resident of the economy in which its centre of predominant economic interest lies, that is, an economy where the institutional unit conducts the bulk of its transactions and maintains its accounts. The transactions of the institutional unit are recorded in the accounting systems of that country, with its production contributing to the GDP of that country, irrespective of ownership and geographic or national affiliation.

4.9 Classification of Items and Structure of the Balance of Payments

The BPM6 stipulates that the economic transaction classification is the only classification for the various transactions in the balance of payments and is based on the standard transaction classification outlined in the System of National Accounts (SNA). BPM6 transaction classification is used for classification of residents' transactions with non-residents according to the type of economic action they undertake. In many countries, the sole agency responsible for compiling balance of payments statistics is the monetary authority. The presentation of BOP statistics as recommended by BPM6 is in two (2) formats, namely, standard components and analytical presentation.

4.9.1 The standard components presentation of the balance of payments

The standard components presentation of BOP is a simple listing of relevant items and it may and may not balance. It always does not balance. In this presentation, no residual is calculated and in addition, no distinction is made between below and above the line items. The standard components presentation emphasises the statistical classification of items and does not show the overall balance.

In the standard presentation of BOP, transactions are put into three (3) sub-accounts, namely, current account, capital account and financial account. All current transactions between residents and non-residents are recorded in the current account. Examples of transactions that should be recorded in the current account include, exports, imports, interest receivable and payable, as well as transfers receivable and payable.

The capital account consists of transactions in capital assets between residents and non-residents, examples of which include, capital transfers and acquisitions of patents and goodwill. It is only when a government unit is involved in the acquisition/disposal of the immoveable capital asset that an entry is made in the capital account.

The acquisition and disposals of immovable capital assets, such as land, and buildings are recorded in the financial account. The financial account also records all acquisitions and disposals of financial assets and all incurrences and liquidations of liabilities between residents and non-residents. Table 4.5 shows the standard components of the BOP according to BPM6.

Table 4.5: Structure of balance of payments: Standard components

Current account
Goods and services account
Exports and imports of goods
Exports and imports of services: e.g transport, travel, financial services and business services
Primary income account
Compensation of employees
Investment income: direct investment, portfolio investment, other investment and reserve assets
Other primary income: rent, taxes less subsides on production
Secondary income account
Taxes on income and wealth
Household remittances
International co-operation
Other transfers
Capital account
Capital transfers
Acquisitions/ disposals of non-produced, non-financial assets other than imoveable capital assets
Acquisitions/ disposals of immoveable capital assets involving a government unit
Financial account
Direct investment
Portfolio investment
Other investment
Transactions in reserve assets

4.9.2 The analytical presentation of the balance of payments

The analytical presentation of the BOP consists of two (2) parts, namely, autonomous transactions or above-the-line items and financing transactions, which are also referred to as below-the-line items. Autonomous transactions are those that are undertaken for their own sake and may be entered into by any institutional unit. The balance of the autonomous transactions is referred to as the balance of payments surplus or deficit. Financing transactions are used to finance a country's overall external payments position

The three (3) sub-accounts, namely, current, capital and financial are shown in the analytical presentation. All financing transactions are, however, excluded from the financial account. The sum of autonomous and financing transactions is the overall BOP position and is also shown in the analytical presentation.

The compilation of BOP statistics entails the collection of data from different sources which can sometimes be incomplete or prone to mistakes made by compilers. This gives rise to statistical discrepancies between positive and negative entries, which are captured in an item called errors and omissions. The item, errors and omissions, is explicitly shown in the analytical presentation of the BOP.

The structure of the main items in the analytical presentation of the balance of payments as proposed in BPM6 is shown in Table 4.6.

Table 4.6: Structure of balance of payments: Analytical presentation

Current account
Goods and services account
Primary income account
Secondary income account
Capital account
Financial account
Direct investment
Portfolio investment
Other investment
Errors and omissions
OVERALL BALANCE
FINANCING
Transactions in reserve assets
Exceptional financing

4.10 The current account

The current account comprises of the goods and services; primary income; and secondary income accounts.

4.10.1 Goods and services

The goods and services account is a record of exports and imports of goods and services. Goods are tangible, whilst services are intangible, but both have been produced. In this regard, a transaction in land should not be recorded in the goods and services account because it has not been produced.

Services recorded for BOP purposes include maintenance and repair services, transportation, travel, construction services, insurance and pension services, financial services, telecommunication, computer and information services, business services, personal, cultural, recreational and government services. Toll manufacturing is classified as a service, because it involves the processing of goods by a resident entity on behalf of a non-resident entity for a fee.

4.10.2 Primary income

Primary income consists of compensation of employees; income associated with ownership of financial assets and ownership of non-produced, non-financial assets; and taxes less subsidies on production. Compensation of employees is the total remuneration, including social contributions, in cash or in kind, payable to an employee by non-resident entities. Income from ownership of financial assets can be in the form of interest and dividends. Interest income is earned on debt, while dividends accrue from the ownership of equity in an entity. Income associated with ownership of non-produced, non-financial assets is also part of primary income and is recorded separately as *rent.*

There are two (2) categories of income associated with ownership, namely, investment income and other primary income. Investment income are earnings accruing from ownership of financial assets and examples include profits (from direct investment), interest (from bonds, treasury bills) and dividends (from portfolio investment). The source of other primary

income is the ownership of non-produced, non-financial assets. Taxes less subsidies on production are also part of other primary income.

4.10.3 Secondary income

Secondary income consists of unrequited current transfers such as cash transfers and donations (such as food and medicines) and workers' remittances. Donor assistance in the form of capital assets is, however, not part of secondary income. Current transfers include taxes on income and wealth, household remittances, international co-operation and other current transfers. Taxes on income and wealth would, however, be ordinarily confined to resident to resident transactions.

4.10.4 Trade balance

The trade balance is the difference between exports and imports of merchandise. It has a strong bearing on the current account balance and is a timely indicator of trends of the same.

4.10.5 Current account balance

The current account balance is the difference between the sum of debits and credits of the goods and services, primary income and secondary income accounts. A current account surplus is an indicator of the accumulation of foreign assets, which results in a rising net International Investment Position. On the other hand, a current account deficit depicts a rise in international liabilities, and hence a declining IIP position.

4.11 The capital account

The capital account is a record of capital transfers and acquisitions or disposals of non-produced, non-financial assets in the balance of payments.

4.11.1 Capital transfers

Capital transfers are unrequited transfers of a capital nature that result in an increase in the stock of a recipient country's stock of financial or real assets. When a donor country donates funds to be used for the construction of a road or a bridge, for example, a record is made under capital transfers. In the same vein, the transfer of a capital asset, such as equipment for a hospital or a school, is recorded as a capital transfer.

4.11.2 Acquisition and disposals of non-produced, non-financial assets

The acquisition and disposal of non-produced, non-financial assets covers transactions between residents and non-residents in all non-produced, non-financial assets, except natural resources, such as land and sub-soil assets. Transactions between residents and non-residents in contracts, leases, licences and goodwill are part of this category. Only when a government unit acquires or disposes of land and sub-soil assets is the transaction recorded in the capital account of the balance of payments. The acquisition or disposal of fixed assets, well as land or sub-soil assets by non-residents, is recorded as financial transaction in equity, the exception being when a government unit is party to the transaction.

4.12 Financial account

This is a record of transactions in financial assets and liabilities between residents and non-residents. In the standard components presentation, the financial account is made up of direct investment, portfolio investment, other investment and transactions in reserve assets. Transactions in reserve assets are, however, not part of the financial account in the analytical presentation, but are recorded as financing items, below the line.

4.12.1 Direct investment

This relates to the purchase or sale of equity in enterprises between residents and non-residents and is recorded in the financial account. A transaction can only be classified as direct investment if the entity purchasing the enterprise has some measure of control over the activities of the enterprise. A minimum of 10 percent of the voting rights is considered as some measure of control of an enterprise.

4.12.2 Portfolio investment

Portfolio investment includes purchases of tradable equities or shares that do not give rise to the substantial control of the enterprise by the purchaser. Transactions between residents and non-residents in debt instruments, such as bonds, bills, money market instruments and financial derivatives are also recorded as portfolio investment. In this regard, portfolio investment includes transactions both in equity and debt.

4.12.3 Other investment

Other investment consists of trade credits and advances, loans, insurance, pension, other financial transactions in non-tradable instruments and other liabilities. Trade credits are also referred to as accounts receivable/ payable and are a reflection of leads and lags in payments for the acquisitions and disposals of various goods, services and other items. Special Drawing Rights (SDR) allocations are classified as liabilities and recorded under other investment, according to BPM6.

4.13 Transactions in reserve assets

Reserves are external assets that are at the disposal of a monetary authority and examples include, foreign currency, deposits, monetary gold, the country's reserve position in the IMF and SDRs. A detailed description of the various reserve assets is given in Annex 4. Transactions in reserve assets appear below the line in the analytical presentation and as part of the financial account in the standard components. Box 4.1 describes how transactions with the IMF affect the BOP.

Box 4.1: IMF Transactions and the BOP

There are four main types of transactions with the IMF that have an impact on any country's BOP accounts.

i. **Use of IMF resources -** the financial assets of a country increase when it purchases foreign currency from the IMF, through say a standby facility and it simultaneously incurs a financial liability. In terms of recording, the use of Fund credit is part of the financial account an increase in liabilities under "Other investments, loans, credit and loans with the IMF". The contra entry is recorded as an increase in reserve assets.

ii. **Changes in SDRs -** the use of SDRs to acquire foreign exchange or to settle a BOP deficit is captured in BOP statistics under reserve asset flows. BPM6 recommends that new SDR allocations be treated as an incurrence of a liability of the receiving country and be recorded under SDRs in Other investment. The corresponding entry is recorded under SDRs as reserve assets.

iii. **Changes in reserve tranche position in the IMF-** occurs as a result of the settlement of a member country's quota in reserve assets as well as the use of a member's currency by the IMF. Lending to the IMF is an asset to the creditor country and is recorded as a change in reserve assets in the Financial Account.

iv. **Lending to the IMF and IMF Managed Trusts -** the statistical guidelines for recording transactions pertaining to these two items are provided in "The International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template (2013)".

Recording of reserve assets in the BOP

Export receipts by the central bank increase reserve assets. In BOP, an increase in assets is recorded with a negative sign, while a decrease is a positive. If a central bank receives export proceeds amounting to US$200 million, the entries in the analytical presentation of the BOP are recorded as shown in Box 4.2:

Box 4.2: Recording of reserve assets in BOP - Export Receipts

Current account, goods	200
Financial account	0
Overall balance	**200**
Financing items	**200**
Reserve assets	-200

A payment for imports of US$200 million, using funds provided by the central bank would be recorded as shown in Box 4.3, in the analytical presentation of BOP:

Box 4.3: Recording of reserve assets in BOP – Import payment

Current account, goods	-200
Financial account	0
Overall balance	**200**
Financing items	**-200**
Reserve assets	200

4.14 Financing

The fact that the balance of payments is a double-entry account, implies that if all transactions have been correctly recorded, the sum of all entries in the account should always equal zero. Failure by compilers to correctly capture some BOP transactions as well as data gaps, are reflected in the item called errors and omissions. Errors and omissions reflect the statistical discrepancies that occur during the compilation of BOP statistics and does not have any economic meaning. The structure of the analytical presentation of BOP is such that some items may appear above and others below the line. BPM6 recommends that this line be drawn so as to capture the external payments position of a country. If the sum of the transactions above this line is larger than the sum of the transactions below the line. The external payments position of a country is said to be in surplus when the net value of the autonomous transactions is larger than zero Similarly, if the sum of items above the line is smaller than the sum of items below the line, the country's external payments position is said to be in a deficit.

Financing transactions are those that have a direct impact on the ability of a country's monetary authority to avail enough financial resources to finance residents' transactions with non-residents. The monetary authority's ability to defend the country's currency is also influenced by the availability of reserve assets. Reserve assets are all assets that are owned by the central bank and are at the effective disposal of and available for use to the monetary authority so that it can avail itself of these assets for financing purposes to defend the currency and instil confidence in the market. Reserve assets include monetary gold; special drawing rights (SDRs); reserve position in the Fund; foreign exchange; and other claims. A detailed description of reserve assets is given in Annex 4.

Exceptional financing

There can be exceptional circumstances where a country is unable to honour maturing obligations, due to the shortage of reserve assets. In this case, the country has three (3) choices, namely, recourse to a non-consensual, non-fulfilment of the obligation, consensual non-fulfilment of the obligation or can obtain a loan or a transfer to honour the obligation. The non-consensual, non-fulfilment of an obligation can either involve the accumulation of new arrears or unilateral repudiation of the debt. Accumulation of arrears does not entail a change of ownership and is therefore not a transaction, according to BPM6. Similarly, the unilateral repudiation of debt is also not a transaction, because it is not a consensual agreement between two (2) partners. The accumulation of arrears is recorded as a memorandum item, while the unilateral repudiation of debt is a change in other volume of assets. Neither of the two (2) events are recorded in the balance of payments.

Consensual non-fulfilment of the obligation implies that a country either obtains debt rescheduling or debt forgiveness. Under debt rescheduling, the repayment is postponed to a later date. Debt forgiveness means that the debtor is not expected to repay the debt. Debt rescheduling and debt forgiveness are both exceptional financing transactions and are recorded in the balance of payments.

Recording of exceptional financing items

Assume that a government obtains debt forgiveness, the principal amount being US$500 million and interest of US$50 million. The entries in the standard components and analytical presentations of the BOP would be as shown in Boxes 4.4 and 4.5, respectively.

Box 4.4: Recording of debt forgiveness- Standard components presentation

Current account	**-50**
Income, investment income	-50
Other Current account items	0
Capital account	**+550**
Capital transfers	+550
Financial account	**-500**
Direct investment, portfolio investment	0
Other investment	-500
Loans	-500

Box 4.5: Recording of debt forgiveness- Analytical presentation

Current account	**-50**
Income, investment income	-50
Other current account items	0
Financial account	**-500**
Direct investment & portfolio investment	0
Other investment	-500
Loans	-500
Overall balance	**-550**
Financing items	**-550**
Reserve assets	0
Exceptional financing	+550
Debt forgiveness	+550

CHAPTER 05

THE STRUCTURE OF MONETARY AND FINANCIAL STATISTICS

CHAPTER FIVE

THE STRUCTURE OF MONETARY AND FINANCIAL STATISTICS

5.1 Introduction

Monetary statistics are confined to the Depository Corporations Survey (DCS). The DCS is a sub-sector of the financial corporations sector and consists of all resident corporations whose main activity is financial intermediation. The financial corporations sector also incorporates other financial corporations such as insurance companies and bureaux de change, which are not engaged in financial intermediation. The central bank and other depository corporations are collectively referred to as depository corporations.

Monetary and Financial Statistics have become more important recently, following the turmoil in financial markets in many countries in the world. In this regard, financial systems have to be strong and sound for them to be able to withstand the contagion effects arising from crises in other parts of the world. Greater challenges also emerge from globalisation and liberalisation of capital and current accounts. The global financial crisis of 2008 has made the timeliness and accuracy of money and financial statistics critical as a guide to policy and for providing early warning signals on financial sector instability.

5.2 International recommendations, main accounting rules and coverage

5.2.1 International recommendations

Monetary and financial statistics are compiled based on the recommendations of the Monetary and Financial Statistics Manual and Compilation Guide (MFSMCG 2016), issued by the IMF. The MFSMCG is harmonised with the System of National Accounts (SNA 2008) and provides an inclusive set of tools for the compilation of monetary statistics.

5.2.2 Stocks versus flows

The DCS is a stock account and differs from the statement of government operations (SGO) and the balance of payments (BOP) in that respect. The SGO and BOP are both flow and transaction accounts. “Economic flows reflect the creation, transformation, exchange, transfer or extinction of economic value within a period of time” (IMF 2016). In this regard, flows reflect changes in the value of assets and liabilities, during an accounting period.

5.2.3 Consolidation

The depository corporation survey is a consolidated account. Consolidation is “the elimination of stocks that occur between institutional units that are grouped together and presented as if they constitute a single unit” (IMF 2016). All assets and liabilities institutional units in the financial corporations sector hold against each other are eliminated through consolidation, as the assets are equal to the liabilities. Consolidation facilitates the production of the depository corporations and financial corporations surveys. It is done as the third and final step in the compilation of monetary and

financial statistics. The first step involves the reporting of stock and flow data by individual institutional units into sectoral balance sheets. In the second step, the stock and flows data are aggregated across all institutional units within a sector or sub-sector.

The general principle underpinning the compilation of monetary and financial statistics is that data should be collected and compiled on a gross basis, with the exception of the netting that takes place through consolidation.

5.2.4 Accounting base

Accounting is done on an accrual basis in monetary and financial statistics. In accrual accounting, all assets and liabilities and even those that do not result from a cash flow are included. The value of the asset and liability should thus, refer to the time economic value is created, transferred or transformed, rather than at the time of settlement.

5.3 The coverage of monetary and financial statistics

Monetary and financial statistics as portrayed in the depository corporation survey (DCS) represent a comprehensive set of stock and flow data on the assets and liabilities of the financial corporations sector (FCs) of an economy. According to the MFSMCG (2016, page 33), "the FCs sector consists of all resident corporations, including quasi-corporations, that are principally engaged in providing financial services, to other institutional units".

Institutional units within the FCs sector may be either publicly or privately owned. The FCS has three sub-sectors, namely, the central bank, other depository corporations and other financial corporations. The DCS is a consolidated statement of the central bank and other depository corporations sub-sectors.

5.3.1 Central bank

The central bank is a domestic financial institution which has authority to control the activities of the financial system. It is at the apex of a country's financial system. The functions of the central bank include issuing notes and coins, supervising other banks, banker to government, transacting with the IMF on behalf of government, banker to banks, managing a country's international reserves and lender of last resort.

5.3.2 Other depository corporations

All resident financial institutions, excluding the central bank, whose main activity is financial intermediation, are part of ODCs. These institutional units incur liabilities by accepting deposits from entities with surplus funds, on their own account, and channelling the funds to institutional units which are short of funds. The financial institutions which are part of ODCs include commercial banks, development banks, merchant banks, discount houses, savings banks and building societies.

5.3.3 Other financial corporations

These are other resident financial corporations that offer ancillary financial services, However, they "do not issue liabilities included in the definition of broad money" (FPP, Volume 1, page 165, 2014). Institutional units in this category include money lenders, insurance companies, insurance brokers, pension funds, stock exchanges and bureaux de change.

5.4 The Framework for Monetary Statistics & Structure of DCS

The MFSMCG (2016) recommends that compilation and presentation of monetary statistics be done in two (2) levels. The first level entails the reporting of stock and flow data by individual institutional units which are aggregated into sectoral

balance sheets (SBS). Separate data categories for intra-sectoral assets and liabilities, i.e. claims on and liabilities to other units within the financial sector are also captured in the SBS. The aggregated SBS are consolidated to obtain the financial corporations survey for all three (3) sub-sectors, namely, the central bank, other depository corporations and other financial corporations, as the second level of the compilation and presentation of monetary statistics.

5.4.1 The central bank survey

The central bank exercises control over key aspects of the financial system and carries functions such as; issuing of currency; supervision of other banks; managing international reserves; banker to government; lender of last resort; advisor to government; agent for government, for example, in repayment of international obligations. The central bank survey portrays the functions of the central bank and is unique in that the central bank creates the monetary base or high-powered money. The central bank can influence money supply, to some extent, through the monetary base.

Table 5. 1: Central Bank Survey

ASSETS	LIABILITIES
Net foreign assets (NFA)	Monetary base (MB)
	Currency issued
Domestic Credit (DC)	held in banks
Net claims on government (NCG)	held outside banks
Claims on other depository corporations (CODC)	Liabilities to other depository corporations
Claims on other domestic economic sectors (CODS)	Required reserves (RR)
Other Items, net (OIN)	Other liabilities (OL)

The asset side of the central bank survey consists of credit to non-residents and the various domestic sectors. The liability side shows components of the monetary base (See Box 5.1). Net foreign assets (NFA) shows assets and liabilities of the central bank in relation to non-residence. The difference between the central bank's claims on non-residents and its liabilities to non-residents can, therefore, be derived. Direct loans and government paper held by the central bank constitute net claims on central government and are shown as net after deducting government deposits. All direct lending to other depository corporations make up claims on ODCs and are recorded as gross claims. Central bank claims on other domestic sectors of the economy are generally insignificant, because a central bank does not ordinarily lend money to non-financial corporations. The claims are also recorded gross.

Box 5.1: The Monetary Base

The monetary base is the sum of various financial liabilities issued by the central bank. It is made up of all the central bank liabilities that support the expansion of broad money and credit. The monetary base is an important analytical variable, because it is a very strong determinant of money supply growth, and by implication of the inflation rate. Stated differently, the monetary base includes central bank issued currency that is included in the monetary aggregates, other depository corporations' holdings at the central bank and their holdings of national currency held in vaults. The central government holdings of central bank liabilities other than currency are always excluded from the monetary base. The monetary base is sometimes referred to as reserve money or high-powered money.

Other items net is the difference between other assets and other liabilities and can either be on the asset or liabilities side. On the asset side, other assets would consist of physical assets of the central bank, while the liabilities side would include equity (capital and reserves). Profits or losses of the central bank; valuation adjustments and any other items not elsewhere specified are captured under OIN.

