



**MEFMI**

**PUBLIC DEBT  
MANAGEMENT  
PROCEDURES MANUAL**

**Vol. 1**

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# 1. INTRODUCTION

The debt crisis of the 1980's triggered interest of governments in developing countries and international organizations to develop capacity in debt management. Debtor developing countries failed to honour their obligations to pay their creditors necessitating debt restructuring including rescheduling mainly through Paris Club, and other debt relief mechanisms. These debt reorganization operations required accurate and complete debt data. It was because of this need that United Conference on Trade and development (UNCTAD) and the Commonwealth Secretariat (COMSEC) started their technical cooperation activities by developing and making available the Debt Management and Financial Analysis (DMFAS) software and Commonwealth Secretariat Debt Recording Management System software (CS-DRMS) respectively. The two institutions also started training staffs of developing debtor countries in debt management. This manual aimed at building institutional memory in debt management could not have come at a better time when basic debt management capacity in MEFMI member countries has been achieved. It is the first building block meant to serve as best practice commensurate with the type of debt instruments issued and/or contracted in MEFMI member countries. As the level of sophistication increases so will be the need to revise this manual to be in line with the sophistication.

## 1.1 Coverage and scope

Domestic debt includes direct loans to government and market securities held by residents of a country while external debt includes loans received from foreign governments, multilateral institutions and other non-resident entities. However, this manual will cover liabilities of government, which constitute public debt namely; internal or domestic debt, external debt and publicly guaranteed debt.

## 1.2 Need for the manual

As mentioned above, debt management, as a component of macroeconomic management became prominent in developing countries in the early 1980s following the external debt crisis. Besides economic and structural reforms, the debt crisis highlighted the need for developing countries to build and strengthen their debt management capacities in order to monitor and analyse their debt portfolios. Since then, most developing countries have made notable strides in improving their debt management capacities with the help of regional and international organizations.

Despite the above achievements, the challenge for MEFMI member countries is to maintain and sustain this capacity and to build institutional memory of the operations and challenges of debt management. It is against this background that the Macroeconomic and Financial Management Institute of Eastern and Southern Africa (MEFMI) requested its member states to document their debt management operations. This manual consolidates the manuals



submitted by individual MEFMI member states. It identifies best practices among the countries which will be used to improve their procedures.

The purpose of this manual therefore, is to provide practical guidelines to staff directly or indirectly involved in the debt operations in MEFMI member countries. The manual recommends best practices in the functions conducted by the front, middle and back offices of domestic and external debt management.

The Debt Operational Manual is intended to assist stakeholders to: -

- understand institutional and legal frameworks necessary for effective debt management offices
- understand the relationship between a Public Debt Management Office and other government departments, institutions and international organisations
- understand the procedures and work processes in a Public Debt Management Office
- understand the roles and mandates of various participants in debt management operations
- understand human and financial resource requirements for managing Public Debt.
- know the reporting requirements of a Public Debt Management Office
- understand and appreciate the importance and use of Information technology in debt management
- control the quality of inputs, outputs and processes in managing Public Debt.

### **1.3 Layout of the manual**

This manual is arranged as follows:

**Part one** documents legal and institutional framework necessary for efficient and effective debt management. It recommends laws, statutes and policies that should be put in place, the authorization process of debt contracting, the mandates of debt management operations and the coordination mechanisms for efficient debt management.

**Part two** documents back office procedures of both external and domestic debt operations. This includes debt recording, document handling, reports and information flows among other back office operations.

**Part three** documents middle office or analytical functions of debt management. This includes debt strategy formulation and design, instrument and portfolio analysis, sensitivity analysis and the effect of changes in the parameters of debt instruments on a country's debt portfolio and debt sustainability analysis.

**Part four** documents front office functions of debt management. This includes identification of financing sources, resource mobilization processes, negotiation preparations, the art and science of debt negotiations and signing of loan agreements.



## **2. PART 1**

# **LEGAL AND INSTITUTIONAL FRAMEWORK OF DEBT MANAGEMENT**



## **2.1 Legal Framework**

Government borrowing from either domestic or external sources requires that there is a well-established legal basis for contracting debt. The executive arm of government, usually Ministry of Finance is authorized by legislation to contract debt. Legislative arm of government should approve each loan before it is contracted and ensure that the loan is within the established guidelines and laws, and can be serviced within the national budget.