The balance sheet of the central bank can be illustrated as follows:

$$MB = NFA+NCG+CODC+CODS+OIN \quad [5.1]$$

Where

MB is monetary base
NFA is net foreign assets
NCG is net credit to government
CODC is credit to other depository corporations
CODS is credit to other domestic sectors.

$$\text{It follows that: } \Delta MB = \Delta NFA+\Delta NCG+\Delta CODC+\Delta CODS+\Delta OIN \quad [5.2]$$

5.4.2 The other depository corporations survey (ODCS)

The asset side of the ODC survey consists of claims to non-residents as reflected in NFA as well as credit extended to other domestic sectors of the economy. On the other hand, the liabilities side shows the liabilities that constitute broad money. The liabilities are classified by type of instrument, based on the degree of liquidity and this allows central banks to come up with various definitions of money supply. A fraction of the deposits held by other depository corporations is held by the central bank in the form of reserve requirements. In some cases, ODCs can also hold excess reserves with the central bank for prudential reasons. Table 5.2 is an illustration of the Other Depository Corporations Survey.

Table 5. 2: Other Depository Corporations Survey

ASSETS	LIABILITIES
Net foreign assets	**Deposits included in broad money**
Claims on the central bank	Transferable deposits
Currency	Other deposits
Reserve requirements	Foreign currency deposits
Domestic Credit	**Deposits excluded from broad money**
Net claims on central government	
Claims on other sectors of the economy	**Liabilities to the central bank**
Other Items, net (OIN)	

5.4.3 The depository corporations survey (DCS)

The DCS depicts the consolidated position of the central bank survey and the ODC survey. Data on monetary and credit developments for the DC sub-sector is presented in the DCS. Broad money and credit aggregates, and their components can also be analysed from the DCS. The DCS is unique in that it has links to other sectors. The net foreign assets of depository corporations is linked to a country's external sector position. Depository corporations also provide financing to government, thus creating a direct link between the two (2). There is also a direct link between the DCS and the real sector as depicted in the demand for money and credit provided to institutional units in the non-financial corporations sector. The asset side of the DCS consists of net foreign assets (NFA), domestic credit (DC) and other items net (OIN). On the other hand, the liabilities side consists of broad money. In this regard, broad money is equal to the sum of NFA, DC and OIN as shown in equation 5.3.

BM = NFA + DC + OIN **[5.3]**

Where

BM is broad money. NFA is net foreign assets. DC is domestic credit and is made up of net claims on central government and gross claims on other resident sectors of an economy. OIN is other liabilities, less other assets. Other liabilities are those liabilities not included in broad money. Other assets constitute non-financial and miscellaneous assets.

5.5 Money and monetary aggregates

Money consists of various types of financial assets and has four (4) major functions, namely, medium of exchange; store of value, unit of account; and standard of deferred payments. Of the four (4) main components of the DCS, money is the most important. The construction of monetary aggregates is dependent upon the degree of moneyness, liquidity and ability to store value of a financial instrument. It, therefore, follows that currency and transferable deposits are the most liquid financial assets and all countries include them in monetary aggregates as "narrow money". The significance of liquidity, however, declines and is replaced by "store of value" as one moves from currency and deposits. Securities other than shares which are easily transferable, or convertible can be included in broad money aggregates. In most countries there are two or more monetary aggregates that are progressively high ordered.

The definition of broad money varies across jurisdictions. While some broad money components are highly liquid, others are relatively less liquid but generate higher returns, examples of which are term deposits, savings deposits and foreign currency denominated deposits. It is a prerequisite that financial instruments have some degree of liquidity for them to be part of broad money. In this regard, financial derivatives; other accounts payable and receivable, loans, shares and other equity and insurance technical services are normally excluded from broad money.

5.5.1 Narrow money

Narrow money is mainly used for transaction purposes and includes currency in circulation and transferable deposits, which are the two (2) most liquid financial assets. Narrow money is highly liquid, implying that it has a very low or zero transaction cost, can be used for payments without restrictions and has no maturity profile. Virtually all countries include currency in circulation and transferable deposits in their most narrow monetary aggregates. Other countries, however, separate currency in circulation and transferable deposits into two (2) separate components. If amounts held in a savings or time deposit are automatically transferable to a demand deposit in case the latter is overdrawn, not only the demand deposit but also the associated savings deposit should be classified as narrow money.

5.6 Domestic credit

Domestic credit consists mainly of financial assets of depository corporations vis-à-vis residents. In some cases, liabilities vis-à-vis government, most notably government deposits, are also included. Domestic credit is the second of the four (4) main components of the depository corporations survey and is sub-divided into two (2) main categories, namely assets and liabilities vis-à-vis government and assets vis-à-vis other resident sectors (non-financial corporations, non-profit institutions serving households and households). In this regard, changes in domestic credit can arise from changes in net claims on government or changes in gross credit to other resident sectors. Consolidation, the second level of the compilation of the DCS, however, eliminates interbank transactions and as a result, the DCS does not show credit to banks.

5.7 Net foreign assets

Net foreign assets of resident depository corporations are the DCs' claims on non-residents less their liabilities to non-resident entities. The NFA of the DCs consists of the NFA positions of the central bank and ODCs. It is a requirement that all financial assets and liabilities of the DCs vis-a-vis non-residents be recorded under NFA. Net foreign assets of central bank.

The central bank can also hold assets and liabilities vis-à-vis non-resident entities. The difference between foreign assets and foreign liabilities of the central bank is its NFA position. Claims on non-residents include net official international reserves (gold, foreign exchange, reserve position in the Fund and holdings of SDRs) and other foreign assets. Liabilities to non-residents consist of short- term liabilities (deposits of foreign central banks, overdrafts, use of Fund Credit) and other foreign liabilities.

5.7.1 Net foreign assets of other depository corporations

The NFA of resident ODCs are their claims on non-residents less liabilities to non-residents. ODCs claims on non-residents include foreign currency holdings, deposits and other claims. Liabilities consist of deposits by non-residents, loans and other liabilities.

5.8 Other items net

OIN consists of all assets and liabilities of DCs not included under NFA, domestic credit and broad money. It is the difference between other assets and other liabilities. Items that fall under OIN include the following: capital assets, accounts receivable/payable, share and other equity, counterpart to SDR allocation, retained earnings, valuation changes and other assets and other liabilities, not elsewhere specified.

Table 5.3: Depository Corporations Survey

ASSETS	LIABILITIES
Net foreign assets (NFA) Net foreign assets of central bank Net foreign assets of other depository corporations **Domestic Credit (DC)** Credit to government Credit to other resident sectors **Other Items net (OIN)** Capital assets Other "other items net"	**Broad Money** Currency and transferable deposits Non-transferable deposits

5.8.1 The Financial Corporations Survey (FCS)

The FCS consists of surveys of the central bank, ODCs and Other Financial Corporations (OFC). It is a consolidated balance sheet of the financial corporations sector, which provides comprehensive data on the sector's claims on and liabilities to the other domestic sectors and non-residents. The components of the FCS are the same as those of the DCS, though it has less sub-categories of liabilities, compared to those in the latter. A liability category for insurance technical reserves is separately shown in the FCS. This is because insurance technical reserves contribute significantly to the total liabilities of the financial corporation sector in many countries.

5.9 Link of the DCS to Other Sectors

The depository corporations survey, depicting the developments in the financial corporations sector is unique in that it has links to the other four (4) sectors; namely, Government as reflected in the financing provided by depository corporations, that is, net credit to government; and non-financial corporations, household and NPISH sectors as reflected in the demand for money and credit extended to these sectors. The depository corporations survey is also linked to a country's external payments position as reflected in the net foreign assets (NFA) of the banking system.

The links come out clearly in the identity that explains the relationship between broad money aggregates and the other aggregates as follows:

$$BM = NFA + NDC + OIN \quad [5.4]$$

Where:

BM = broad money aggregate,

NFA = net external position of the banking system

NDC = net credit to Government and credit to non - government sectors. The non-government sector consists of non-financial corporations, financial corporations, households and NPISH.
OIN – Other Items Net

CHAPTER 06

INTER-RELATIONS AMONG MACROECONOMIC ACCOUNTS

CHAPTER SIX

INTER-RELATIONS AMONG MACROECONOMIC ACCOUNTS

6.1 Introduction

Financial programming requires a consistent framework of macroeconomic accounts to ensure accounting and behavioural consistency in analysis and forecasts. The macroeconomic accounts are the national accounts statistics, statement of government operations, depository corporations survey and the balance of payments. The framework serves to ensure that a deficit in one sector must be financed by surplus from other sectors, and that if on aggregate the domestic sectors generate deficit then the rest of the world must generate surplus to finance it, and vice versa. In addition, certain items in one macroeconomic account are, by definition, mirror images of items in another macroeconomic account.

While understanding of the interrelationships among macroeconomic accounts is crucial for carrying out successful financial programming, the data available to the analyst are normally prepared by different units and therefore they are subject to divergence due to various reasons including differences in coverage, time of recording and methodologies used in compilation. Thus, while there are several line items that are supposed to mirror each other in different accounts, perfect equivalence may be rare to find in reality. As we have seen in the Chapter 3, government transactions in SGO are mostly recorded on cash basis, while the standard applied in the compilation of the rest of the accounts namely: national accounts, depository corporations survey and balance of payment, is accrual. Thus, this will be a major source of discrepancy between SGO line items and their corresponding line items in these other accounts.

The analyst needs to be aware of such discrepancies where they exist and decide how to handle them in both historical analysis and forecasting. Indeed, in forecasting, consistency is maintained by ensuring that items appearing in more than one account are entered in one account only and then formulas are applied to reflect them in other account(s). This chapter highlights the areas of interrelationships among the accounts.

6.2 National Accounts and Government Finance Statistics

The national accounts aggregate statistics consist of the GDP, and GNDI. Three (3) approaches can be used to measure GDP, namely production, income and expenditure. These aggregates can be measured by institutional units or by sectors. Since government is one (1) of the sectors of the economy, a financial programmer needs to be aware of the areas of consistency between the government and national accounts in all approaches of measuring GDP.

6.3 Government operations in the production accounts

From the production side, the value of government output is measured as the sum of cost of production which consists of compensation of employees, intermediate consumption and consumption of fixed capital.

OP = COE + IC + CFK **[6.1]**

The value added for government is measured this way instead of using the value at which the government products are sold, as would be the case of corporations, because government products are either provided free of charge or sold at prices that are not economically significant. Sales of most ministries, for instance, are negligible and therefore cannot be used to measure the amount of production that has taken place. To arrive at value added, intermediate consumption is subtracted from the value of government product.

VAg = OPg – ICg **[6.2]**

This implies that the gross VAg is equal to COEg plus CFKg and value added net equals COEg.

VAg = COEg + CFKg **[6.3]**

This has implications on how the value added by the government activities like public administration, education and health which appear in GDP from production side (see Table 2.1), should be interpreted. As long as it is measured as described here, an increase in VAg at constant prices will by definition be roughly equal to increase in the number of government employees involved in that activity, which may not necessarily cause a matching increase in production.

6.3.1 Government operations in the income accounts

6.3.1.1 Primary income

The contribution of the government to GDP from income side, is taxes on production and imports. Taxes on production and imports have two (2) components namely, other taxes on production, and taxes on products. Other taxes on production consist of all taxes except taxes on products that enterprises incur as a result of engaging in production. They may be payable on the land, fixed assets or labour employed in the production process or on certain activities or transactions.

A tax on a product is a tax that is payable per unit of some good or service. It may be a specific amount of money per unit of quantity of a good or service, or it may be calculated ad valorem as a specified percentage of the price per unit or value. It usually becomes payable when a good or service is produced, sold or imported. Value added tax is tax on products collected by enterprises but finally charged in full to the final purchasers. It is described as a "deductible" tax, because producers are not usually required to pay to the government the full amount of the tax they invoice to their customers, being permitted to deduct the amount they paid on their own purchases intended for intermediate consumption or fixed capital formation.

Taxes minus subsidies on production and imports appearing in GDP measured from income side, should, in principle, match those appearing in the SGO. Similarly, taxes minus subsidies on products that are added to GDP at basic price to arrive at GDP at market price, should match those appearing in SGO. It should, however, be noted that computation of these items using the data available to the analyst may, for various reasons, not yield exactly matching results. Some of the reasons include differences in coverage, timing of data recording and methodology. Mindful of existence of such differences, the analyst should expect the variables appearing in both accounts to manifest similar patterns over time. For instance, if SGO (Table 3.2) shows increase in government tax receipts relative to GDP the analyst should expect the taxes item appearing in GDP statistics (Table 2.1) to reflect similar behaviour.

6.3.1.2 Secondary income

We saw in the Section 2.4 that the primary income of an institutional unit or sector is transformed to disposable income by adding current transfers (also referred to as secondary income). We also saw that the corresponding disposable

income at national level is GNDI. For the general government sector, secondary income includes the transfers in respect of current taxes on income and wealth, social contributions, social benefits, net non-life insurance premiums, non-life insurance claims, current international cooperation and miscellaneous current transfers. In the compilation of GNDI the transfers among resident units are netted out and therefore, such transactions add up to zero leaving only net current transfers with non-residents. It follows therefore, that the area of interrelationship between SGO and national accounts that remains with non-zero (and therefore visible) in the secondary income account is the current transfers vis-a-vis non-residents. This appears in SGO as current grants and in the national accounts as current transfers receivable form and payable to non-residents. The analyst should therefore expect current grants in the SGO to match current transfers in the national accounts. Again, for reasons such as differences in coverage, time or recording and methodologies will in most cases cause differences between grants recorded in the SGO and the current transfers recorded in the national accounts. In particular if foreign grants in the SGO covers central government only, while transfers in the national accounts (which are in turn drawn from the balance of payments) cover all units of general government the results of a country that is net recipient of transfers will be a smaller figure in the SGO compared to that of national account.

6.3.2 Government operations and GDP expenditure side

6.3.2.1 Final consumption and fixed capital formation and change in inventories

GDP expenditure side is made up of final consumption, gross capital formation and exports minus imports of goods and services.

GDP = FC + GCF + EXP – IMP **[6.4]**

Two components in this account have items that correspond directly with SGO: final consumption and gross capital formation.

FC = FCg + FCp

GCF = GCFg + GCFp

Where the subscript g stands for the general government sector and p stands for the non-government sectors. By substituting we can rewrite [6.4] as:

GDP = FCg + FCp + GCFg + GCFp + EXP – IMP **[6.5]**

Government final consumption is defined as the cost of production of government goods and services minus the value of sales of government products. This definition signifies the transfer that the government makes to households by producing and selling products at a price that is less than the market price. By doing so, the household or community that consumes government products pay less than they would pay if they bought the products in the market. Although collective services benefit the community, or certain sections of the community, rather than the government, the actual consumption of these services cannot be distributed among individual households, and for this reason it is attributed to the same government units that incur the corresponding expenditures.

From the SGO, government final consumption can be computed as compensation of employees plus use of goods and services plus consumption of fixed capital minus sale of government goods and services. This should correspond to the figure that appears in the national accounts as government final consumption.

Capital formation, the government component refers to acquisition minus disposals of produced non-financial assets, which comprise fixed assets, inventories, and valuables. This may be referred to, in the SGO, as development expenditure. Government capital formation and change in inventories has to be mirrored as an item under the corresponding entry in

the national accounts. As in the preceding section, differences in coverage, time of recording and methodology are likely to cause discrepancies between the figure computed from SGO and the figure found in the national accounts. In the case of capital formation for instance, both consumption of fixed capital and change in inventories are entries in accrual accounting.

6.3.3 National accounts and the balance of payments

6.3.3.1 GDP expenditure side

The GDP expenditure side contains two (2) items drawn directly from the balance of payments, namely, exports of goods and services and imports of goods and services. The analyst should expect these line items to be consistent between national accounts and the balance of payments.

6.3.3.2 Gross National Disposable Income

The GNDI contains four (4) items from the balance of payments, namely, compensation of employees receivable from non-residents and payable to non-residents, property income receivable from non-residents and payable to non-residents, and current transfers receivable and payable to non-residents. Where detailed GNDI statistics are available, the analyst should check that there is consistency between these line items in national accounts and the balance of payments.

6.4 Government operations and financial corporations

Financial corporations' role is to carry out financial intermediation. They take deposits and lend to other sectors including the government. The item government borrowing from depository corporations in the SGO should be mirrored as depository corporations' lending to the government in the depository corporations survey.

6.5 Government operations and the balance of payments

Any transaction in the government finance statistics that relate to non-resident should be appropriately mirrored in the balance of payments.

The areas of inter-relationship between SGO and BOP are:

i. Current and capital grants in the statement of government operations which ought to be consistent with current and capital transfers to the government in the balance of payments
ii. Foreign interest payment in the government operations ought to be mirrored in the balance of payments under property income
iii. Government foreign borrowing and loan repayment should be consistent with corresponding line items in the financial account of the balance of payments.

6.6 Depository Corporations Survey and the Balance of Payments

Between DCS and the BOP the analyst should be looking for consistency in the following items:

i. Banks' lending and borrowing abroad;
ii. Additions to and withdrawals from deposits;
iii. Change in international reserves; and
iv. Exceptional financing.

To conclude this section, it is pertinent to emphasize that because the macroeconomic accounts are typically produced by different units, the analyst will, in most cases, face challenges of having inconsistencies. In Tanzania for instance, the national accounts statistics are compiled by the National Bureau of Statistics, while the government finance statistics are compiled by the Ministry of Finance and Planning. The depository corporations survey and the balance of payments are compiled by the Bank of Tanzania. Several factors can be behind the inconsistencies among the accounts including differences in methodology of data compilation, differences in coverage and level of detail, and mismatch in the time of recording.

PART II: FORECASTING WITHIN A FINANCIAL PROGRAMMIMG FRAMEWORK

CHAPTER 07

AN OVERVIEW OF FORECASTING WITHIN A FINANCIAL PROGRAMMIMG FRAMEWORK

CHAPTER SEVEN

AN OVERVIEW OF FORECASTING WITHIN A FINANCIAL PROGRAMMIMG FRAMEWORK

7.1 Introduction

The preceding discussion on the structure of each of the four (4) macro-accounts has set the stage for us to go through the forecasting of the macro-accounts. In this regard, this chapter examines how forecasting is done within an integrated macroeconomic statistical accounting framework. While central banks and ministries of finance in many countries use sophisticated mathematical models for forecasting relevant economic variables, forecasting can also be done within the statistical accounting framework. It is critical to note that this type of forecasting is only plausible in the short term and if done well, the results are very meaningful for a current year. Results can also be meaningful for the following one (1) or two (2) years. For long term horizons, however, meaningful results can only be obtained if other forecast methods are used.

Practically, the best way to start forecasting within a financial programming framework is to create a new file in microsoft excel with one (1) or several sheets for each of the four (4) main macroeconomic accounts, namely; national accounts; balance of payments; statement of government operations; and the depository corporation survey.

A number of variables do appear in more than one (1) account, for example, exports are part of both the national accounts and the balance of payments. In addition, there is a fairly large set of intra-account links. From a statistical point of view, an important aspect of financial programming is to fully integrate the four (4) macroeconomic accounts by taking into account all intra-account links, including even those that are fairly complicated. Final consumption by government in the national accounts, for example, is equal to intermediate consumption plus compensation of employees plus consumption of fixed capital less sales of current goods and services in the statement of government operations. The existence of complicated inter- account links brings to the fore the need to include a framework such as a flow of funds to check for data consistency.

More often than not, the major priority of forecasting within a financial programming framework aims at finding a way of obtaining low inflation (internal balance), combined with an externally balanced position. It is important that in the initial stages of adjustment, output losses and unemployment are minimised. Where there are macroeconomic imbalances, the restoration of equilibrium between aggregate supply and aggregate demand is critical and can be achieved through the implementation of stabilisation policies.

The two (2) main forecasting scenarios in financial programming are the baseline and policy scenario, the starting point being always the baseline scenario. In the baseline scenario, forecasts are made of the main macroeconomic variables for the period in question, assuming unchanged economic policies and unchanged broad macroeconomic trends. A baseline scenario is also referred to as a passive programme, because it does not include explicit targets and neither does it take into account policy shifts. A policy scenario, on the other hand, includes explicit policy targets, mainly with respect to the

inflation rate and the external payments position. The policy scenario aims at setting policy instruments such that the given targets are achieved.

Forecasting in a financial programming framework is based on an integrated macroeconomic accounting framework, which includes all relevant macroeconomic statistics and fully takes into account inter-account links. It is important to note that forecasting done separately in the individual accounts may produce results that may not be meaningful for other accounts. In this regard, figures are to be made consistent and reasonable within the integrated framework and in all accounts, through an iterative process.

It is good practice to complement the accounting framework with behavioural equations, which are basically behavioural relationships between variables. Behavioural equations indicate the reaction or response of some of the variables included in the accounting framework to changes in other variables. The money demand function is an example of a behavioural equation.

7.2 A step-by-step approach to a forecasting exercise

7.2.1 Preparation of data

A forecasting exercise is preceded with the preparation of data that includes updating and analysing data up to the most current available statistics. Besides analysing the recent developments and their corresponding drivers, the analyst needs to look at the trends, cycles and seasonalities in the series of interest. For instance, if the projection is based on annual data and the exercise is carried out in July, the analyst will probably have historical data for the period up to June. In this regard, the analyst will have to make projections for the second half of the year (July – December). Since the period July to December is not a complete year, it is prone to seasonal influences, which the analyst needs to analyse and incorporate in their forecasts.