A clear legal framework governing the mobilization, management and monitoring of resources that have been raised through borrowing should be put in place. It should define the roles of the different agencies involved in loan operations at all stages of the loan cycle for each category of borrower.

Countries should therefore ensure that they have the following in place:

- Laws, regulations and policies governing debt management with respect to mandates of institutions or individuals who should approve or manage loans.
- Laws, regulations and policies which stipulate the limits of external public debt limit of government borrowing during any particular period
- Laws which stipulate government guarantee limits and processes for Statutory Bodies and private organizations.
- Laws governing direct advances from Central Banks to Ministry of Finance.
- Laws which empower the central bank or any other financial institution to act as fiscal agent of Government.
- Laws and regulations relating to payment processes of public debt which specify the roles of a debt office, Accountant General, Auditor General, Attorney General, Central Bank, quasi government institutions and any other relevant institution.
- The law providing for the establishment of institutional structures to carry out the day-to-day functions of borrowing and repayment of loans contracted.
- The legal framework necessary for adopting Asset and Liability Management (ALM) in debt management. ALM is a technique for management of government assets and liabilities using a balance sheet approach.

## **2.2 Authorization process**

For transparency and accountability, there should be a provision in law requiring that-

1. Terms and conditions of a loan should be laid before Cabinet/Parliament and should come into operation only after it has been duly approved.
2. Money received in respect of a loan/government security should be paid into a specified government account as specified by Accountant General.





3. The authority to contract debt, issue guarantees and government securities for and on behalf of Government should be vested solely in the Minister of Finance or any other person(s) with powers of attorney from the minister of finance, and no other person, public organization or local government council should, without the prior approval of the Minister, raise any loan or issue any guarantee, government security or take any other action which may in any way either directly or indirectly result in a liability being incurred by Government.
4. Loans may be raised upon such terms and conditions as to interest, repayment or otherwise as may be negotiated by the Minister but, mainly for the purpose of-
  - financing budget deficits;
  - treasury and monetary policy management purposes;
  - Obtaining foreign currency for Balance of Payments support, external financing requirements or for improving foreign currency reserve levels.
  - on-lending to an approved institution; or
  - Otherwise defraying expenditure, which may lawfully be defrayed.
5. The Accountant-General should not make any payment or accept any charge in government accounts, nor should accounting officers make any payment unless authorized by a warrant of the Auditor General to do so.

## **2.3 Institutional framework**

### **2.3.1 Location of a debt office**

The debate of where a debt office should be located and whether it should be an autonomous office, a department under the Ministry of Finance or the Central Bank or whether the functions should be distributed in various ministries and departments of government and the central bank has been going on for quite sometime now and no consensus has yet emerged. What seems to be emerging however is that a debt management office should be centralized/consolidated to the extent possible. An autonomous debt office has the advantage of establishing its own remuneration packages outside the normal civil service scale. Low remuneration has been the cause of high staff turnover in government departments. Wherever the debt office is located, consensus seems to have evolved stipulating that there is need to manage debt in a functional framework i.e. Front office, Middle office and Back office whose broad functions are indicated below.

#### Front office

The Front Office has the responsibility of mobilizing funding for Government within the legal and policy frameworks. This involves contracting loans, issuing guarantees and issuing government securities. This should be done in an efficient and effective manner to minimize government's cost of borrowing taking into account the risk parameters established by the authorities.

#### Middle office

The middle office of a country's debt unit undertakes analytical functions that enable government to meet its financing needs and its debt service obligations at the lowest



possible cost with a prudent degree of risk exposure. It also monitors the front office's performance in terms of compliance with the chosen strategy and risk and cost limits.

Back office

The responsibility of the Back Office is to maintain a high quality database of the debt portfolio i.e. a database that is complete, accurate and consistent. It also confirms debt settlements and payments and report on debt.

## **2.4 Roles and responsibilities of institutions/departments involved in debt management operations.**

The functions and responsibilities of institutions and departments listed below specifically relates to debt management.

### **2.4.1 Parliament**

The parliament is the supreme legislative organ in the country. It is charged with the responsibility of enacting legislation, which includes the legal framework for debt management.