7.2.2 Assess the economic situation

It is important to understand a country's economic, institutional and socio-political structures, recent economic developments and available policy instruments in preparation for a forecasting and policy analysis exercise. The nature, source and severity of the economic imbalances should also be understood and the policy instruments that might be available to address such imbalances be identified and evaluated. Policy instruments may include interest rates, fiscal spending and other fiscal interventions, such as taxation.

The origin, nature and the length of time over which economic imbalances will have evolved should be understood. Economic imbalances could originate internally, for example, excessive monetary expansion or fiscal deficits or a combination of the two (2) or externally, for example, a drastic decline in reserves, or increase in trade imbalances. Their nature can be cyclical, structural or seasonal, over a short or long period of time.

7.2.3 Identify exogenous factors

Almost every country is increasingly trading on international markets and thus, susceptible to shocks emanating from the rest of the world. Adverse international economic developments, such as the financial crisis that started in the United States in 2008, can negatively impact on a country's economy. The global financial crisis of 2008 affected both financial sectors and other industries in developing countries, in particular, construction. External demand was also negatively affected, leading to an adverse impact on agriculture and mining production, as well as exports. It is critical that the impact of global economic developments on key variables over which the authorities have no control, be explicitly taken into account in the forecasting exercise.

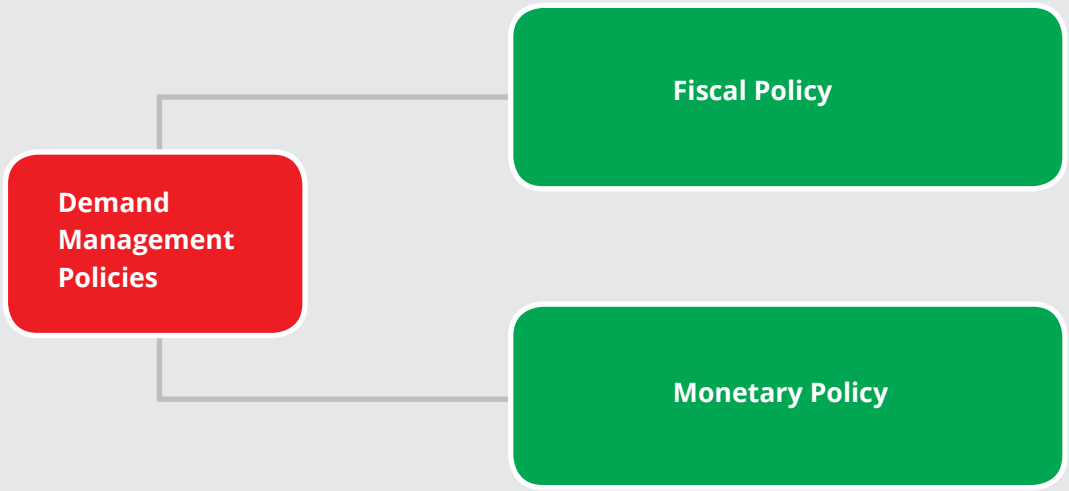
The evolution of oil prices, interest rates, demand and output in other countries in the region and elsewhere, for example, must be taken into account in making external sector forecasts. It is advisable to use forecasts by, for example, the IMF, to compile such numbers. A very useful source of information is the World Economic Outlook (WEO) of the IMF, among others.

7.2.4 Identify policy options

Demand management policies

The primary aim of demand management policies is the reduction of domestic demand, in a situation where there is need to reduce both the current account deficit and inflation. Demand management policies include monetary and fiscal policies. If excess demand is emanating from fiscal imbalances, it may be prudent to combine the reduction in public expenditure with an increase in fiscal revenues. Domestic demand can also be curtailed by controlling money supply growth. There might also be the need to reduce growth in credit to the private sector.

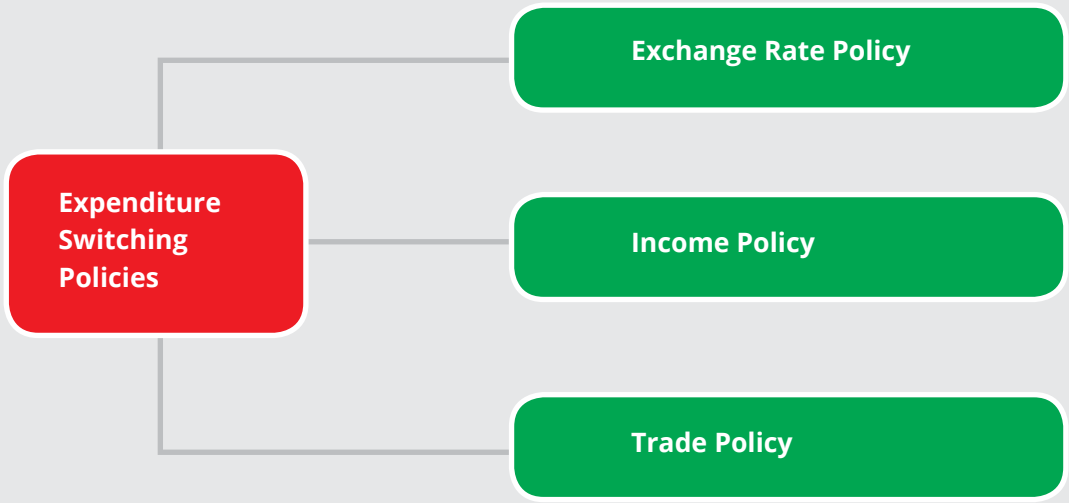
Box 7.1: Demand Management Policies



Expenditure switching policies

Exchange rate policy can be used to redirect expenditure from foreign goods to domestic goods and this is referred to as an expenditure switching policy. A devaluation, for example, results in an increase in the global demand for a country's products, but simultaneously makes imports more expensive for residents, thus reducing expenditure on foreign goods. The increase in the global demand for a country's products is expected to lead to an increase in production for the export market. Other expenditure switching policies include incomes and trade policies.

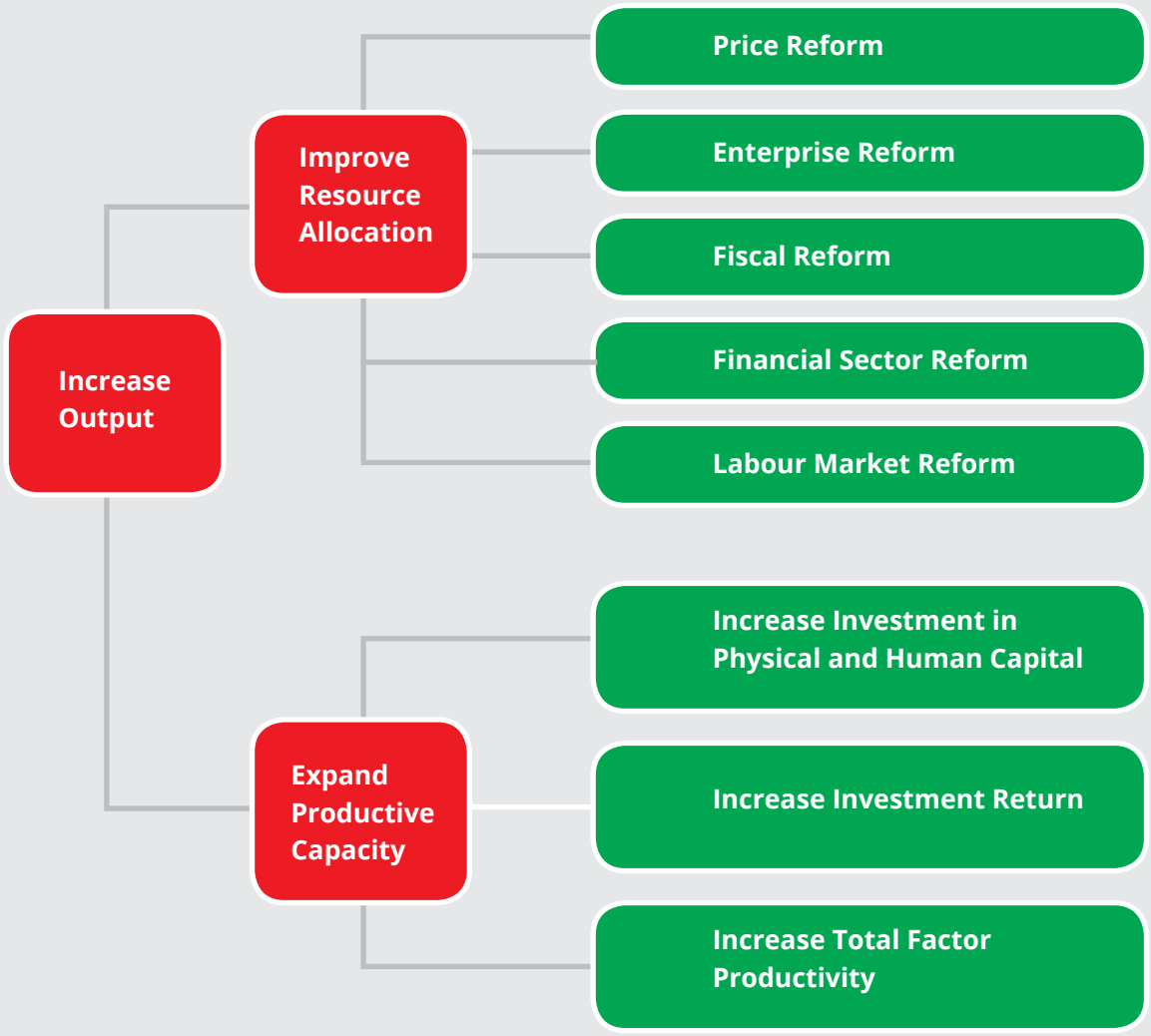
Box 7.2: Expenditure Switching Policies



Structural policies

Structural policies are primarily aimed at increasing the supply of goods and hence, close the absorption-output gap (IMF 2000). There are two (2) broad categories of structural policies, namely, those designed to increase output through increasing the allocative efficiency of the economy and those that are structured to increase the economy's productive capacity. Examples of structural policies include the removal of price controls and trade and exchange restrictions and the streamlining of taxes and subsidies. The removal of distortions in an economy is expected to increase its allocative efficiency. The productive capacity of the economy can be expanded by putting in place policies that improve the ease of doing business, to attract both foreign and domestic investment. There might also be the need to redirect fiscal expenditure towards capital development to attract and complement private investment. It is, however, important to note that structural policies naturally take time to bear fruit, as structural changes are a process and not an event.

Box 7.3: Structural Policies



7.3 Establishing the forecasting scenarios

7.3.1 Introduction

The design of suitable forecasting scenarios is practically a mammoth task. What is particularly cumbersome is the specification of behavioural relationships which are expected to complement the integrated statistical accounting framework in financial programming. This, notwithstanding, the integrated statistical accounting framework can be useful in forecasting scenarios when carried out in a systematic manner. It is also imperative that common sense be applied in the forecasting exercise as it is not entirely a scientific process. In addition, there is the need to be cognisant of the existence of links among the macro-accounts, which must be respected. In the process of forecasting individual accounts and putting the forecasts in an integrated framework, there are spill-over effects from one (1) account to another and this should be taken into consideration.

It is critical that projections are developed for each macro-account separately in the financial programming framework. Nonetheless, the overall aim of the exercise must always be at the back of the mind of the financial programmer. The forecasting exercise is based on the four (4) macro-accounts the namely, national accounts, balance of payments,

statement of government operations and depository corporations survey. The macro-accounts can also be reduced to identities as follows:

National accounts: GDP = FCN + GCF + EXP-IMP

Where

GDP = gross domestic product.
FCN = final consumption.
GCF = gross capital formation.
EXP = exports
IMP = imports

Balance of payments: ΔNIR = CAB + FKT + FDI + NFB

Where

ΔNIR = change in net international reserves
CAB = current account balance.
FKT = foreign capital transfers.
FDI = foreign direct investment
NFB = net foreign borrowing.

Statement of government operations: GVE – GVR = NFBg + ΔNDCg + PBRg

Where

GVE = total government expenditure.
GVR = total government revenue.
NFBg = net foreign borrowing by government.
ΔNDCg = change in net government borrowing from banks.
PBR = net government borrowing from non-banks.

Depository corporations survey: BM = DC + NFA+ OIN

Where

BM = broad money
DC= domestic credit.
NFA = net foreign assets.
OIN = other items net.

The four (4) macro-accounts are the focus of the forecasting exercise. While the majority of items in the four accounts are forecasted individually, it is critical that the four (4) accounting identities listed above must hold. In this regard, one (1) variable in each account must not be forecasted individually, but should be derived as a residual.

7.4 The baseline scenario

7.4.1 Introduction

The baseline scenario can be referred to as the 'unchanged policy' scenario. It is useful in that it splits the policy making exercise into two (2) parts; the first part seeking to answer the question 'what if things are left as they are, that is, no new policy is implemented?' The second part would seek to address the question about the options available to the

authorities to avoid substantial macroeconomic imbalances and achieve a desired outcome. The second question would ordinarily be addressed and answered through the policy scenario.

There is need to produce a consistent forecast for the whole economy from sectoral projections. Internal consistency is a pre-requisite and ensures that all linkages among the macro-accounts are maintained. This notwithstanding, consistency of a baseline scenario does not guarantee the existence of internal and external balance or a sustainable debt outlook. A baseline scenario can show huge imbalances, reflected in financing gaps, even if inter-account linkages are maintained. In this regard, the baseline scenario is the basis or foundation for the identification of imbalances in the economy and for assessing the severity of the imbalances.

Technical staff and or financial programmers can then determine the likely behaviour of the imbalances, that is, whether they need the intervention of policy makers or not. In addition, the financial programmer can determine the way forward with regards to the macro-imbalances by assessing the severity of the imbalances, the feasibility of the imbalances resolving themselves, remaining static or worsening over time.

7.4.2 Concrete steps in the construction of a baseline scenario

a) Project supply side real **GDP** for each economic activity, that is, GDP by production. This implies the disaggregation of sectoral projections to produce sectoral outputs and the overall GDP.

b) Project the **inflation rate, the GDP deflator and nominal exchange rate.**

c) Calculate the projected **nominal GDP** by multiplying the projected real GDP by the projected price level.

d) Project the **velocity** of circulation of money. This can be done by looking at past trends. Other factors that are likely to influence velocity, such as the prevailing and expected economic environment should be taken into account in projecting velocity. It is prudent to revisit the projected velocity to check whether the forecasted path of velocity is in line with past trends. Overstating velocity can result in the unnecessary tightening of monetary policy, whilst understating it might result in the loosening of monetary policy, with an adverse impact on the economy.

e) Project money supply using the equation of exchange **MV=PT**, given that V, the velocity of circulation and PT (nominal GDP) will have been projected in steps 3 and 4 above. The equation of exchange is based on the assumption that V and T are constant. The validity of the equation of exchange is not in dispute to both Keynesians and Monetarists. Keynesians, however, disagree with Monetarists on the assumption that velocity is stable and predictable in the short run. The equation of exchange implies that any increase in money supply will impact on the price level given that T is also taken as a constant. In the long run, changes in money supply lead to an increase in prices. In this regard, the rate of growth in money supply will be equal to the rate of increase in inflation. Monetarists believe that money supply is the primary determinant of nominal gross domestic product in the short run and the level of prices in the long run.

f) Make a decision on the **source of data** for items that are found in more than one (1) account. Forecasting of such items should be done in one (1) account, not separately. A number of items are found in more than one (1) account and these should be taken note of and a decision be made about the account the projections of those items should be done. In this regard, one (1) of the two (2) accounts become a recipient of the values forecasted in the other account. The source of the figures should be the account with more reliable data on a particular variable, for example, it is prudent for the national accounts to pick exports and imports data from the balance of payments account. Data on credit to government is likely to be more reliable in the records of the DCs.

g) Decide on **residuals** for each of the macro-accounts as well as for each sub-account, before embarking on the forecasting exercise. Avoid making residual variables balancing items such as Other Items Net (OIN) in the depository corporation survey (DCS) or errors and omissions in the balance of payments. It is also not advisable to make variables with a lot of prior information residuals. In addition, it is critical that a residual be a variable of some appreciable magnitude and analytical significance.

h) Project **variables not linked** to other accounts in the national accounts, balance of payments, statement of government operations and depository corporations survey. The level of disaggregation of each remaining variable must also be decided upon, with the caution that too much detail will render the whole framework untenable and that scanty detail may not adequately represent economic reality.

i) Use the projected money supply and the derived money multiplier to determine **reserve money (monetary base)**. The money multiplier is derived by dividing money supply by nominal GDP, calculated in steps 1 and 5, respectively.

j) Assess the outcome of the exercise and go through an **iterative process** where the results of the projections in each macro-account do not make sense. In this regard, the process should be repeated until plausible projections are obtained. The iterative process consists of a number of steps. First, forecast items in each account individually. Second, put together the results within an integrated macroeconomic framework. Third, analyse the impact of projected variables in one account on the variables in the other macro-accounts. This is because a number of variables appear in more than one (1) macro-account, for example, government interest payments to non-residents appear in both the BOP and SGO. In the majority of cases, the outcome does not make sense and as such, the iterative process must be repeated until a meaningful and integrated set of projections for the whole economy is produced. The forecasting scenario is completed at the end of the iterative process.

7.4.3 Setting Residuals

Forecasting both the baseline and policy scenarios entails the choice of residuals for each macro-account. The purpose of residuals is to close each of the accounts. Choosing residuals should always be the first step in any forecasting exercise. The residual is not forecasted individually but is a balancing item after all other items in a macro-economic account are forecasted. It is critical that the financial programmer only sets as a residual item, a variable that is **big** and of **analytical relevance** and a reflection of underlying **economic transactions.** In addition, a variable should be set as a residual only if there is no prior information about it. Table 7 gives suggested residuals for the macro-accounts.

Table 7: Recommended residual items

Macro – account	Recommended residual
Depository Corporations Survey	i) Credit to non-government sectors
Balance of Payments	i) Bank deposits ii) Reserve assets
Statement of Government Operations	i) Intermediate consumption ii) Gross fixed capital formation
National Accounts	i) Imports of goods ii) Final consumption by households

7.4.4 Projecting individual variables

Individual variables can be projected using any one (1) of the following three (3) methods: namely, use of prior information; use of proxies; and mechanical forecasting. The choice of the method to use for projecting the various items in each account is left entirely to the discretion of the financial programmer.

7.4.5 Use of proxies in forecasting

The financial programmer should take advantage of the correlation between variables when making projections. The existence of correlation between two (2) variables implies that one (1) can be used as a proxy for the other in forecasting. For example, service receipts from activities such transportation, travel and insurance, provided to non-residents could be projected to grow at the same rate as the growth in exports. Payments for services, on the other hand, can be projected to grow at the same rate of growth as that of imports. It is critical that all correlated variables be identified as part of the forecasting exercise and this implies that the analysis of correlation should also be done using historical data sets, to validate the existence of such correlation. In Zimbabwe, for example, projections for fuel, raw materials and machinery imports are obtained by relating them to the expected growth rate of the economy for the forecast period. The projections of dividends and interest would be based on the relationship between them and foreign direct investment and loans, respectively.

7.4.6 Use of prior information

This is a case where the expected evolution of a variable is known with some measure of certainty, for example, government outstanding debt, principal and interest payment schedule. Prior information should be used when it is known. It is important for a financial programmer to put together as much prior information as possible for the items in the various macro-accounts for use in the projections. Prior information can also be obtained through interviewing the institutions with data on the various sectors of the economy, down to information on individual items of the macro-accounts. A brief description of the use of prior information in forecasting in Zimbabwe is given in Box 7.1.

Box 7.1: Use of prior information in forecasting in Zimbabwe

National accounts

The production approach is largely used for forecasting GDP. The economy is categorised into sectors; primary (agriculture and mining), secondary (manufacturing) and tertiary (services). Developments in each economic sector are regularly tracked, making use of production out-turns, press reports and interaction with respective stakeholders in each sector. This provides the basis for forecasting GDP growth.

Balance of Payments

Merchandise Exports

The forecasts for volumes of goods exported are informed by the respective sectorial production forecasts in the national accounts and past trends. Prices are obtained from the World Bank and IMF commodity price forecasts.

Merchandise Imports

Food imports are derived from deficits that arise when domestic production does not meet national requirements. For example, the country's yearly requirement for maize is about 2 million metric tonnes. In this regard, the volume of maize imports is given by the difference between the national requirement and the expected output in a particular year. The price component is sourced from World Bank and IMF projections. Projections of electricity imports are also based on the difference between the national electricity demand and the expected output for the forecast period.

Secondary Income

Local economic conditions and economic conditions in countries which employ a large number of Zimbabwean migrants, inform the projections for workers remittances and transfers to Non-Profit Institutions Serving Households (NPISHs). Data on grants is obtained from the Ministry of Finance and Economic Development, as reported by International Development Partners and also outlined in various bilateral and multilateral agreements that are periodically entered into with the government of Zimbabwe. Thus, the projections of grants are based on signed agreements for specific periods.

Foreign Direct Investment

Projections on foreign direct investment are based on investment approvals, information of which is obtained from the Zimbabwe Investment and Development Authority. In addition, the central bank also provides projections on investment in the banking sector; disinvestments from Zimbabwe by non-residents; and offshore investments and disinvestments by Zimbabwean enterprises.

Loans

The data on foreign loans to central government, public enterprises and the Reserve Bank of Zimbabwe is obtained from the Debt Management and Financial Analysis System (DMFAS) housed at the Ministry of Finance and Economic Development. The system is used to record, monitor and report public debt. DMFAS provides data on debt stocks as well as historical and future transactions relating to disbursements, repayments and interest payments. Similarly, Exchange Control regulations require that all foreign borrowings by the private sector clients, including own-bank foreign loans, to be reported to the central bank via an online system known as the Private Sector External Debt Reporting System (PSEDRS) deployed at banks. BOP compilers upload the data on the DMFAS, to allow the generation of future debt service on private sector external loans.

7.4.7 Mechanical Forecasting

This entails the extrapolation of the recent evolution of a variable into the future. It should only be used as a last resort, that is, in situations where prior information is unavailable as well as where proxies do not exist. The aim of mechanical forecasting is to get results which enable the financial programmer to extrapolate recent trends into the future. The extrapolated future path implies that recent trends continue in the future, which is the main assumption underlying a baseline scenario. If, for example, the annual increase in money supply has been about 50 percent in recent years, there is a high possibility that it will also increase at approximately the same rate in years to come. Charts showing the trends of a given variable can be drawn to assist the financial programmer in understanding the trend. The idea here is to ensure that one identifies a suitable extrapolation method; that is, a method that gives a forecasted path which is almost a replica of the recent trend.

7.5 The policy scenario

7.5.1 Introduction

A comprehensive financial programming exercise should produce both a baseline and policy scenario. The baseline scenario or passive programme assumes that economic policies will largely remain unchanged from prevailing or recent trends. The outcome from the baseline scenario sets the basis for the formulation of a policy scenario. Risks and vulnerabilities of an economy that need to be dealt with in the policy scenario are also identified in the baseline scenario. The policy scenario or active programme identifies the set of objectives to be achieved and the supporting policy measures to be implemented, in order to steer the economy to a sustainable growth path. The set of objectives or specific targets together with a package of underlying policies and appropriate external financing to achieve the given macroeconomic goals, constitute a policy scenario. The policy targets must be within the sphere of influence of government, implying that variables such as output and employment cannot be included as targets in a policy scenario because government cannot influence them directly. Examples of policy targets could be the overall balance of payments position, credit ceilings and/or fiscal spending. The main objective of a policy scenario is to achieve either internal or external balance or both.

It is critical that a policy scenario incorporates measures that go beyond short-term demand management of the economy. Banking sector vulnerabilities, for example, must be addressed so that banks can efficiently play their role of financial intermediation to stimulate growth. In this regard, it will be necessary to deal with troubled banks, though this might be at substantial fiscal costs. The policy mix must also consider the impact of fiscal adjustment on public debt and the associated costs, such as interest payments.

7.5.2 Preparing for policy scenario

Baseline projections are a crucial input into the policy scenario. In this regard, the decision to embark on economic reforms to achieve given policy targets will be based on the outcome of the baseline scenario. It is, therefore, important to analyse and review the main economic indicators from the baseline projections in order to identify macroeconomic imbalances, to assist in formulating the objectives of the policy scenario (See box 7.2).

Box 7.2: Main baseline indicators to be reviewed

a) **Savings-investment balance** - are investment levels consistent with growth targets? How sustainable in the current account?
b) **Fiscal balance -** how is interest evolving as a percentage of GDP or as a share of total expenditure. Is there a fiscal imbalance? If so, how does it impact on current account sustainability?
c) **External debt indicators -** is the debt sustainable? How are the debt and debt service ratios evolving? Is import cover adequate?
d) **Monetary aggregates -** is government not crowding out the rest of the economy? Is the growth in credit to the rest of the economy consistent with growth objectives?

The preparation for the construction of a policy scenario is not different from that for a baseline scenario. Just like in a baseline scenario, the financial programmer should first evaluate the economic challenges the country is experiencing. This should begin with an understanding of a country's economic, institutional and socio-political structures and recent economic developments (IMF 1996). The advantage with the policy scenario is that it is informed by the outcome of the baseline scenario, which should ordinarily indicate the nature, source and seriousness of any economic imbalances in the economy. It is imperative that the financial programmer identifies exogenous factors which might affect the policy scenario. In this regard, developments in the global economy must be considered in the construction of the policy scenario. Important factors such as the evolution of commodity prices, global interest rates and growth in demand in trading partner countries must also be considered.

In a policy scenario, the financial programmer should quantify objectives, set targets and specify the policy package. For example, objectives such as the achievement of a sustainable external position and non-inflationary growth would be translated into specific targets such the current account balance and/or level of international reserves, price level and real growth. The baseline scenario comes handy in this process in that it provides a benchmark for setting plausible targets for the policy scenario.

A critical step in preparing for a policy scenario is to prepare sectoral forecasts and this can be done in various ways. One starting point could be price and GDP projections, followed by balance of payments, monetary and fiscal sector projections. The sectoral projections should be subjected to an iterative process to ensure consistency among the macro-accounts.

7.5.3 Policy scenario objectives and policy measures

The goals or objectives of a policy scenario could include the restoration of external and internal balance and attainment of real GDP growth. A policy scenario may also address structural issues to assist the country achieve broad based economic growth and development. Policy measures that can be applied to support the policy scenario include fiscal, monetary, exchange rate as well as structural policies. The formulation of the policy scenario requires that a nominal anchor be selected, and this could be the exchange rate or monetary aggregate.

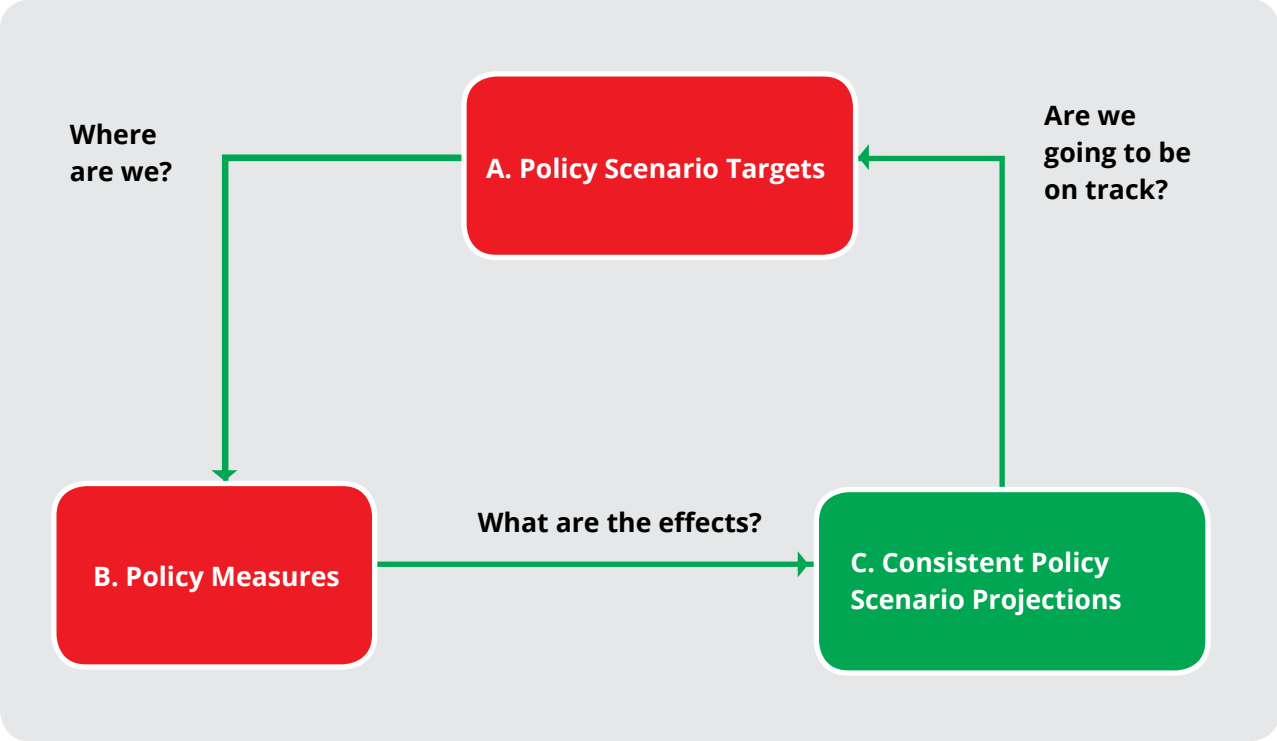
The objectives of the policy scenario should be subject to intense debate within the institutions which do financial programming, to ascertain possible trade-offs among the various objectives the scenario is designed to achieve. Policy targets are expected to be clear and concise and should be achieved with minimal cost to the economy and society. Box 12.2 gives examples of possible policy trade- offs that may result from some policy options.

Box 7.3: Policy Options Trade-offs

a) Price controls create distortions, resulting in the inefficient allocation of resources in any economy. Their removal might, however, trigger an increase in the general price level.
b) While the liberalisation of trade is desirable, it might lead to the deterioration in the balance of payments position as the demand for imports increases.
c) Reducing money supply growth by increasing domestic interest rates may be countered by the increase in money supply that may result from increased foreign capital inflows.
d) A current account deficit can be reduced by the expenditure switching impact of a depreciation of the exchange rate. This, notwithstanding, exchange rate depreciation raises the local currency costs of external debt servicing, with an adverse impact on the fiscal deficit.
e) Curtailing growth in credit to the private sector or the public sector, in order to control money supply, may result in the contraction of real GDP growth.

7.5.4 Need for consistency

It is critical that a policy scenario achieves consistency among the macro-accounts. In this regard, it is important to note that a robust policy scenario can only be produced after several iterations, given the linkages among the sectors of the economy. It is important to revisit the baseline scenario projections to ensure that they are consistent in both accounting and economic terms, before formulating a policy scenario. The cycle in the construction of a policy scenario is illustrated in Figure 1.



7.5.5 Sequencing of a policy scenario

The choice of the nominal anchor will determine which macro-account to start with when making projections for the policy scenario. If the main concern is the fiscal balance and the exchange rate is the nominal anchor, it would be prudent to begin by preparing SGO and BOP projections first, then monetary statistics last. In a case of dealing with high inflation and monetary aggregates are earmarked as the nominal anchor, monetary and BOP projections should be prepared first, with SGO projections coming last. This, notwithstanding, sectoral projections are to be subjected to consistency checks across the four (4) macro-accounts. Section 12.6 gives an example of how to construct a policy scenario beginning with projections of the statement of government operations.

7.5.6 Starting with the statement of government operations

Policy scenario projections can begin with the SGO and BOP if the results from the baseline scenario indicate that the fiscal position is of concern. The monetary projections come last. Practically, the projections are done in the same manner as under the baseline scenario as follows:

i. Have a clear **fiscal objective**, for example, a primary balance, consistent with the country's debt sustainability profile.

ii. Stipulate the appropriate **revenue and expenditure** measures (fiscal policy) required to achieve the stated fiscal target. Generate revenue and expenditure projections in line with the policy objectives.

iii. In the same manner as in the baseline scenario, determine the **overall fiscal position** and the domestic and external financing needs of government.

iv. Make **BOP projections** and determine available external financing for government, consistent with the net international reserves (NIR) target. The NFA in the monetary accounts will also be determined in the process.

v. Determine the mix of the **fiscal deficit financing** between domestic non-bank and bank financing, to cover the shortfall after taking into consideration, the available external resources.

vi. Project **broad money**, in line with the inflation objective. The equation of exchange (MV = PT) can be applied to estimate broad money.

vii. Estimate **OIN** by breaking it down into its main components, namely; capital assets; share capital; general and specific reserves; retained earnings; valuation changes; counterpart to SDR allocations; accounts receivable/payable; items in suspense and other assets and other liabilities, not elsewhere specified and projecting each of the items separately.

viii. Using the broad money identity; BM = NDC + NFA +OIN, determine **net domestic assets.**

ix. Estimate **credit to the non-financial corporations** sector (DCncf) by taking the difference of the NDA and the new stock of credit to government (DCg) and OIN. From NDA = DCg +DCnfc + OIN. It follows that DCnfc = NDA - DCg - OIN

x. Check for consistency between **real GDP growth projections** and the **growth in credit to the non-financial corporations sector.**

7.5.7 Upholding accounting relationships in policy scenario

In constructing a policy scenario, the financial programmer should pay particular attention to accounting relationships to ensure that they hold. For example, credit to government reflected in the SGO should be consistent with the change in net domestic credit to government as recorded in the DCS. External financing reported in the SGO and changes in net foreign assets of the DCS should be reflected in counterpart entries in the financial account of the BOP.

CHAPTER 08

FORECASTING NATIONAL ACCOUNTS AND PRICES

CHAPTER EIGHT

FORECASTING NATIONAL ACCOUNTS AND PRICES

8.1 Introduction

In Chapter 3 we saw that the GDP is measured by summing up the value added of all resident institutional units, which is in turn used to pay the factors of production-labour and capital - and government taxes on production. We also saw that we can measure GDP from expenditure side by adding together final consumption, gross capital formation and net exports. Forecasting the GDP, therefore, involves making assumptions about the future path of production and expenditure. In this chapter, we discuss baseline forecasting in national accounts and prices. A baseline scenario is built on assumption that the prevailing policies will remain unchanged in the medium-term (or during the projection period). It helps to carry out assessment of the sustainability of the prevailing policies in the medium term and becomes the basis for designing policies to be implemented in order to keep the economy within the desired long-term course. In this scenario there are no explicit targets.

8.2 Projection of GDP

The main factors driving changes in production are changes in the volume of the factors engaged in production and changes in factor productivity. Increase in capital stock, including transport and communication infrastructure, buildings and machinery will lead to increase in production, other things left unchanged. Likewise, increase in the number of workers will probably lead to increase in production. The former relates to changes in capacity utilization of the existing capital stock and labour employment, while the later relates to changes in both labour and capital productivity.

Projection of changes in output also depends on the initial position of actual output relative to potential output. If we begin from an actual position that is below the potential output, then we can forecast increase in output, other things left unchanged and the opposite becomes true, if the beginning actual position is above the potential output. For instance, in some years economies in the MEFMI region are hit by widespread adverse weather—floods or drought—that negatively impact growth directly in activities like agriculture, water and electricity and indirectly through hydro power rationing, inadequate supply of agricultural inputs to manufacturing, etc. Coming out of such a year, projection of recovery is appropriate so long as there is no reason to project continuity of the bad weather. Likewise, a year following an above normal harvest may see a slowdown in agricultural output in the subsequent year.

If aggregate demand is below potential output for reasons such as weak consumer confidence, then real output or its average price may fall. On the other hand, if aggregate demand is above potential output, probability is high that real output or its average price may increase. Aggregate demand depends on factors such as income, average price of output, and interest rates. Average prices of both output and its inputs also contribute to determination of supply. A framework that delivers a consistent interplay of aggregate supply, aggregate demand and average prices is thus, central to forecasting a consistent output and price projections.

Modelling aggregate supply and demand is particularly challenging for developing economies and thus often, simpler approaches for forecasting output are employed. For instance, beginning with trend of GDP at constant prices as a benchmark, the analyst can apply their informed judgement about expected developments in capital formation,

business cycle and policy actions to adjust the projection to arrive at plausible output projection. Prior information about implementation or completion of major infrastructure projects such as power generation, roads, railways, irrigation schemes, can be used to project growth rates that are above trend.

The government budget process may prove to be a good source of prior information in a number of areas relevant to GDP growth. If the government fiscal stance is expansionary which can be read from the number and size of (multiyear) projects the government has committed to implement or from the medium term plans, the resulting demand increase may drive output up in case there is a room for expanding capacity utilization or inflation in case the room for expansion of output through increase in resource usage is limited. Prevailing and expected shocks are also crucial in making judgement about the deviation of output projection from trend. An adverse external shock like an increase in world oil price or decline in global demand should also be considered in the adjustment of output projections.

A typical procedure for making GDP projection from production side may take the following steps:

i. Establish the trend in the historical growth rate of GDP at constant prices.
ii. Extrapolate the trend into the near future to get near-term (one to three years) trend projections of growth rates.
iii. Consider how the trend projections are may be affected by:

    a. Prior information, about the prevailing policies – expansionary fiscal policies are likely to drive output or inflation up, depending on whether there is room for expanding output or not, through capacity utilization or increase in resource use.
    b. Cyclical factors – if the initial condition is above the trend, then the next point is likely to remain above the trend because of serial correlation in time-based data.
    c. Exogenous factors – higher world market oil price may weigh down or stimulate growth depending on whether a country is an oil exporter or importer. A downturn in global or regional economic growth may affect domestic output growth negatively.

iv. Apply this information to the trend-based projections of constant GDP growth rate to come up with adjusted growth projections.
v. Apply the projected growth rates to historical GDP at constant prices to generate GDP projections of GDP at constant prices.
vi. Project deflator inflation and use it to generate projected deflators (read more about prices and inflation in the following subsections).
vii. Apply deflators to the projected GDP at constant prices to generate GDP at current market prices.
viii. Project the components of GDP from expenditure side

    a. Here a residual is necessary in order to ensure that total GDP remains the same from production and expenditure side. Household final consumption is the best candidate for residual in this account. Chapter twelve discusses more about residuals.

    b. Several line items in GDP expenditure side are to be aligned with their corresponding items in other accounts. Specifically, government final consumption and capital formation are to be aligned with their corresponding projections in SGO, while exports and imports of goods and services are to be aligned with their corresponding projections in the balance of payments.

When projecting GDP from the production side, the analyst may choose to do it activity-by-activity and then aggregated value added by activity to total GDP, or to make the projections at the aggregate level. The steps listed above can be applied in either case. Projecting GDP activity-by-activity is recommended since it makes it easier to align items in GDP with related items in other accounts. For instance, public administration, education and health can be aligned more readily

with projections in SGO when they are projected separately. Government tax revenue from domestically manufactured goods can be linked directly to the projected value added of manufacturing activity. Export projections can be aligned with projections of mining, manufacturing and agriculture. Travel receipts can be projected in alignment with projections of the hotel industry and so on.

Depending on whether activity level GDP projections are used as a basis for projections in other accounts or not, it may be necessary to convert projections of GDP at constant prices to projections of GDP at current prices activity-by-activity. For instance, if projection of tax revenue from manufactured goods is based on projected value added in manufacturing then it will be necessary to convert manufactured value added at constant prices to current prices before using it to project tax revenue, because revenues are measured in current monetary values. On the other hand, projection of exports of manufactured goods is better aligned with the projection of manufacturing activity at constant prices and then converted into current price values by applying projected export prices. In all these cases deflators will have to be projected activity-by-activity to be used to convert activity level GDP from constant prices to activity level GDP at current prices. It should be noted that trends in deflators may differ substantially across activities and therefore, it is important to pay attention to the historical behaviour for each activity, if activity level deflators are projected. For instance, products of an activity that experiences rapid innovation and expansion like mobile phones may exhibit relatively low inflation compared to products of other activities. We discuss projection of prices in the remaining part of this chapter.

8.3 Prices and Inflation

The general price level is mostly measured by the GDP deflator and consumer price index (CPI). Other measures of general price level are wholesale price index (WPI) and producer price index (PPI). CPI measures the price of representative basket of goods and services purchased by an average consumer. It is calculated on the basis of periodic surveys and only covers a subset of goods and services in the economy bought for final consumption. An increase of price of goods and services bought for purposes other than final consumption is not included in CPI inflation. CPI is affected by changes in the price of imported goods to the extent that they are part of CPI basket. CPI is based on a basket in which goods and services are assigned fixed weight of the base years' quantities are used. CPI ignores substitution effect that may arise from relative price change because the weights are fixed.

GDP deflator includes domestically produced goods and services—imports are not covered—thus a change in the price of imported goods does not have direct impact on GDP deflator. The weights of goods and services in GDP deflator are allowed to change over time as composition of GDP changes because it uses current year quantities.
The difference between the inflation rates reported by the two indices is small in low inflation environment but it can be substantial when relative price changes are high. If for instance bad weather destroys production of a staple food, the price shock arising from food shortage will drive CPI up by a magnitude determined by the weight of food in the CPI basket. This may not have an equally heavy impact on the GDP deflator because the weight of the crop in GDP may be small and thus the impact of bad weather on cost of living will be understated if measured by the change in GDP deflator. Meanwhile, if consumers find a close substitute of their staple food the CPI will not capture the relief brought about by this substitution because the weight of the staple food in the consumer basket is fixed.

8.4 Types of inflation

Overall inflation may be driven by onetime factor such as price deregulation and exchange rate devaluation or some long - time factors. Underlying or core inflation reflects the basic changes in inflation. Although it is difficult to measure, policy should focus on underlying inflation. The primary cause of persistent inflation is expansionary monetary policy, driven mostly by excessive financing of fiscal deficit through borrowing from central bank. Inflation can also be caused by exogenous supply and demand shocks such as drought induced food shortage or world market oil price hike.

Cost push inflation is caused by rising costs of production and can co-exist with high unemployment. Demand pull inflation is caused by excessive demand commonly originating from overly expansionary monetary policy. Inertia inflation

tends to persist at the same rate until economic events that sustain it change. Anticipated inflation is often embedded in wage and other financial contracts, which may cause persistence. Inertia inflation is also referred to as core or underlying inflation. Often supply or demand shocks cause the headline inflation to move above or below the core inflation.