### **2.4.2 Ministry of Finance**

- Supervises the finances of a country so as to ensure that a full account thereof is made to the National Assembly and that its financial control is maintained.
- Presents borrowing requirements to government and to parliament for authorization or approval as may be necessary in accordance with the law and regulations and policies in force.
- Spearheads in negotiation and re-negotiations of terms and conditions of external loans and credits
- Signs loan agreements, indemnity or security in respect of any financial commitment incurred or to be incurred by any board or body established by or under the law, bank, company or juristic person and other documents that involve committing the country.
- Verifies that the project/loan presented by a state corporation or private entity for a government guarantee qualifies for such a guarantee and processes the application as necessary.
- Submits annual debt strategies (including public debt statement and gross funding plan), and quarterly debt reports to cabinet for information.
- Integrates debt variables into broad macroeconomic and financial aggregates
- Participates in liquidity forecasting alongside other finance agencies.

### **2.4.3 Auditor General**

- Verifies and authorizes debt service payments
- Conducts audits to ensure compliance with set benchmarks of financial transactions in debt management.



#### **2.4.4 Department of Government responsible for Investment and Public Enterprise**

Under Asset and Liability Management Framework (ALM) the following functions would be included in the asset side of the Assets and Liability Management Office.

- Monitoring performance of beneficiaries for on-lent loans and guarantees.
- Managing on-lent loans and publicly guaranteed debt.
- Preparing and carrying out restructuring programmes for parastatal organizations.
- Collecting and analyzing information related to slow disbursing loans.
- Establishing and reviewing loan disbursement procedures and record keeping.

#### **2.4.5 Attorney General**

- Gives legal opinion on behalf of Government on any instrument that may commit government
- Drafts and scrutinizes legal documents related to borrowing, and lending transactions and guarantees.
- Participates in negotiations of external loans.
- Verifies that projects presented for loan guarantees qualify for such guarantees.

#### **2.4.6 Accountant General**

- Prepares cash flow forecasts and manages liquidity of government
- Processes debt service payments
- Monitors and reporting on loan disbursements
- Obtain details of all financial assets of government for the purpose of computing the country's net debt position.

#### **2.4.7 Department/Ministry responsible for Planning**

- Formulates national development plans, prioritizes projects in line with government's social-economic objectives and works with Ministry of Finance to identify ways and means of closing the budget deficit by borrowing either externally or domestically.

#### **2.4.8 The Central Bank**

- Facilitates settlement of debt service payments on instructions of the Debt Management Office
- Provides advice on debt management in accordance with the Central Bank Act.
- Maintains a secure and efficient payment and settlement system.
- Monitors and advises on Government's sovereign risks (financial assets and liabilities).
- Obtains details of all financial assets of government and quasi government from financial institutions and reports the same to the debt office and Ministry of Finance.
- Prepares Cash flow forecasts and manages liquidity of government
- Involved in the development of financial markets (money and capital markets).



#### **2.4.9 Line Ministries**

- Prepare project proposals and submit them for approval to Ministry of Finance.
- Provide regular progress reports on all programmes/projects to Ministry of Finance.
- Prepare expected disbursements profiles.
- Submit loan disbursements claims approval to responsible offices.
- Confirm disbursements received to the debt and treasury offices.
- Make comments on draft loan agreement from the Ministry of Finance
- Participate in all consultations and negotiations of all loan agreements for projects and programmes under their jurisdiction.
- Implement, monitor and evaluate, in close collaboration with the body responsible for National Planning, all projects and programmes within their jurisdiction

#### **2.4.10 Parastatal/quasi-government agencies and private sector organizations with public loan guarantees.**

Over and above the functions performed by the line ministries, parastatals are responsible for: -

- Ensuring prompt payments of their debts.
- Submitting details of debt service to the Debt Office and Ministry of Finance.

#### **2.4.11 Public Debt Management Office**

- Detailed functions and duties are contained in part II, III and IV of this manual.

### **2.5 Coordination mechanism/information flows**

Committees are necessary to facilitate coordination of different government departments and institutions that are involved in the debt management. These committees should operate under proper legal frameworks.