8.5 Inflation forecasting

As we have seen in the case of GDP projections, obtaining the requisite data for an ideal model of inflation forecasting may be challenging for developing economies. A simpler approach that begins with assumption that prices are sticky downward would be more practical in the projection exercise for a country with no suitable model. This assumes that inflation will tend to stay where it was in the previous period in the absence of changes in the major driving factors. Starting with this assumption, the analyst can apply their information about trends in monetary and fiscal conditions, export price in domestic currency for GDP deflator and import prices in domestic currency for CPI inflation. If the monetary and fiscal conditions are relatively loose they will tend to drive inflation above its trend while tighter conditions will tend to drive inflation below. An increase in domestic currency price of exports will push the GDP deflator inflation above the trend while a decline will push GDP deflator inflation down. An increase in domestic currency price of imports will have an upward impact on CPI inflation while, a decline will impact the CPI inflation downwards. Since appreciation of domestic currency lowers the price of tradables in terms of domestic currency, it will cause a downward impact on both GDP deflator and CPI. Depreciation of the domestic currency on the other hand will exert an upward pressure on GDP deflator and CPI inflation.

CHAPTER 09

FORECASTING MONETARY STATISTICS

CHAPTER NINE

FORECASTING MONETARY STATISTICS

9.1 Introduction

The DCS provides the framework for quantifying monetary developments as well as linkages with other sectors of the economy. It combines balance sheet data of depository corporations and presents aggregated asset and liability categories that are useful for analytical purposes. The DCS is a consolidated account, which implies that interbank assets and liabilities are netted off.

Broad money is derived as a sum of net foreign assets (NFA), net domestic credit (NDC) and other items (OIN) net as follows:

M3 = NFA + NDC+ OIN **[9.1]**

Where

M3 = broad money.
NFA = net foreign assets.
NDA = net domestic assets.
OIN = other items net

Baseline scenario projections for the DCS broadly follow two (2) steps, namely, projecting the demand for money, which is the liability side and projecting the asset side. The underlying assumption in forecasting the demand for money is the equilibrium in the money market, which implies that money demand equals money supply. Projections for the asset side should be consistent with both BOP and statement of government operations forecasts as well as inflation forecasts.

9.2 Forecasting the quantity of money demand

There are two (2) approaches to forecasting the quantity of demand for money namely, estimating a money demand function and using the equation of exchange or quantity theory of money (QTM).

In the modern quantity theory of money, Friedman (1956) held that inflation is always and everywhere a monetary phenomenon, which arises from a more rapid expansion in the quantity of money than in total output. The building block and theoretical foundation of monetarism or the QTM is the equation of exchange, propounded by Fisher (1911). The Fisher (1911) equation of exchange is expressed as follows:

MV=PT. **[9.2]**

Where:

M is the quantity of money
V is the velocity of circulation of money
P is the price level
T is real output

The QTM is predicated on the assumption that the velocity of circulation of money is constant and the level of output (T) is given. In this regard, any increase in money supply will impact on the price level given that T is also taken as a constant. In the long run, changes in the money supply lead to an increase in prices. In this regard, the rate of growth in money supply will be equal to the rate of increase in inflation.

The use of the QTM in forecasting the demand for money entails the estimation of the velocity of circulation of money through extrapolating trends in velocity and taking into consideration factors that might influence it.

Approach 1:

Estimating a Money Demand Function

In estimating a money demand equation, there is need to establish whether the money demand function is stable and whether there are enough observations.

MD/P = (Y, r). **[9.3]**

Where

MD = Money demand
Y = Real domestic product
r = Interest rate

The definition of money (M) needs to be established, that is, whether it is M1, M2, M3, or M4. The scale variable (Y) could be the real gross domestic product. The opportunity cost variable (r) could be the rate of return on alternative assets. This approach should only be used after establishing that the demand for money function is stable and this can only be determined through econometric analysis and the requisite stability tests.

Approach 2:

Extrapolating Trends in Velocity

From the identity [9.2] Velocity: V= PY/M **[9.4]**

V = Nominal GDP/Money stock. V measures how often the money stock "turns over" each period and is inversely related to money demand. Assume MD = actual money stock, MS. Forecasting broad money can be based on extrapolating recent developments in the velocity of money. If during recent years, velocity has been constant, or followed a trend, then one can use this pattern to produce an estimate of V for the forecast period. The forecast of velocity can be used to generate a forecast of money demand consistent with the target or forecast value of nominal GDP as follows:

Step 1: Obtain nominal GDP projections from the national accounts.
Step 2: Use past trends and judgement to estimate velocity.
Step 3: Divide nominal GDP by velocity to get the money supply.

$$\textbf{Money stock (M)} = \frac{\textit{(Nominal GDP (PY))/}}{\textit{(Velocity of Circulation)}} \qquad [9.5]$$

Risk of getting velocity wrong

Underestimating velocity will lead to an excess supply of money and hence, higher inflation. Overestimating velocity will lead to a tighter stance of monetary policy and hence, lower output growth.

Liberalisation may increase or decrease velocity: - Improved bank efficiency or introduction of checks/credit cards can reduce demand for cash thus, resulting in an increase in the velocity of circulation of money. Interest rate liberalisation may reduce demand for cash, thus resulting in an increase in velocity. An increase in demand for broad money reduces velocity. Liberalisation of external capital movements may also affect money demand since the menu of assets expands, thus having an influence on velocity.

It is also critical that the velocity of circulation of money be stable for it to be used in estimating the demand for money, given the nominal GDP. However, the velocity of circulation of money became highly unstable and unpredictable in recent years. This, notwithstanding, the method of using the quantity theory of money is recommended for its general simplicity.

9.3 Forecasting net foreign assets (NFA)

Projections of NFA of the central bank are directly linked to the overall balance of payments, while net foreign assets of ODCs are linked to private sector short term, medium term and long- term capital of the capital and financial account. The DCS and BOP must be reconciled by comparing the change in official international reserves, a below-the-line item in the BOP, and the change in the depository corporations' stock of net foreign assets, over the same period. In view of the fact that figures in the DCS are presented in domestic currency, the stock of foreign assets has to be revalued to take into account movements in the exchange rate.

9.4 Forecasting net domestic credit (NDC)

Domestic claims are made up of claims on government and the non-financial corporation sector. Credit to government is dependent upon the fiscal balance in relation to the cost and availability of external and non-banking financing. In this regard, "the projected change in net claims on government should be equal to the forecast of the domestic financing from depository corporations, of the fiscal deficit in the government accounts" (IMF Institute 2014). Credit to the non-financial corporation sector becomes a residual but should be consistent with projections of output. It is also prudent to assume that credit to the non-financial corporation sector will grow at the same rate as the growth in nominal GDP, if no major structural shifts are expected to occur in the economy. It is, however, necessary to establish whether there is any historical correlation between real growth in GDP and the growth in credit to NFCs, before forecasts are made based on the assumption of a close relationship between the two variables. In most cases further iterations of forecasts across sectors will be necessary.

9.5 Forecasting Other Items Net (OIN)

The forecasting of OIN entails the breaking down of the item into its main components, namely; capital assets; share capital; general and specific reserves; retained earnings; valuation changes; counterpart to SDR allocations; accounts receivable/payable; items in suspense and other assets and other liabilities, not elsewhere specified.

It is recommended that forecasts of capital assets, such as buildings, be done separately, with the price component being linked to the projected evolution of real estate prices or the CPI. Information about planned future acquisitions of capital assets can be obtained from DCs and used as the volume component.

The shares to be issued to owners should also be projected separately, taking into account any additional shares that banks intend to issue and the projected share price movements. This information can be obtained from banks.

Projections for reserves and retained earnings can be done using a mechanical forecasting technique or alternatively getting information about the expected evolution of reserves and retained earnings of banks from the banking supervision department of the central bank. The other OIN items can be projected using an appropriate mechanical forecasting method, unless information on the expected movement of a particular item is available.

9.6 Forecasting the central bank survey

Once the economy's demand for money is estimated for given inflation and growth objectives, the monetary authorities must set the policy instruments at their disposal so as to create the amount of money, that is, the monetary base (MB), their estimates suggest will be demanded.

The MB or reserve money (RM) comprises central bank liabilities that support the expansion of broad money and credit. It may include currency in circulation and central bank liabilities to other depository corporations such as required reserves and clearing balances; other deposits; and securities issued by the central bank.

Reserve money is derived by summing up NFA, NDA and other items net of the monetary authorities as follows:

RM = NFA + NDA + OIN **[9.7]**

Where

RM = Reserve money
NFA= Net foreign assets of the monetary authorities
NDA= Net domestic assets of monetary authorities
OIN = Other items net of monetary authorities

NDA is made up of net claims on government, net claims on other depository corporations and net claims on non-financial corporations.

9.7 Forecasting the demand for monetary base

Two (2) approaches can be used in forecasting the demand for the monetary base, namely, estimating the money multiplier or estimating each component of the monetary base. The use of the money multiplier brings into focus issues of its stability.

Approach 1: Estimating the money multiplier

Broad money can be linked to reserve money of the central bank as follows:

M3 = MmRM **[9.8]**

Where

M3 is broad money
Mm is the money multiplier.

Derivation of money multiplier

M3 = CY + D [9.9]
RM = CY + R [9.10]

CY/D = c = ratio of currency to total deposits [9.11]

R/D = r = ratio of reserves to total deposits [9.12]

$$Mm = \frac{CY/D + D/D}{CY/D + R/D} \quad [9.13]$$

$$Mm = \frac{c + 1}{c + r} \quad [9.14]$$

The value of the Mm is determined by two (2) factors, namely; the reserve deposit ratio (that is, of cash reserves - notes and coins in vaults- that banks are willing or required to hold relative to total deposits); and the currency deposit ratio (that is, the ratio of cash in circulation that the non-banking sectors wish to hold relative to total bank deposits).

Approach 2: Forecasting components of reserve money

Forecast each component of reserve money separately to come up with the monetary base.

MB = CY+ CYODC + RR + OL [9.15]

Where

MB = monetary base
CY= Currency held by public
CYODC= Currency held by ODCs
RR = Deposits x Required Reserve Ratio
OL = Other liabilities of the central bank

The use of the money multiplier brings to the fore the issue of its stability and in this regard, it might be prudent to use it after establishing that it is stable. An unstable money multiplier might produce misleading results and in this regard it would be advisable to use the second approach, which is, forecasting individual components of the monetary base, separately.

9.8 Forecasting supply of reserve money

From the identity [9.7], the change in net foreign assets of monetary authorities should be consistent with projections from the balance of payments. Net domestic assets consist of net claims on government, commercial banks and other sectors of the domestic economy. Net credit to government is dependent upon the size of the fiscal deficit and other sources of financing available to the fiscus. Claims on commercial banks is a function of banks' excess reserves; deposit holdings; lending opportunities; and the conditions for accessing central bank credit. Central bank lending to other domestic sectors of the economy are largely insignificant. Other items net can be derived as a residual.

9.9 Reconciling reserve money demand and supply forecasts

If the projections imply excess supply or excess demand for reserve money, there is need to review fiscal and BOP projections. There may be need for monetary authorities to change monetary policy instrument settings so as to absorb excess reserve money supply or inject reserve money. Reserve money can be increased by reducing the reserve ratio or reduced by increasing the reserve ratio. Increasing access of financial institutions to central bank facilities injects liquidity into the system, while restricting access reduces reserve money. Monetary authorities can also buy or sell securities in the market, depending on what they want to achieve.

CHAPTER 10

FORECASTING STATEMENT OF GOVERNMENT OPERATIONS

CHAPTER TEN

FORECASTING STATEMENT OF GOVERNMENT OPERATIONS

10.1 Introduction

Government budgetary operations are made up of revenue collection, expenditure and financing. These operations transcend across all economic transactions and hence, they have an important role to play in any framework of macroeconomic forecasting and policy formulation. Baseline forecasting of government operations is crucial in itself, because it forms a basis for the government to decide whether fiscal measures are necessary or not, and the type of policy measures to take.

Since revenues arise primarily from income and consumption, forecasts of revenue are best carried out in a framework that projects these variables first. Revenue projections rely on the projection of its base, which may not be the same for every revenue component. While tying each tax category with its corresponding base would be the ideal approach to take, this may not be practical in most developing countries for reasons of lack of sufficient data. Besides, the tax base is normally defined by a complex set of legal requirements which usually has different rates even within the same tax base. For instance, income tax applies different tax rates for different income brackets. Trying to apply this level of detail in the tax base may make the forecasting exercise impractical.

Expenditure depends mainly on the discretion of the fiscal authorities. Therefore, it is crucial to understand the budgetary expenditure plans in order to come up with plausible expenditure forecasts and assess the likelihood that the budget plans will actually be executed. It is also important to note that fiscal operations have a bearing on the performance of other institutional units in the economy and reflect this in the projection exercise. For practical reasons, it is advisable to decide a residual item (also referred to as balancing item) in order to ensure that the projections are always balanced. The residual needs to be an item of significant policy interest so that it receives sufficient attention throughout the projection exercise. The historical residual in the statement of government operations (usually the "adjustment to cash and other items net") should be set to zero so that there are no projected errors.

Another more important item should be picked as a balancing item, preferably one that can be varied by policy. Certain elements in the expenditure on goods and services are relatively better candidates of discretionary expenditure and therefore are suited to be set as residual. Alternatively, the analyst may choose financing as residual, and then work iteratively to ensure that adequate space is left for financing of non-government activities and build-up of international reserves. Irrespective of what item is chosen to be a residual, a typical forecasting exercise goes through rounds of iterations, whereby each round of forecasts is reviewed within a financial programming framework to identify areas of inconsistency. The identified inconsistencies are taken for correction in the next round of forecasts, each round drawing nearer to a consistent solution until a plausible solution is found.

10.2 Forecasting revenue

10.2.1 Effective tax rate approach

Effective tax rate is computed as tax revenue divided by the tax base. It is termed effective because it is based on actual collection relative to the base as opposed to the one computed on the basis of legal rates. The effective rate can differ from statutory rate for various reasons including exemptions and tax compliance issues. Using this approach, the analyst computes revenue by applying historical effective rate on the projected tax base. The effective tax rate approach is widely used because of its simplicity but its suitability depends on assumption of stability in the structure of the tax base, the tax system compliance ratio.

10.2.2 Elasticity approach

Tax elasticity refers to the ratio of percentage change in tax revenue to percentage change in its corresponding base without changing the tax rate. With this approach, the analyst needs to forecast the tax base and then use the tax elasticity to compute tax revenue. Elasticities are supposed to be estimated from historical data but in absence of such estimates the analyst may use estimates from countries with similar economic structure and income levels. Alternatively, the analyst can use judgmental estimates. Ideally, elasticity of proportional taxes like VAT are expected to be unit meaning that the revenue from this source will grow at the same rate as the growth rate of its base. Elasticity of taxes that increase with income like PAYE are expected to exceed one, meaning that the revenue will tend to increase faster than income.

The elasticities may be unstable over time for various reasons including presence of high inflation, tax exemptions, caps on taxable income, and other problems with tax compliance. When inflation is high the lag between the assessment and the collection time may cause the revenue growth to fall behind the actual growth of income and thus cause the elasticity to be smaller than it should actually be. In the case of caps on taxable income, when income changes it may cause a disproportionate change in the income tax base leading to change in the elasticity. As for exemptions, the dynamics of eligibility will tend to change the size of the taxable base and thus cause instability in the elasticity.

10.3 Forecasting expenditure

10.3.1 Current expenditure

Government expenditure can be categorised into two (2) major components – a component that is mostly discretionary and a component that is broadly predictable. The latter include interest payment which depends on the existing public debt stock and interest rate structure. Projection of interest payment therefore should begin with review of future interest payment schedule followed by adjustment based on the changes in the stock of debt arising from current budgetary balances and interest projections. Another expenditure that is semi-predictable is payment of wages and salaries, which depends on the size of civil service, salary scale and labour market conditions. Projection of wages and salaries can begin with extrapolation of what is historically known, followed by expert adjustment to reflect the changes that are expected to occur from the policy side such as change in salary scale and employment policies.

Projection of expenditure on goods and services is more flexible and may depend on the government policy. It is, however advisable to begin with a minimum ratio of expenditure on goods and services to wages and salaries and then make adjustments based on the fiscal policy direction. Knowledge about completion of major projects may also provide insights to the direction of deviation from the past. For instance, if there are major construction of public health and education facilities, their completion will require increase in government expenditure in goods and services to run them and this should be taken into account in the projections. If the analyst begins expenditure on goods and services as a residual, then it must at least be sufficient to cover what is considered minimum for this item. Expense on good and services is normally an unsuitable residual, because it is not a reflection of the actual economic flows (see chapter 12 for an explanation of the actual flow).

10.3.2 Capital expenditure

Regarding capital expenditure, the analyst needs to first consider the amount of public investment that is consistent with the overall growth projections. A careful consideration must also be made of the ongoing and planned projects that are unlikely to be stopped or reversed.

10.4 Financing

Financing can be explicitly forecasted or set as a residual. In any case, it should at least accommodate flows arising from scheduled amortization of the existing debt and new borrowings in the pipeline. It is important to split financing into domestic and external financing. Domestic financing should in turn be projected such as to leave sufficient space for credit to the private sector that matches with the overall growth projections. If the government takes too much of the domestic credit from non-central bank sources, there may be too little left for the private sector to keep desired level of economic activity—a phenomenon referred to as crowding out—and therefore be inconsistent with growth projections. If on the other hand the government borrows too much from the central bank it may cause inflationary pressures and impact growth adversely. Likewise, the forecast of external financing will be constrained by the balance of payments objectives, the share of the other sectors in the external financing and debt sustainability objectives. Excessive government external borrowing is often the main cause of unsustainable external debt levels.

CHAPTER 11

FORECASTING THE BALANCE OF PAYMENTS

CHAPTER ELEVEN

FORECASTING THE BALANCE OF PAYMENTS

11.1Introduction

This chapter extends our understanding of BOP by discussing the baseline forecasting of BOP. It is important to note that BOP forecasts are more plausible when detailed information on developments in individual sectors is available. Factors that influence imports of various commodities, for example, differ across product lines and this calls for disaggregation of the forecasts. Similar to imports, there is also the need to disaggregate forecasts of export products. Notwithstanding this, it is imperative to balance the benefits and costs of disaggregation, as disaggregation can be time consuming and requires more data and research.

The record of BOP transactions reflects the interaction between the domestic and global economy. In this regard, it is critical to have some appreciation of economic developments in the rest of the world (IMF Institute 2014), particularly in the country's major trading partners and sources of financial flows. Expected developments in world output, real growth, commodity prices, interest rates and inflation are important inputs into BOP projections. The sources of regular updates of global economic developments include international organisations such as the IMF, the Organization for Economic Cooperation and Development (OECD), and the World Bank.

11.2 Forecasting the current account

The current account consists of the goods and services account; primary income account; and secondary income account. Individual components of the current account should be forecasted separately and once completed, they can be put together to come up with trade and current account balances.

11.3 Goods and services account

11.4 Forecasting exports

A country's productive capacity and local demand determine the supply of export products. The demand for the county's exports, on the other hand, depends on foreign demand and external competitiveness. It is important to disaggregate export forecasts into sectoral exports, such as agricultural, mineral exports and manufactured exports. The projected value of exports can be determined by projecting the volume changes from past trends or by consulting the producers of export commodities. The projected export prices of the various export products can be obtained from the IMF's WEO publication and these can be combined with the volumes to get the projected sectoral value of exports. In this regard, to project exports, changes in volume and price are projected separately. Exports can also be projected based on their historical proportion to nominal GDP, which can be assumed to remain constant over the forecast period.

The regression analysis approach can also be used in forecasting exports. An export function can be expressed as follows:

X = f (EC, EXC, ED) **[11.1]**

Where

X denotes volume of exports
EC denotes excess capacity
EXC denotes external competitiveness
ED denotes excess demand
An export demand function can also be specified as follows:

X = f (Yf, RER, ...) **[11.2]**

Where

Yf is income in trading partner countries.
RER is the real exchange rate, representing price competitiveness.
Exports are expected to be positively related to foreign demand and competitiveness. The lack of a long time series may, however, render regression analysis unsuitable for use in developing countries.

The more simplistic approach is recommended since it is more likely to be consistent with the reality on the ground in most developing countries.

11.5 Forecasting Imports

The forecasting of imports in developing countries is based on the small country assumption because they are price takers, implying that they have no influence on international commodity prices. While the volume of imports is determined by domestic demand, import prices are determined in world markets. Import volumes are also positively related to either real income or real domestic expenditure. The other factors that affect import demand include the availability of credit; quantitative restrictions and import tariffs; and availability of foreign exchange. In this regard, these factors should be taken into account when making import forecasts.

It is also ideal that imports be broken down by commodity when forecasting. Information about quantities of a particular commodity which the country expects to import will normally be available and this can be combined with information on price forecasts to determine import values per product. For example, it is expected that government would know the quantities of electricity or fuel the country consumes in a given period of time, say a month or year. The same would apply with food imports, in a case where there is a drought in a certain year, the food deficit would obviously be known. In some cases, imports could have constituted a certain proportion of nominal GDP, on average, over a given period of time and this proportion can be applied over the forecast period.

Imports can also be forecasted using regression analysis. An import demand function can be specified as follows:

M = f(Y, RER, ...) **[11.3]**

Where

M is the volume of imports.
Y is domestic income a proxy of which can be GNDI or GDP.
REER is real exchange rate.
While it is important for financial programmers to be fully aware of the various forecasting methods for BOP components, it is recommended that imports be forecasted as a residual.

11.6 Forecasting services

Projections of service receipts and payments should be linked to the performance of relevant activities like trade as well as other foreseeable policies and developments. Service receipts from activities such transportation, travel and insurance, provided to non-residents could be projected to grow at the same rate as the growth in exports. Payments for services can be projected to grow at the same rate of growth as that of imports. Travel receipts can be influenced by the projected magnitude of tourist arrivals; occupancy rates of tourist facilities such as hotels; and growth in the economies of major tourist source markets. Tourism payments can be assumed to grow in line with the growth in domestic real GDP.

11.7 Primary income account

This account mainly consists of compensation of employees and investment income. The item compensation of employees can be linked to the SGO, were there is a sufficient breakdown of the item in the SGO or it can be projected through the mechanical methods of forecasting.

Interest payments on external debt constitute the largest outflows for countries with huge external debt. Interest due on external debt depends upon the projected interest rate, normally Libor plus country risk, and the stock of outstanding external debt. The projected interest payments should be linked to the SGO. Interest earned on reserve assets is the most significant credit item for most developing countries and is dependent upon the stock of foreign asset holdings of the country and the return on the assets. The return is an exogenous variable, primarily determined on global financial markets.

11.8 Secondary income account and capital transfer account

The largest component of current transfers is workers' remittances. The remittances are influenced by the number of a country's workers working abroad and the motivation for sending funds back home. Projections of current transfers can also be based on past trends or they can be assumed to be correlated with income of countries which host most of the country's workers abroad.

Government capital transfer receipts cannot be predicted with precision as they depend upon donor countries' decisions. The official capital transfers can also be linked to the SGO.

11.9 Forecasting the capital and financial account

The capital account largely consists of capital transfers, which are usually determined by foreign governments. A country's relationship with foreign governments should, therefore, be taken into account when forecasting capital transfers. In addition, projections of capital transfers should be consistent with budgetary estimates of foreign grants. The financial account has three sub-accounts, namely direct investment; portfolio investment; and other investment accounts which also have to be forecasted separately.

11.10 Direct investment

Entities/agencies that facilitate foreign direct investment (FDI) in a country should be in a position to provide information on FDI inflows. These agencies are also likely to have a view about future movements in FDI inflows. The financial programmer can alternatively extrapolate the historical relationship between FDI and GDP and if it is stable, can be use that as a basis for forecasting. There will, however, be the need to adjust the projections, in line with any known changes in policy.

11.11 Portfolio investment

Projections on portfolio investment should be done separately for the government and non-government sectors, since they are influenced by different factors. In this regard, it is important to do an analysis of portfolio investment stocks and flows by sector. Portfolio investment forecasts in the BOP should be linked to the same item in government finance statistics.

11.1.1 Other investment

It is recommended that the financial programmer links data on government borrowing and repayments to the SGO. This should include data on the borrowing and repayment activities of other institutional units in the government sector and this can be sourced directly from them. Information on private sector borrowing, especially for big entities, can be obtained through surveys, supported by relevant statutes.

11.1.2 Transactions in reserve assets

While transactions in reserve assets are normally forecasted as a residual, future trends can also be obtained from the central bank. The position of the central bank pertaining to the expected movements in reserve assets can be used to assess the reasonableness of the reserve asset figure obtained as a residual. This can be done as part of the iterative process.

11.1.3 Errors and omissions

Errors and omissions can be forecasted by extrapolating recent trends. The IMF, however, recommends that errors and omissions be forecasted to equal zero. The shortcoming of equating errors and omissions to zero over a forecast period is that the statistical discrepancy will be reflected in the residual, making the residual less meaningful. It is recommended that the errors and omissions be forecasted by extrapolating recent trends, since it might be almost impossible not to have statistical discrepancies in BOP records in most developing countries.

ANNEXURE

ANNEX ONE

RESIDENCE

Introduction

"The residence of each institutional unit is the economic territory with which it has the strongest connection, expressed as its centre of predominant economic interest" (BPM6 2009, paragraph 4.113, page 70). In this regard, the predominant centre of economic interest is the primary criterion for establishing residence of an institutional unit or economic agent. According to BPM6 (2009), the economic territory must have some place or premises from which the institutional unit operates or intends to operate from indefinitely or for a long period of time. The transactions of the economic agent are accounted for in the country in which it is resident and its production contributes to the GDP of that economy. Residence is an economic concept, not legal, nationalistic or geographic.

Residence criteria for households: One-year rule

General principle

The general principle for residence of households is that they should spend or intend to spend at least a year in a particular economy to be considered as residents of that economy.

Exceptions to one- year rule

(a) Students - students remain residents of their home country, regardless of the time spend studying in another country.

(b) Patients - when people go abroad to seek medical attention, they remain residents of their country of origin, even if they spend a long time in the foreign country undergoing treatment.

(c) Crew of ships - these are considered residents of their home base territory, that is, the place where they spend most of their time, besides the time when they are executing their duties.

(d) International organisations staff - members of staff of international organisations are residents of the "territory of their principal dwelling" (BPM6 2009). They are treated differently from diplomats because the latter continue to be remunerated by their home governments and would ordinarily have a short stay in the foreign country as they are normally recalled to their countries of origin.

(e) Diplomats and military personnel - These are considered residents of their home countries because they are representatives of their governments.

Residence criteria for enterprises (financial and non-financial corporations)

General principle

"As a general principle, an enterprise is resident in an economic territory where the enterprise is engaged in a significant amount of production of goods or services from a location in the territory" (BPM6 2009, paragraph 4.131, page 73). The enterprise is expected to have a substantial physical presence in the economic territory in the form of a production establishment. All institutional units engaged in various economic activities offshore are residents of the country where they are operating.

Residence criteria for non-profit institutions serving households (NPISH): centre of economic interest

Similar to households, a NPISH is considered a resident of an economic territory in which it has a predominant centre of economic interest. A branch of a NPISH engaged in international relief, for example, would be a resident of the country in which it is carrying out its operations. Its financing would ordinarily come from transfers from affiliates abroad.

Residence criteria for government

Embassies, consulates and military bases of foreign governments fall under general government of their country of origin. They are residents of their home territory rather than the country in which they are physically present. These entities are usually immune from laws of their host country, according to international law. There are no exceptions that apply to this rule.

Residence criteria for international organisations

International organisations have no residence status. Their staff are considered residents of the host country, on condition that they stay in that country for more than a year.

ANNEX TWO

INSTITUTIONAL UNITS AND SECTORS

Introduction

The SNA (2008, paragraph 4.2, page 61) defines an institutional unit as "an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities". The characteristics of an institutional unit are as follows:

i) Entitlement to ownership of goods or assets and ability to engage in transactions that may entail the exchange of ownership of the goods and or assets with other entities.
ii) Ability to be actively engaged in economic activities that entail the making of economic decisions, with direct responsibility and accountability at law.
iii) Ability to incur liabilities on its own account as well as enter into binding contracts.
iv) Maintaining a full set of accounts, including a statement of assets and liabilities (balance sheet).

The two main categories of institutional units are households and legal or social entities. "A household is a group of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food" (SNA, 2008). According to the SNA (2008), "A legal or social entity is one whose existence is recognized by law or society independently of the persons, or other entities, that may own or control it." Examples of legal or social entities include financial and non-financial corporations, government units, and non-profit institutions serving households (NPISH).

In the system of national accounts, an institutional sector is a grouping of similar institutional units, which are distinguished by their economic objectives, functions and behaviour. There are five institutional sectors in any economy, namely, financial corporations, non-financial corporations, households, non-profit institutions serving households (NPISH) and Government. The main activity of institutional units in the financial corporations sector is financial intermediation and these include banks and insurance companies. All other productive units that maintain a complete set of accounts, separate from their owners or shareholders, fall under the non-financial corporations sector. Financial and non-financial corporations can be either publicly or privately owned and they virtually always sell their products at economically significant prices. The only exceptions to this rule are units that serve entities in the two corporation sectors, for example chambers of commerce. The latter often sell their services at economically insignificant prices.

The Households sector consists of individuals or groups of individuals that combine their income and spend it on a common set of goods and services. Institution units such as churches, trade unions and similar entities are grouped under the NIPISH sector. The institutional units under the NPISH sector sell their services at economically insignificant prices or make them available to households for free. The government sector includes all levels of government, encompassing central, provincial and local government. Social security funds that are run and controlled by government fall under the government sector.

The concept of economically significant prices is key to understanding the separation between entities belonging to the government and NPISH sectors and other entities as well. Prices that are high enough to influence economic activity of economic agents, either as producers or consumers are called economically significant prices. An economically significant

price is also referred to as a market price. The production of goods and services for sale, done at economically significant prices, is called market production and the entities producing such products are referred to as market producers. Economically significant prices are expected to be higher than the cost of production, but not necessarily so. In addition, they tend to be more or less aligned with market prices of similar product categories if such product categories exist.

Financial corporations

All resident corporations or quasi-corporations principally engaged in financial intermediation, auxiliary financial activities that are closely related to financial intermediation and insurance services are part of the financial corporations sector. The entities within the financial corporation sector may be either publicly or privately owned.

Financial intermediaries, other financial institutions, insurance companies, and auxiliary financial institutions, money exchangers and insurance brokers constitute the financial corporations sector. The central bank or monetary authority is an institutional unit that falls under the financial corporation sector. Financial intermediaries are important in any economy because they finance the activities of productive entities. Insurance companies assume financial risks that individual entities usually would be incapable of assuming, thus play a critical role in the value chain.

The role of financial intermediaries is to accept deposits from institutional units which have surplus funds and channel (lend) the funds to institutional units in need of loans, through intermediation. In this regard, the financial intermediaries incur liabilities on their own account by accepting deposits or issuing bills, bonds or other securities. Financial intermediation is done through the collection of funds from those with surplus and repacking them into instruments that suit the requirements of borrowers. The funds are used to acquire financial assets, through advances or loans to others but also by purchasing bills, bonds or other securities.

Individuals or households that engage in financial activities such as money lending or buying and selling foreign currency are not part of the financial corporations sector. To qualify as institutional units of the financial corporations sector, unincorporated financial enterprises that engage in financial activities, must keep complete sets of accounts, separate from those of their shareholders. Generally, money lenders, currency changers and other individuals who engage in financial activities usually do so on a small scale and therefore do not qualify as quasi-corporations and should thus not be included in the financial corporations sector.

Non-financial corporations

Institutional units that are part of the non-financial corporations sector are principally involved in the production of goods and services at market prices and may be either publicly or privately owned. They maintain a complete set of accounts and are legally incorporated, and this distinguishes them from households and government sectors. Non- financial quasi-corporations are also part of the non-financial corporations sector.

Resident institutional units that are part of the non-financial corporations sector include the following:

i) All resident non-financial corporations, irrespectively of the residence of their shareholders,
ii) All resident non-financial quasi-corporations, including the branches or agencies of foreign-owned non-financial enterprises, and
iii) All resident non-profit institutions (NPI) serving financial or non-financial corporations. Examples of such NPIs are chambers of commerce, agricultural and trade associations, employers' organisations and research institutions.

The non-financial corporations sector engages in activities such as fishing, mining, commercial farming and fishing and manufacturing and may also provide services such as wholesale trade, transportation, hotels and restaurants, retail and wholesale trade, business services, health and education.

Households

"A household is defined as a group of persons who share the same living accommodation, who pool some or all of their income and wealth, and who consume certain types of goods and services collectively, mainly housing and food" (SNA 2008, page 82). All household members are normally involved in making decisions that have an impact on income, consumption and other economic flows. In addition, all members of the household have a say in the collective resources of the household. It is, however, important to note that a household is not identical to a family, despite that a household is often made up of persons that belong to the same family.

Households may exist in different forms, in different societies. Servants or other paid domestic employees who live on the same premises as their employers are not considered as part of the household of their employers, despite that they may get provisions or accommodation from their employers. This exclusion is based on the fact that paid domestic employees do not have claim upon the collective resources of their employers' household and that their accommodation and food are excluded from the consumption of their employer. In this regard, they are treated as members of separate households from their employers.

In cases where persons live permanently in an institution or are expected to stay in an institution for a very long or unspecified period of time, they should be treated as belonging to that institutional household. The SNA 2008 (page 82) gives the following examples of persons who belong to institutional households:

i) Members of religious orders living in monasteries, convents or similar institutions,
ii) Long-term patients in hospitals, including mental hospitals,
iii) Prisoners serving long sentences, and
iv) Old persons living permanently in retirement homes.

However, persons who stay temporarily or for short periods at institutions such as hospitals, clinics, recuperation homes and religious retreats are treated as members of the individual households where they ordinarily belong. When a person attends a boarding school, college or university, or serve a short prison sentence, they should be considered part of their original household.

Non-profit institutions

These are entities that do not generate income or profit for their owners. Some NPIs provide their services at economically significant prices, while others do not. Universities that charge fees based on cost of production, for example, are considered market producers, whereas charities are non-market producers. Most NPIs, however, do not charge economically significant prices. There are four main groups of NPIs, namely:

i) Non-profit institutions serving businesses - NPIs under this category may produce either market or non-market products and chambers of commerce are an example in this group. Depending on the type of entities they serve, NPIs in this group can be part of either the financial or non-financial corporation sector,
ii) Non-profit institutions that are part of the government sector and produce products at economically insignificant prices. NPIs in this group include research institutions and regulatory bodies, which do not constitute government agencies but are controlled and financed by government entities,
iii) Non-profit making organisations serving households at economically significant prices. Universities that provide services at economically significant prices, for example, are classified under this category. While most entities in this group are part of the non-financial corporation sector, they could also be classified under the financial corporation sector, and
iv) Non-profit institutions serving households at economically insignificant prices- a category that largely consists of trade unions, professional unions, churches, charities and privately financed aid organisations. These are the only institutional units that should be considered to be part of this sector.

Non-profit institutions serving households (NPISH)

The NPISHs sector includes all resident NPIs except:

i) NPIs that are market producers;
ii) NPIs serving businesses; and
iii) Non-market NPIs that are controlled and mainly financed by government units.

Examples of institutional units that fall under the NPISH sector are:

i) Trade unions, professional or learned societies, consumers' associations, political parties (except in single party states), churches or religious societies (including those financed by governments), and social, cultural, recreational and sports clubs,
ii) Charities, relief and aid organisations financed by voluntary transfers in cash or in kind from other institutional units, and
iii) Research institutions.

Government

"Government units are unique kinds of legal entities established by political processes that have legislative, judicial or executive authority over other institutional units within a given area" (SNA 2008, page 78). Characteristics that distinguish government units:

i) Established by political process and are able to exercise legislative, judicial and executive authority over other institutional units;
ii) Mainly engage in production of non-market products-products sold at economically insignificant prices;
iii) Redistribute income from taxes and other transfers to members of community; and
iv) Comprise the sole authority that have the right to raise funds through taxes and other compulsory transfers.

The general government sector consists of the following:

i) All units of central, state, provincial/regional or local government. Local government units are also referred to as municipalities;
ii) Social security funds operated, financed and controlled by government; and
iii) Non-market, non-profit institutions that are controlled and mainly financed by government units. These are entities that are not part of either central, provincial/regional or local government in that they maintain separate accounts from those of government. They are, however, part of the government sector. Examples of such institutions include agencies responsible for setting food and health standards; water utilities, electricity utilities, hospitals and schools if they produce products at non-market prices.

If a certain part of government provides goods or services at economically significant prices but does not have the degree of independence required for a corporation or quasi-corporation it is called a market establishment.

ANNEX THREE

MONEY MULTIPLIER AND VELOCITY

Introduction

The velocity of circulation of money and money multiplier are important variables to any central bank in its endeavour to control inflation. This is because central banks are unable to exercise direct control over inflation; and in this regard, must rely on monetary instruments that influence the evolution of prices through intermediate targets. There are two major groups of monetary instruments at the disposal of central banks, namely, those that influence prices primarily through interest rates; and those that do so through the rate of increase in money supply. Most developing countries would opt for instruments that influence monetary expansion.

Central banks in many developing countries set the monetary base as an immediate intermediate target, since changes in the monetary base are linked to monetary expansion through the money multiplier. To conduct monetary policy through the monetary base, however, requires that the money multiplier is stable or predicable. The reality, however, is that this is not always the case.

Once the link between the monetary base and the money supply is established a strong positive correlation between the changes in money supply and prices is postulated. The correlation is, however, not always straightforward, because it depends on the stability and predictability of velocity, and, ultimately, on money demand.

Money multiplier

The money multiplier is the ratio of money supply to the monetary base. "It shows how much broad money is created by one unit of monetary base" (IMF 2014, page 163). The stock of money (money supply) at any given point in time is a sum of currency in circulation plus deposits held at banks. The monetary base, also referred to as reserve money or as high-powered money, is the sum of bank reserves (deposits) held at the central bank and the stock of notes and coins issued by the central bank. The sum of currency in circulation and currency held in vaults by the banking system equals the stock of notes and coins issued by the central bank.

The money multiplier always exceeds unity because deposits are larger than the sum of bank reserves and cash held in vaults. The smaller the monetary base in relation to the money stock, the larger is the money multiplier.

If the money multiplier were a constant or the central bank was able to perfectly predict its evolution, the latter would be able to determine precisely the money stock. The multiplier is, however, not constant and sometimes changes in ways not expected by policy makers. This, notwithstanding, central banks have some influence on the evolution of the money multiplier. The value of the money multiplier is determined by two factors, namely; the ratio of cash reserves (notes and coins in vaults) that banks are willing or required to hold relative to total deposits; and the ratio of cash in circulation that the non-banking sectors wish to hold relative to total bank deposits.

An increase in banks' cash reserves to total deposits results in a decrease in the money multiplier, which implies that for a given increase in high-powered money issued by the central bank, the monetary expansion is lower than it would have otherwise been. Similarly, when the non-banking sectors wish to hold a higher portion of cash to deposits, the money multiplier declines, and, thus, the monetary expansion is lower.

A central bank can influence the amount of required reserves directly through the use of reserve requirements. The higher the required reserve ratio, the lower is the money multiplier. It can also affect the money multiplier through interest rates. By lowering interest rates, it gives a disincentive for banks to lend, and banks will be less willing to take the risk of holding low cash reserves to deposits.

The money multiplier is also influenced by events outside the direct influence of the central bank. For example, if withdrawals from deposits are erratic both in size and time, the risk to have low cash reserves increases and thus, the money multiplier decreases. Uncertain economic environments may compel banks to be less inclined to accept the risk of holding a low level of reserves, and thus, the money multiplier decreases.

Similarly, other institutional units other than banks can also influence the money multiplier in various ways. For example, if enterprises were to switch from paying their employees by cash to using cheques, the desired level of cash would decline and the money multiplier would increase. All other institutional factors that affect the payment system in a similar fashion, for example increased usage of credit cards, have the same effect on the money multiplier. In addition, black market activity influences the money multiplier because transactions in this market are settled in cash and this reduces the money multiplier.

It is important to note that there is no predictable correlation between the monetary base and money supply and for this reason, many developed countries no longer attempt to target the monetary base to control money supply growth and hence inflation, but instead use interest rate policy. This, notwithstanding, establishing the evolution of the money multiplier over time and identifying its relevant determinants, might assist in forecasting this variable with some degree of accuracy.

Velocity

The velocity of circulation of money, V, is the speed at which a monetary aggregate is passed round the economy for transaction purposes. It may be defined as follows:

$$V = (P \times Y) / M \qquad (1)$$

Where *M* stands for the money supply (in nominal terms);
P stands for prices; and
Y stands for the volume of transactions (in real terms) – the volume of transactions is usually equated with an income measure or GDP.[1]
Equation (2) is simply a modified expression of the equation of exchange:

$$M \times V = P \times Y \qquad (2)$$

Equation 2 states the nominal supply of money must be circulated V number of times to be equal to the level of transactions in nominal terms. An income measure is frequently used as a proxy for the "level of transactions". Thus, for a given level of nominal income, if people were to hold money for a shorter period of time (V declines), the economy would manage with a lower money stock.

The velocity of circulation of money must be either stable or predictable for monetary policy to have the desired effects. This would be in line with the quantity theory of money, which states that a change in the nominal supply of money, M, would lead to an equivalent change in prices, P. In this regard, V and Y are invariant to changes in M. A number of

[1]GDP is not a measure of income, but a measure of production. Gross national income (GNI) and gross national disposable income (GNDI) are income measures.

studies have been carried out in recent years on the evolution of velocity, and these have put into question the notion that the velocity of circulation of money is constant over time. Monetarists are of the view that the evolution of velocity is predictable and that velocity stable in the long run, while the position of Keynesians is that velocity is highly variable and its evolution unpredictable.

To explore the relationship between velocity of circulation of money and real income, equation (2) can be rewritten as:

$$M / P = Y / V \quad (3)$$

In equilibrium, the money supply in real terms, M / P, equals demand for money in real terms, L:

$$M / P = L \quad (4)$$

Substituting Equation (4) into equation (3) yields:

$$L = Y / V \quad (5)$$

Rewriting equation (5) shows that V is positively correlated to real income and inversely related to real money demand, that is:

$$V = Y / L \quad (6)$$

It is well documented that L depends on the following three variables; namely real income (Y) – positive correlation; nominal interest (i) – negative correlation; and the expected inflation rate inflation (π) – negative correlation.

$$V = Y / L (Y, i, \pi) \quad (7)$$

From equation 7, when the interest rate or expected rate of inflation increase, velocity increases because money demand declines because money demand is negatively correlated to velocity. If interest elasticity and expected-inflation elasticity of money demand are less than zero, velocity is affected. While most studies of the money demand equation validate the proposition that money demand is inversely related to the interest rates; there are also studies which indicate that money demand is not influenced by interest rates, i.e. that interest elasticity is close or equal to zero. This, however, needs to be verified for each individual country and time period by carrying out an empirical analysis of a money demand function.

Intuitively, money demand decreases when the interest rate increases since the opportunity cost of holding money rises, also explaining why velocity goes up. The expected rate of price inflation normally influences money demand in extreme circumstances only, such as in periods of high or hyperinflation. The higher the inflation rate, the more economic agents prefer other assets that do not deteriorate in value the way money does, thus the less inclined people are to hold money.

In addition to the two main factors influencing velocity, institutional factors such as the degree of monetisation, financial sophistication, and economic stability and security are believed to cause a decline in velocity. On the other hand, the improved quality of money substitutes can result in an increase in velocity.

Monetisation refers to the proportion of total output that is subject to transactions in monetary terms. In this regard, a higher degree of monetisation increases demand for money, and, thus, reduces velocity. Financial sophistication and economic stability are positively correlated to the demand for money and negatively correlated to velocity.

The velocity of circulation of money became highly unstable and unpredictable during the 1980s and 1990s, with the relationship between money supply and nominal GDP breaking down. This brought into question the efficacy of the

quantity theory of money and led to the abandonment of monetarism by many of its disciples. However, while the quantity theory of money may no longer be appealing to many economists, some important aspects of monetarism still remain important in modern non-monetarist analyses today and the control of money supply growth remains a priority for central banks in the fight against inflation (Bordo and Schwatz 1997; Jahan *et al*. 2014). Bordo and Schwartz (1997) summarised their view on monetarism by positing that money influences output in the short run and prices in the long run and that it remains an important variable in central banks' quest to achieve price stability.

ANNEX FOUR

RESERVE ASSETS

Introduction

"Reserve Assets are those external assets that are readily available to and controlled by monetary authorities for meeting balance of payments financing needs, for intervention in exchange markets to affect the currency exchange rate, and for other related purposes (such as maintaining confidence in the currency and the economy and serving as a basis for foreign borrowing)" (BPM6 2009, paragraph 6.64, page 110). To be classified as reserve assets, financial assets must be in the form of foreign currency assets; be in existence and are controlled by and available for use by the central bank or monetary authority (BPM6 2009). Reserve assets include, Monetary Gold, SDRs, Reserve Position in the Fund, Currency and Deposits and Other Claims.

Monetary gold

Monetary gold as an asset is the only asset which does not have a corresponding liability. The pre-requisite for the classification of gold as monetary gold is that it must be 99.5% pure and must be held by a central bank or monetary authority. Transactions in monetary gold between a central bank of the reporting country and central banks of other countries are recorded as transactions in reserve assets, monetary gold. Trade in any other gold is recorded under transactions in merchandise. Gold can be monetised or demonetised. The monetisation of gold takes place when gold, which is 99.5% pure is sold to a central bank in which case it becomes part of the central bank's reserve assets. When a central bank sells gold to an institutional unit which is not a central bank, this is called demonetisation of gold and if the entity which buys the gold is a non-resident, this is recorded under goods in the current account. The counterpart entry, which are the receipts from gold exports are recorded in the financial account.

Special Drawing Rights

Special drawing rights are international reserve assets created by the IMF in 1969 for purposes of providing liquidity to member states when in need. SDRs are allocated to IMF member states to augment official reserves and are administered by the IMF's SDR Department. IMF member countries have unconditional rights to be availed of foreign exchange or other reserve assets and these rights are represented by SDRs. SDR holdings by countries are recorded as reserve assets. When a member receives an SDRs allocation, the transaction is recorded as a liability of the recipient member country. The allocation of SDRs is recorded in liabilities, other investment under Special Drawing Rights.

Reserve Position in the IMF

Upon becoming a member of the IMF, every country is assigned a quota which determines its voting power in the IMF. The size of each member country's quota depends on the economic strength of the country. The member is required to make available to the Fund, 25 percent of its quota in a convertible currency.

The reserve position in the Fund is the sum of the convertible currency deposited by a member state at the Fund and the amount owed by the Fund to the member state. The indebtedness of the Fund to a member state is represented by the net use of its currency by the IMF. When a member country makes its reserve tranche contribution to the Fund, it is shown in BOP as a transaction because it entails the decrease of foreign exchange assets and increase in the reserve position in the Fund. The remaining 75 percent of the member's quota is availed to the Fund in the member country's

own currency. The transaction involving the 75% member's quota is not recorded in BOP or IIP, it is a contingent liability. Changes in the reserve position in the Fund can be due to net drawings on the reserve tranche by the member country for BOP purposes, changes in the member's quota, and net use of the member's currency to satisfy BOP needs of another country.

Currency and deposits

Deposits qualify to be reserve assets only when they are available on demand. If they have a fixed term but redeemable on demand or on a short notice without unduly affecting their value, they are part of reserve assets. The deposits should be held in foreign central banks, the Bank for International Settlements, other non-resident deposit taking corporations, and deposit agreements with the IMF Trust Accounts that are readily callable to meet balance of payments requirements. Short-term loans provided by monetary authorities to other central banks, or other deposit taking corporations are much like deposits and by convention should be reported as deposits in reserve assets.

Other claims

Other claims include short-term loans to non-deposit taking corporations that are readily available, long-term loans to IMF Trust Accounts that are readily repayable to meet balance of payments financing needs, and other financial assets not elsewhere specified.

ANNEX FIVE

TYPES OF FINANCIAL ASSETS AND LIABILITIES

The classification of financial assets is based on the liquidity of the asset and the legal aspects that stipulate the underlying creditor/debtor relationship. A financial claim arises when a financial intermediary provides funds to an institutional unit in need of loanable funds. The financial intermediary creates a financial asset through the transaction, while the debtor accepts a financial liability.

Monetary gold

Monetary gold is a financial asset only held by a central bank or monetary authority as a reserve asset and should have a gold content of 99.5%. Gold bullion has no corresponding liability. Non-monetary gold is gold bullion held by any other institutional unit other than the central bank.

Special drawing rights

Special Drawing Rights (SDRs) are reserve assets created by the International Monetary Fund and allocated to its members. They are intended to augment existing official reserves of member countries when the need arises. The allocation of SDRs gives rise to both an asset and a liability. SDRs are classified as reserve assets, representing the asset side and as other assets and liabilities of the government sector, on the liabilities side.

Currency

Notes and coins of fixed nominal value issued by a central bank or whose issuance is authorised by the central bank or government constitute currency. Currency can be domestic or foreign currency, where domestic currency is a country's legal tender. In some countries, foreign currency is widely accepted as a medium of exchange despite having no legal tender status.

Deposits

Deposits are non-negotiable financial assets that are evidence that an institutional unit has placed funds with a financial intermediary. The funds can be claimed or withdrawn at a later date. Deposits are either transferable or non-transferable (other deposits) and can be held by any of the resident sectors or by non-residents.

Transferable deposits

Transferable deposits can be withdrawn in the form of bank notes and coins, without any restrictions. They can also be used for making payments to third parties by cheque or direct debits. In most cases transferable deposits do not earn any interest and if they do, it will be very low compared to interest paid on savings deposits.

Non-transferable deposits

Non-transferable deposits are also known as other deposits and can only be used for payments with penalties or restrictions. All claims, other than transferable deposits, that are represented by evidence of deposit are part of

non-transferable deposits. Examples of non-transferable deposits include savings, call, fixed (term) deposits and non-transferable deposits denominated in foreign currency. Repurchase agreements with a very short maturity are also part of non-transferable deposits.

Loans

Loans are financial assets that arise out of a creditor/debtor relationship, that is, when a creditor lends funds to a debtor. Loans include overdrafts, mortgage loans and instalment loans, among others. The mainstay of financial intermediaries is to accept deposits on their own account and lend the funds to institutional units short of funds. Interest is normally payable on loans disbursed and is usually determined by the creditor, with the borrower reserving the right to accept or reject the offer.

Securities other than shares

These are negotiable debt instruments or financial claims that give evidence that the issuer has an obligation to settle on maturity. Examples of debt instruments include short term securities, government bills and bonds, debentures, commercial paper, negotiable certificates of deposit and asset backed securities.

Shares and other equity

" Equity consists of all instruments and records that acknowledge claims on the residual value of a corporation, quasi-corporation, after claims of all creditors have been met" (BPM6 2009, page 83, paragraph 5.21) The owners of equity hold shares in an entity, which are tradable in the secondary market, in the case of public companies. Dividends are the return on equity and these are paid at the discretion of the entity.

Other financial assets/liabilities

Other assets and liabilities include trade credits, other accounts receivable/payable, financial derivatives, insurance technical reserves and retained earnings. A trade credit is created when an exporter supplies goods to their customer on credit.

ANNEX SIX

ACCOUNTING BASE

There are two major accounting bases for all the four macro-accounts, namely, accrual and cash accounting. The SNA 2008, however, recommends accrual accounting for all the four macro-accounts. In this regard, all countries record balance of payments transactions on an accrual basis. Accrual accounting is also applied for monetary and financial statistics and this implies that all assets and liabilities and those that do not result from a cash flow are included. The recommendation in the GFS Manual 2014 is that the SGO should be compiled on an accrual basis. This, notwithstanding, there are currently very few countries that have implemented this recommendation. The majority of SADC member states still record SGO transactions on a cash basis. National accounts are also recorded on an accrual basis.

The accounting base has a significant bearing on the coverage and time of recording of transactions. Coverage under accrual accounting entails the recording of all transactions, regardless of whether they give rise to a cash flow or not. Accrual accounting, therefore, provides an opportunity for a broader and more comprehensive coverage compared to cash accounting.

"Accrual accounting records flows at the time economic value is created, transformed, exchanged, transferred or extinguished" (SNA 2008; paragraph 3.166). This implies that transactions should be captured at the time the economic benefit associated with an event is transferred from one institutional unit to the other. In accrual accounting, for example, a transaction involving the export of goods is recorded when the new owner assumes legal ownership of the good. In this regard, the transaction is recorded not necessarily when the goods are recorded at customs or when the importer makes the payment for them. Revenues should thus be recorded whether or not they have been collected, and expenses captured whether or not payment has been made.

The implication of using accrual accounting is that entries should be made at the instance a change of ownership occurs, services are provided or the requirement to settle compulsory transfers, such as taxes, fines and penalties arises. Exceptions to the change of ownership rule apply for transactions between different units of the same enterprise, when they are located in different countries and in the case of financial leasing.

In the case of transactions between a parent enterprise and a branch, there is not necessarily a change of ownership, because the parent would normally own the branch. This, notwithstanding, a transaction still is to be recorded. If a branch acquires an asset from the parent company, for example, the timing should correspond to the time the branch assumes the risks and obligations associated with ownership.

For a financial lease, the change of ownership occurs at the end of the lease agreement. The lessee assumes all the risks and obligations associated with ownership from the beginning of the lease agreement. It, therefore, follows that the acquisition/disposal of the asset should be recorded at the beginning of the lease agreement, not at the end.
In cash accounting, the time of recording corresponds to the time the cash payment is made or received. When accounts are compiled on cash basis, only transactions that give rise to a cash flow are included. In this regard, the coverage in a cash accounting is limited because there are many transactions that do not give rise to a cash flow. Cash accounting is, thus, not a full reflection of economic reality.

ANNEX SEVEN

FLOWS AND STOCKS CATEGORIES

Flows reflect a change in a given economic variable between one-time period to another. It is the sum of various changes occurring during a certain period. Examples of flows include acquisitions, disposals, borrowing, wages, interest income, output and consumption. Flows cover changes in capital and financial assets and liabilities, as well as a whole range of other economic variables for which there is no corresponding stock position e.g. wages, output, consumption. The general rule in macroeconomics accounting is that flows should be recorded gross as opposed to net.

A stock position shows the value of an asset or a liability at a given point in time. Examples of stocks include loans, deposits, machinery and housing. Stocks positions are only relevant for capital and financial assets and liabilities.

Flow categories

Transactions: These are economic flows arising from: 1) interaction between institutional units by mutual agreement; or 2) an action within an institutional unit that is analytically useful to treat like a transaction, often because the unit is operating in two different capacities. Examples of transactions between institutional units are interest income, compensation of employees and sales/purchases. Examples of transactions within an institutional unit are consumption of fixed capital, withdrawals from inventories and migrants' transfers. Transactions only should be recorded in the national accounts, statement of government operations and balance of payments.

Holding gains/losses: These are changes in the monetary value of assets and liabilities in the recording period, due to a price change. They are also referred to as capital gains/losses or valuation changes. Examples include change in the value of a foreign currency denominated asset due to change in exchange rate, change in an asset due to change in price. Holding gains/losses are recorded in stocks.

Other changes in volumes of assets: these are changes, which are due neither to transactions nor to holding gains/losses. These are recorded in stocks. Examples include writing-off bad debts, involuntary seizure of assets without compensation, theft, monetization/ demonetization of gold and allocation of SDR.

ANNEX EIGHT

DOUBLE AND QUADRUPLE ENTRIES

The accounting rules and procedures used in the System of National Accounts are similar to those used in business accounting. Any transaction gives rise to at least one pair of matching debit and credit entries within the accounts of a unit. A transaction occurring within one unit such as drawdown from inventory for consumption or consumption of fixed capital will give rise to double entry in the accounts of the unit. Most transactions though, happen between two units, in which case each unit record two entries for the same transaction hence, such transactions give rise to quadruple entries.

ANNEX NINE

VALUATIONS OF TRANSACTION IN GOODS AND SERVICES

The value of goods and services can be measured at three different levels depending on the taxes included. Three components are identified in taxes on production and imports, namely taxes on products, value added tax and other taxes on production.

TPI = TOP + VAT + OTP

Where

TOP is taxes on products
VAT is value added tax
OTP is other taxes on production

Taxes on products are taxes payable per unit of a good or service. They may be in form of specific amount of money per unit of quantity of a good or service, or computed ad-valorem as a specified percentage of the price per unit or value. They usually become payable when goods and services are produced, sold or imported. Examples include import, export and excise taxes.

Value added taxes are taxes levied on products by enterprises but finally charged in full to the final purchasers. They are described as a "deductible" taxes because producers are allowed to deduct the amount they paid on their own purchases intended for intermediate consumption and capital formation FKF. It is pertinent to mention that although VAT is levied on products, it is listed separately as an item that distinguishes GDP at producer prices from GDP at market prices.

Other taxes on production are taxes that enterprises incur as a result of engaging in production excluding those levied on products. They may be payable on land, fixed assets or labour employed in the production process or on certain activities or transactions.

Value added excluding all taxes is value added at factor cost and its corresponding aggregate is GDP at factor cost. It measures the incomes generated and paid to the factors of production, compensation of employees for labour and operating surplus and mixed income for capital.

GDP_{fc} = COE + OSM

Where

GDP_{fc} is gross domestic product at factor cost.

The rest are as defined above.

Value added including other taxes on production is value added at basic price. The corresponding aggregate is GDP at basic price.

GDP_{bp} = GDP_{fc} + OTP

Where

GDP_{bp} is gross domestic product at basic price.

The rest are as defined above.

Value added including other taxes on production and taxes on products is value added at producers' price. The corresponding macro aggregate is GDP at producers' price.

$$\mathbf{GDP_{pp} = GDP_{bp} + TOP}$$

Where

GDP_{pp} is gross domestic product at producers' price.

The rest are as defined above.

Value added including all taxes on products is value added at purchasers' price or market price. The corresponding macro aggregate is GDP at market price.

$$\mathbf{GDP_{mp} = GDP_{pp} + VAT}$$

Where

GDP_{mp} is gross domestic product at market price

The rest are as defined above.

From the generation of income account, the balancing item operating surplus and mixed income is carried forward to the primary allocation of income account.

ANNEX TEN

FLOW OF FUNDS ACCOUNT

The flow of funds account summarizes relationships among the major macroeconomic accounts, namely the National Accounts (NA), the Statement of Government Operations (SGO), Depository Corporations Survey (DCS) and the Balance of Payments (BOP). It functions as a control account to ensure that:

a) Any sector that spends beyond its income is financed by the savings of other sectors and
b) Excess spending by the entire economy is only possible if external financing is available.

The flow of funds provides a snapshot of the entire economy. It facilitates consistency checking for both historical and projected macroeconomic data. Although the flow of funds account would be best computed by the authorities responsible for statistics, such accounts are not produced routinely in most countries. Given the important role that the flow of funds plays in ensuring consistency in macroeconomic accounts, it is crucial for analyst to understand how to construct it.

The typical macroeconomic data available for financial programming comes from different sources and therefore it tends to pose challenges to attempts to work out a framework that is consistent across all accounts. The extent of challenge differs from country to country depending on country data specific issues. This makes the country case exercises less effective when applied to specific country data. In this Annex we discuss how to construct flow of funds account step-by-step using available statistics with a view to make it more probable to achieve a balanced flow of funds account at the end. While obtaining a balanced flow of funds account may be difficult under certain circumstances, it is still a valuable exercise because it helps to identify areas of inconsistency in macroeconomic data and may be a basis for carrying out measures to reconcile statistics.

Important issues to note:

(a) The flow of funds account records transactions only, implying that if the source data is not transactions like monetary statistics, special care should be taken to exclude holding gains/losses which will certainly be contained in some of the flows computed from stocks.

(b) Transactions are recorded from the perspective of the sector concerned, with negatives representing outflows of funds and positives representing inflows of funds.

(c) The "rest of world" represents a summary of the BOP transactions recorded from the perspective of non-residents and therefore the signs are reversed—residents' receipts of funds corresponds to non-residents' payment of funds and therefore they bear negative sign and *vice versa.*

Step-by-step construction of the flow of funds

Step 1

Review the data and make sure that each source account balances. When macroeconomic data are presented in time series, vertical checks are used to check if the sum of credits matches the sum of debits. The formula for vertical check is set such that its value becomes zero if the account balances and non-zero if the account does not balance.

The vertical checks for each account – SGO, DCS and BOP – should be zero

Here are some helpful hints for step 1

(a) Highlight all primary entries – i.e. entries that are not made up of other sub-components. Please note that residuals such as errors and omission, other items net and adjustments to cash should also be counted as primary entries so that nothing is missed out.
(b) Give each of the primary entry the right sign in accounting terms – positives for inflows and negatives for outflow
(c) To check if you have assigned the right signs to each entry, add all primary entries for the entire account – the sum should be zero if the account balances.

Step 2

(a) Decide the structure of flow of funds matrix you want to build – particularly the level of detail you want to include. The level of detail you can include will be determined by how much data you can get from the sources.
(b) The number of sectors – as shown in table 9.1 below the sectors are presented in columns and the level of detail to be included may depend on the data set available or the purpose for which you are constructing the flow of funds matrix.
(c) Also decide the number of transactions. These are row entries and the number of transactions to be included may again depend on the level of details in your data set and/or the purpose for which you are constructing the flow of funds matrix.
(d) In this exercise we shall work with a flow of funds matrix structure shown in Table A10.1.

Table A10.1: Flow of Funds Matrix

Item	Economy wide	Sum of resident sectors	Government	Non-government non-financial	Financial	Rest of the world	HORIZONTAL CHECK
Gross national income	a		a	a			
Domestic current transfers			b	b			
Foreign current transfers	b		c	c			
Exports of goods and services	c					a	
Imports of goods and services	d					b	
Income from non-residents	e					c	
Foreign current transfers	f					d	
Final consumption	g		d	d			
SAVING							
Gross capital formation	h		e	e			
SAVING MINUS GKF							
Capital transfers from non-residents			f	f		e	
NET LENDING							
TOTAL FINANCING							
DOMESTIC FINANCING							
Change in money holding				g	a		
Change in non-govt domestic credit				h	b		
Govt bank financing			g	i	c		
Govt non-bank financing			h	j			
Change in other items net				k	d		
FOREIGN FINANCING							
Other sectors foreign financing				l		f	
Govt foreign financing			i			g	
Change in foreign assets of banks					e	h	
Errors and ommissions				m		i	
Change in reserve assets					f	j	
Foreign exceptional financing			j		g	k	
VERTICAL CHECK							

Steps 3

Compile each account into flow of funds format. Aggregate each account into the relevant items that you have chosen for your matrix and cross check if all items have been captured by ensuring that the vertical checks for each account is zero as is in the source account. If the aggregation was done outside the matrix, transfer the items to their respective cells in the flow of funds matrix. Tables A10.2 to A10.5 presents each of the four accounts in flow of funds account format.

Table A10.2 National accounts in flow of funds format

	2012/13	2013/14	2014/15	2015/16	2016/17
Gross national income	-12,265.9	-14,173.4	-16,060.6	-18,282.4	-20,533.8
Foreign current transfers	-225.6	-221.4	-186.1	-132.2	-184.4
Exports of goods and services	2,427.0	2,557.7	2,881.9	3,320.6	3,394.7
Imports of goods and services	-3,745.0	-4,158.8	-4,306.5	-4,521.6	-3,927.8
Income from non-residents	-187.7	-147.4	-227.4	-376.6	-379.9
Foreign current transfers	225.6	221.4	186.1	132.2	184.4
Final consumption	10,766.0	13,043.4	15,125.8	16,897.3	18,579.3
Gross capital formation	3,005.7	2,878.4	2,586.9	2,962.7	2,867.5

Table A10.3: Statement of government operations in flow of funds format

	2012/13	2013/14	2014/15	2015/16	2016/17
Gross national income	897.9	1,057.1	1,166.6	1,544.1	1,952.6
Domestic transfers	555.9	695.6	684.8	846.8	889.1
Foreign current transfers	149.8	129.4	93.9	15.9	66.1
Final consumption	-1,548.0	-1,782.0	-1,873.6	-2,314.3	-2,002.1
Capital formation	-675.8	-722.8	-683.0	-798.9	-1,338.9
Foreign capital transfers	104.1	162.8	94.7	75.3	135.0
Change in domestic assets of banks	123.0	175.9	89.8	280.2	-196.6
Change in government liabilities vis-à-vis oth	73.9	-134.2	57.4	143.0	180.9
Change in autonomous external position	319.4	418.1	369.4	207.8	313.9
Exceptional financing	0.0	0.0	0.0	0.0	0.0

Table A10.4: Depository corporations survey in flow of funds format

	2012/13	2013/14	2014/15	2015/16	2016/17
Change in money holding	364.1	444.7	424.8	469.5	248.7
Change in private domestic credit	-255.8	-374.9	-447.5	-489.9	-39.7
Government bank financing	-123.0	-175.9	-89.8	-282.3	196.6
Change in other items net	48.9	208.6	343.5	202.4	-20.8
Change in foreign assets of banks	120.6	13.8	-29.9	69.3	142.8
Change in reserve assets	-188.7	-123.0	-194.0	43.4	-499.7
Foreign exeptional financing	33.9	6.7	-7.2	-12.4	-27.8

Table A10.5: Balance of payments (rest of world) in flow of funds format

	2012/13	2013/14	2014/15	2015/16	2016/17
Exports of goods and services	2,427.0	2,557.7	2,881.9	3,320.6	3,394.7
Imports of goods and services	-3,745.0	-4,158.8	-4,306.5	-4,521.6	-3,927.8
Net income from non-residents	-187.7	-147.4	-227.4	-376.6	-379.9
Net current transfers from non-residents	225.6	221.4	186.1	132.2	184.4
Net capital transfers from non-residents	176.9	202.0	146.7	137.2	171.1
Change in external assets held by other sec	849.2	688.1	612.7	496.8	491.7
Change in government autonomous position	392.7	486.3	445.8	234.3	271.8
Change in financial sector foreign assets	119.7	14.1	-19.2	58.3	122.0
Errors and ommissions	-126.8	217.4	206.9	374.0	158.8
Change in reserve assets	-162.8	-83.6	106.7	167.3	-456.6
Exceptional financing	31.3	2.7	-33.6	-22.6	-30.2

Steps 4

Once data for each account are placed in their respective transaction lines in the flow of funds matrix, compute horizontal checks to identify inter-sectoral discrepancies. In Table A10.6, data from Tables A10.2 to A10.5 have been placed in their respective transaction lines and horizontal checks computed. As shown in Table A10.6, there are five non-zero horizontal checks: final consumption; government foreign financing; foreign financing of the financial sector; change in reserve assets and exceptional financing. The analyst needs to clear all non-zero checks one after another.

Whenever there is a disagreement between a figure in one account and corresponding entry in another account, the analyst should study the nature of the entries in each account and make decisions about which figure is a better choice. For instance, if the rest of the world figure for government foreign current transfers does not match with the government sector figure for current grants for the same period, then find out how each of these figures was compiled and decide which figure is a better representation of reality. In this example, if you decide that the figure in the rest of the world is a better record of government foreign current transfers then replace the figure in government sector column with the figure obtained from the rest of the world column. This will tip the vertical check in the government sector column off. To address this, the analyst needs to make another adjustment in the government sector.

A typical example of this kind of discrepancy is where the rest of the world account records a larger figure for transfers because it captures funds going directly to projects without passing through the budget system, whereas the SGO captures only transfers going through the budget. If this is the case then the figure in the rest of the world account provides better coverage of government current transfers and therefore the analyst can make the first adjustment by taking the government transfers figure from the rest of the world account and apply it in government sector column and then make the second adjustment by changing relevant government expenditure item, such as government final consumption in order to eliminate the vertical check caused by the first adjustment. The analyst should proceed to make similar adjustments to clear the rest of horizontal checks until all of them are cleared.

Table A10.7 shows the final flow of funds matrix after all horizontal checks have been cleared. It is important for the analyst to keep note of the assumptions behind each adjustment they make.

Table A10.6: Flow of funds matrix with initial entries from respective accounts

SN	•• Sectors •• Transactions	Overall	Domestic Economy	Governmen	Other Sectors	Financial	Rest of the World	Horizontal Check
1	Gross national income	-20,534	20,534	1,953	18,581			0.00000
2	Taxes on income and wealth			889	-889			0.00000
3	Social benefits received							
4	Current transfers from non-residents	-184	184	66	118			0.00000
5	Exports of goods and services	3,395					-3,395	0.00000
6	Imports of goods and services	-3,928					3,928	0.00000
7	Net income from abroad	-380					380	0.00000
8	Current transfers from non-residents	184					-184	0.00000
9	Final consumption	18,579	-18,579	-2,002	-17,004			-427.27894
10	Gross savings	-2,867	2,139	906	806			
11	Gross capital formation	2,867	-2,867	-1,339	-1,529			0.00000
12	Savings less Investment	0	-729	-433	-723		729	-427.27894
13	Net capital transfers from abroad		171	135	36		-171	0.00000
14	Net lending	0	-558	-298	-687	0	558	-427.27894
15	Financing	0	210	298	-88	0	-558	-347.60220
16	Domestic financing	0	0	-16	-369	385		0.00000
17	Change in money holdings				-249	249		0.00000
18	Change in non-government bank credit				40	-40		0.00000
19	Change in government bank credit			-197		197		0.00000
20	Change in other items net of banks				21	-21		0.00000
21	Change in government non-bank credit			181	-181			0.00000
22	External financing	0	210	314	281	-385	-558	-347.60220
23	Government		314	314			-492	-177.86415
24	Change in foreign assets of banks		143			143	-272	-129.03741
25	Other sectors		122		122		-122	0.00000
26	Errors and omissions		159		159		-159	0.00000
27	Change in reserve assets		-500			-500	457	-43.10782
28	Exceptional financing		-28	0		-28	30	2.40719
29	Vertical check	0.00000	-347.60220	0.00000	-774.88113	0.00000	0.00000	-774.88113

REFERENCES

Balance of Payments and International Investment Position Manual, 6th Edition, *IMF, 2019.*

Bordo, M. D and Schwatz, A.J (1997). Monetary Policy Regimes and Economic Performance: The Historical Record: *NBER Working Paper Number 6201, September 1997.*

Financial Programming and Policies, Volume 1, *IMF Institute for Capacity Development, IMF Instituite February 2014.*

Financial Programming and Policies: The Case of Sri Lanka, *IMF Institute 1996.*

Financial Programming and Policies: The Case of Turkey, *IMF Institute 2000.*

Fisher, I. (1911). The purchasing power of money: Its determination and relation to credit, interest and crises. New York: *Macmillan Company.*

Friedman, M. (1956). The quantity theory of money: A restatement. In: Friedman, M. (Ed.). *Studies in the quantity theory of money. Chicago: University of Chicago Press.*

Jahan, S., Mahmud, A.S. and Papagergious, C. (2014). What is Keynesian economics? *Finance and Development,* September 2014, pp. 53-54.

Monetary and Financial Statistics Manual and Compilation Guide, *International Monetary Fund, 2016.*

System of National Accounts 2008, *produced under auspices of European Commission; IMF; OECD; UN and World Bank, New York (2009)*

GLOSSARY

Above the line items: These are items in the balance of payments and statement of government operations that constitute autonomous transactions.

Accrual accounting: Recording of flows and changes in the corresponding stocks at the time economic value is created, transformed, exchange, transferred or extinguished.

Aggregation: Adding up of stock or flow data for all institutional units of a sector or sub-sector. Aggregation also applies to assets or liabilities within a given instrument category.

Asset: Store of value, over which ownership rights are enforced and from which their owners may derive economic benefits by holding them over a given period of time.

Autonomous transactions: Transactions undertaken for their own sake that may be performed by any sector of the economy.

Balance of payments: Macroeconomic statistical statement that records transactions between residents and non-residents during a given period of time.

Baseline scenario: a set of projections for the macro-accounts, based on the assumption that current policies will remain in place.

Below the line items- These are financing items, such as reserve assets or exceptional financing items in the balance of payments. The statement of government operations also has below the line items.

Broad money: The sum of all liquid financial instruments held by money holding sectors that are widely accepted in an economy as a medium of exchange, plus those that can be converted into medium of exchange at short notice at, or close to, their full nominal value.

Cash accounting: Recording of transactions at the time when cash is paid or received. In cash accounting, only transactions that give rise to a cash flow are included.

Central bank: Domestic financial institution that exercises control over key aspects of the financial system.

Central bank survey: Analytical presentation of the accounts of the central bank

Consolidation: Elimination of stocks and flows between institutional units that are grouped together for statistical purposes and presented as if they constituted a single unit.

Compensation of employees, the total remuneration, in cash or in kind, payable by an enterprise to an employee, including contributions to a social insurance scheme, in return for work done by the latter during the accounting period.

Consumption of fixed capital, the amount of capital resources used up in the process of production in any period.

Currency: Notes and coins that are of fixed nominal value and are issued or authorised to by central banks or government to be issued.

Current account: A record of all current transactions vis-à-vis non-residents. Merchandise exports and imports, transfers receivable and payable interest receivable and payable and are examples of transactions recorded in the current account.

Debt: An obligation that has to be settled at some point in the future, that is, both the principal and interest.

Debt forgiveness: A contractual agreement between a creditor and debtor to reduce the amount of the debt or to extinguish the debt obligation altogether.

Debt repudiation: The refusal by a debtor to repay a debt owed to a creditor when it falls due. Debt repudiation is not recognised as a transaction in the balance of payments since the action is deemed unilateral.

Debt rescheduling: This occurs when a creditor and debtor agree to change the terms and conditions, usually making them more favourable, for servicing a current debt.

Depository corporation survey: Consolidated balance sheet showing all assets and liabilities of the monetary authority and other resident depository corporations.

Deposits: Claims by the deposit holder on depository corporations, which are represented by evidence of deposit and can be denominated either in national or foreign currencies.

De-monetisation of gold: Reclassification of gold as ordinary gold when a unit that is not a monetary authority purchases gold from a monetary authority.

Economic flow: This refers to the creation, exchange, change or extinction of economic value within a given accounting period.

Equity: A claim on a corporation or quasi-corporation in the form of shares or stocks. The claim is on the residual value after other creditor claims are met.

Errors and omissions: The statistical discrepancies between positive and negative entries in the balance of payments.

Economically significant prices, prices have a significant influence on the amounts the producers are willing to supply and on the amounts purchasers wish to buy. The European System of Accounts defines prices as economically significant if they cover at least half of the cost of production.

Exceptional financing: a form of financing of the balance of payments through consensual or non-consensual non-fulfilment of the obligation or through a loan or transfer to honour the obligation. This occurs when a country is unable to honour its obligations when they fall due.

Expense: Expenses are transactions that decrease net worth. At this point it is pertinent to make distinction between expense and expenditure. Expenditure constitutes transactions that decrease net current financial resources, mostly cash. A purchase of a non-financial asset is not an expense because it represents an exchange of one asset with another or an increase in liability matched with an increase in asset and thus does not affect net worth. Such a transaction though is part of expenditure.

Final consumption expenditure: The expenditure on those goods and services used for the direct fulfilment of individual needs or the collective needs of members of the community, as distinct from their purchase for use in the productive process.

Financial asset: A financial claim arising from a contractual relationship entered into when one institutional unit provides funds another.

Financial corporations sector: A sector that consists of all resident corporations and quasi-corporations primarily engaged in financial intermediation, including the provision of insurance and pension fund services to other institutional units.

Financial program: A set of policy measures designed to achieve certain macroeconomic goals.

Financing transactions: Transactions that accommodate or finance a balance of payments deficit or surplus. The statement of government operations also has financing items.

Fines and penalties are compulsory current transfers imposed on units by courts of law or quasi-judicial bodies for violations of laws or administrative rules.

Forfeits are amounts that were deposited with a general government unit pending a legal or administrative proceeding and that have been transferred to the general government unit as part of the resolution of that proceeding.

General government: An institutional sector created by political processes. It has judicial, legislative, and executive authority over all other institutional units in a given geographical area.

Grants are non-compulsory current or capital transfers from one government unit to another government unit or an international organization. Transfers are classified by the type of unit receiving the grant and then by whether the grant is current or capital. **Current grants** are those made for purposes of current expense and are not linked to or conditional on the acquisition of an asset by the recipient. **Capital grants** involve the acquisition of assets by the recipients and may consist of a transfer of cash that the recipient is expected or required to use to acquire an asset or assets other than inventories.

Gross national disposable income: The income available to the residents arising from GDP, and receipts from, less payments to, the rest of the world of employment income, property income and current transfers.

Households: A household is a group of people who share the same living accommodation, pool some or all their income and wealth, and collectively consume certain types of goods and services.

Institutional unit: An economic entity that has the capability to own assets and incur liabilities in its own right and is free to engage in economic activities and also transact with other entities.

Intermediate consumption: The consumption of goods and services in the production process.

Interest: This is investment income that the owner of a financial asset gets by making the asset available for use by another institutional unit.

International investment position: This is the balance sheet for financial assets and liabilities vis-à-vis non-residents and is critical for the analysis of external debt sustainability. The net position in the international investment position is the difference between the assets and liabilities. It can be either a net claim or net liability to non-residents.

Institutional sector: A group of institutional units that engage in the same economic activity. According to SNA (2008) any economy has five institutional sectors namely, financial corporations, non-financial corporations, non-profit institutions serving households, general government and households.

Liquidity: Ability of a financial asset to be turned into a medium of exchange without a significant loss in value, implying that transaction costs will be very low.

Loans: Non-negotiable debt instruments that are created when a creditor lends funds to a debtor.
Market output: Output of goods and services sold at economically significant prices.

Monetary aggregates: Measures of money supply in an economy. Range from narrow to broad money.

Monetary base: Comprises all central bank liabilities that support the expansion of broad money and credit. Also referred to as reserve money or high-powered money. The monetary base is defined as the sum of total currency issued by the central bank and deposits of banks with the monetary authority.

Money multiplier: Defined as money stock divided by the monetary base.

Monetary gold: Gold which is 99.5% pure and is held by a central bank.

Monetisation of gold: Reclassification of ordinary gold by virtue of it being acquired by a monetary authority from a unit that is not a monetary authority.

Net foreign assets: Claims on non-residents less liabilities to non-residents.

Net international reserves: Gross international reserves less short-term foreign liabilities of monetary authorities.

Non - financial corporations sector: These are all other productive units that maintain a complete set of accounts, separate from their owners, that may be either publicly or privately owned. Non-financial corporations sell their products at economically significant prices.

Non -market output, Output of own account production of goods and services provided free or at prices that are not economically significant. Non-market output is produced mainly by the general government and non-profit institutions serving households sectors.

Non-profit institutions: Entities that do not generate income or profit for their owners. Some non-profit institutions provide their services at economically significant prices, while others do not.

Non-profit institutions serving households: A sector that includes all resident non-profit institutions, examples of which are trade unions, professional associations, consumer associations, political parties, churches or religious societies and social, cultural, recreational and sports clubs. Non-profit institutions serving households sell their services at economically insignificant prices or make them available to households for free.

Non-transferable deposits: Include deposits that have withdrawal restrictions such as on transferability, frequency, or are on account of a third party.

Narrow money: Consists of currency in circulation and transferable deposits.

Other economic flows: Include price changes and a variety of other economic events that affect the holdings of assets and liabilities, such as debt write-offs and catastrophic losses. The Statement of Other Economic Flows summarizes these changes in assets, liabilities, and net worth.

Other depository corporations: Consists of all financial institutions other than the Central Bank, which are engaged in financial intermediation. They raise funds by incurring liabilities on their own account and channeling the funds to institutional units or economic agents in need of funds.

Other taxes cover revenue from taxes levied predominantly on a base or bases other than those described under the preceding taxes. Also included is revenue from unidentified taxes and interest and penalties collected for late payment or non-payment of taxes but not identifiable by tax category.

Policy scenario: a set of projections in which targets are specified. In a policy scenario, the aim of achieving given macro-economic objectives such as internal and external balance is translated into specific targets such as the overall balance of payments position and domestic credit ceilings.

Primary income, this refers to income that accrues to institutional units as a consequence of their involvement in processes of production or ownership of assets that may be needed for purposes of production.

Property income, that part of primary incomes that accrues by lending or renting financial or natural resources, including land, to other institutional units.

Reserve assets: Foreign assets available to and controlled by a central bank or monetary authority for financing the balance of payments and intervention in foreign exchange market to influence exchange rate movements.

Reserve position in the Fund: Sum of convertible currency with the Fund plus the amount owned by the Fund to the member.

Residence: The residence of an institutional unit is where it has its centre of predominant economic interest. The concept of residence is not based on nationality, currency of transaction, or legal criteria.
Residual: A balancing item or variable in a macro-account,that facilitates the closure of the account.

Revenue: Revenues are transactions that increase net worth. They arise from taxes, property income, sales of goods and services, and other transfers receivable from other units. Tax revenues are compulsory unrequited receipts collected by the government for public purposes.

Sale of goods and services include sales by market establishments, administrative fees, incidental sales by nonmarket establishments and imputed sales of goods and services.

Saving: The balance on the use of income account. It is that part of disposable income which is not spent on final consumption and may be positive or negative.

Secondary income, income or economic value received or provisioned without directly providing or receiving a counterpart item of economic value.

Sectoral balance sheet: Constitutes the data base of presentation of monetary data that is used to compile the surveys of the financial corporations sector.

Securities other than shares: Negotiable debt instruments that serve as evidence that units have obligations to settle, either as cash, financial instrument or otherwise. Securities other than shares are normally traded in secondary markets and examples include, government bills and bonds; corporate bonds and debentures; commercial paper; and negotiable certificates of deposit of banks.

Shares and other equity: Imply ownership of a productive entity, normally a publicly traded corporation. They are not debt instruments.

Special Drawing Rights: Reserve assets created by the International Monetary Fund and are allocated to members to supplement official reserves.

Social benefits are transfers in cash or in kind to protect the entire population or specific segments of it against certain social risks. A social risk is an event or circumstance that may adversely affect the welfare of the households concerned either by imposing additional demands on their resources of by reducing their incomes.

Social contributions are actual or imputed receipts either from employers on behalf of their employees or from employees, self-employed, or non-employed persons on their own behalf that secure entitlement to social benefits for the contributors, their dependents, or their survivors. The contributions may be compulsory or voluntary.

Subsidies are current unrequited payments that government units make to enterprises on the basis of the levels of their production activities or the quantities or values of the goods or services they produce, sell, export, or import.
System of national accounts: A set of internationally agreed and recognised recommendations on the compilation of economic statistics.

Taxes on income, profits, and capital gains are generally are levied on: compensation for labour services such as wages, salaries, tips, fees, commissions and fringe benefits; interest, dividends, rent, and royalty incomes; capital gains and losses, including capital gain distributions of investment funds; profits of corporations, partnerships, sole proprietorships, estates, and trusts; taxable portions of social security, pension, annuity, life insurance, and other retirement account distributions; and miscellaneous other income items.

Taxes on payroll and workforce are collected from employers or the self-employed either as a proportion of payroll size or as a fixed amount per person and that are not earmarked for social security schemes. Payments earmarked for social security schemes are classified as social security contributions.
Taxes on property include taxes on the use, ownership, or transfer of wealth. These may be levied at regular intervals, one time only, or on a change in ownership.

Taxes on goods and services are all taxes levied on the production, extraction, sale, transfer, leasing, or delivery of goods and rendering of services. Also included are taxes on the use of goods and on permission to use goods or perform activities.

Taxes on international trade and transactions include customs and other import duties, taxes on exports, profits of export or import monopolies, exchange profits, exchange taxes and other taxes on international trade and transactions.

Trade balance: This the difference between merchandise exports and imports in a given time period. Also called the balance of trade.

Trade credit: A financial instrument that is created when suppliers of goods and services extend credit to their customers.

Transactions in goods and services describe the origin and use of goods and services. By definition, goods and services in the SNA are always a result of production, either domestically or abroad. The term, product, is therefore synonymous with goods and services. For the government sector, transactions in goods and services include sales of goods and services, use of goods and services and consumption of fixed capital.

Transferable deposits: Deposits which are exchangeable on demand at par value and without penalties or other restrictions and can be used directly for making payments using cheques or other facilities.

Use of goods and services consists of goods and services used for the production of market and nonmarket goods and services-except own-account capital formation—plus goods purchased for resale less the net change in inventories of work in progress, finished goods, and goods held for resale.

Velocity of circulation of money: Is the speed at which a monetary aggregate is passed round the economy for transaction purposes.

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