#### **2.5.1 Debt Management Committee (DMC)**

The role of this committee is to advise government on all issues relating to debt management policy, and to ensure an efficient, effective and professional management of public debt. It coordinates executive functions of debt management, which includes:

**Regulatory function** i.e. establishing a well-defined legal environment for effective debt management,

**Policy function** i.e. formulation and/or approval of national policies and strategies, and

**Resourcing function** i.e. recruiting, hiring, motivating and supervising debt management staff for maximum output. For more information on executive function of debt management, please see Pal Borresen and E.Cosio Pascal (2001)



This committee should be made up of senior officials of the Ministry of Finance (Secretary to the Treasury/Permanent Secretary, the Secretary responsible for Development Planning), the Governor of the Central Bank, the Attorney General, the Auditor General and other senior officials; some of whom may be co-opted as necessary.

Terms of reference for the DMC may include:

1. Formulate debt policy taking into consideration the country's development objectives and macro-economic policies.
2. Formulate debt-ceiling policy and approve debt strategy.
3. Formulate and review the legal, institutional, organizational responsibility as well as rules and procedures for units involved in debt management.
4. Ensure that recording, analysis, control and all operations pertaining to debt management are performed by qualified staff. This involves recruiting, motivating, training and retaining staff as well as providing necessary equipment and a conducive working environment.
5. Build awareness of politicians and the public at large on debt issues.
6. Develop sound policies for new borrowing, comprehensive debt management strategies that pay attention to medium-to-long term implications of economic policies and the resulting implications of debt sustainability, and advise the Minister of Finance accordingly. Such strategies and policies should be clear transparent and enforceable.
7. Review and approve recommendations by the Technical Debt Management Committee (TDMC).
8. Monitor debt strategy implementation.
9. Monitor, direct and coordinate all debt management activities.

### **2.5.2 Debt Management Technical Committee (DMTC)**

This committee is made up of senior technical managers of debt. The Committee addresses operational issues on public debt administration and plays an advisory role to the Debt Management Committee. It ensures that the terms and conditions in loan agreements conform to the laws, regulations, policies, and strategies including benchmarks set by government and its agents from time to time. Specifically it should perform the following roles:-

1. Make policy recommendations to the Debt Management Committee (DMC)
2. Give recommend to the DMC on coordination of information flows among all stakeholders in order to enhance harmony and avoid duplication of roles.
3. Review analytical reports from the debt office.
4. Act as a screening body for all new debt proposals, which line ministries and government agencies submit.
5. Propose medium to long term borrowing targets (external & domestic) consistent with government policy.
6. Review reports on debt service costs of different borrowing strategies to ensure that they are in tandem with financial characteristics of government revenues, expenditures and financial assets and on that basis make recommendations on benchmarks to the DMC.



7. Review debt sustainability reports and identify the costs and risks government may be exposed to.
8. Review results of stress tests to understand how recommended strategies will perform in prevailing or expected economic and financial settings.
9. Coordinate with Monetary Policy committee to avoid market operations at cross-purposes.

### **2.5.3 Liquidity Committee**

This is a senior level committee, which focuses on Government cash management thus helping facilitate identification of the financing gap and strategies for financing. Membership of this committee should comprise: Central Bank, Accountant General, Budget Office, Revenue Authority, Debt Office, Fiscal Policy unit.

## **2.6 Policy Framework**

The main objective of a debt policy is to ensure that Government's financing needs are met and repayments of debt are made at the lowest possible cost over the medium to long term, consistent with a prudent degree of risk. It should seek to always be in line with the overall goals of management of public funds, which is ensuring that government adheres to sound monetary and fiscal policies and management practices. This entails proper budgeting and planning, timely disbursing and debt servicing. Prudent risk policy and management is to enable the country to avoid dangerous debt structures and strategies. This is crucial given the severe macro-economic and social consequences of sovereign debt default.

Many MEFMI countries have no clear written debt policy guidelines on debt management; although in practice some guidelines have evolved in form of decisions made in high-level meetings and from requirements of international development partners such as the IMF and World Bank.

Clear National Debt and Aid Policies need to be developed aimed at governing the borrowing and management of all debt financing, including all obligations and ancillary facilities related to debt financing. The purpose of the National Debt and Aid Policy is to establish rules and regulations for borrowing and management of the country's debt and aid. The policy is designed to confirm the commitment of Government and its agencies to adhere to sound financial, fiscal and reserve management practices which include full and timely payment of all debt and to achieve the lowest possible cost of borrowing consistent with a prudent degree of risk. The following must be taken into account when a national debt policy is being developed or reviewed.

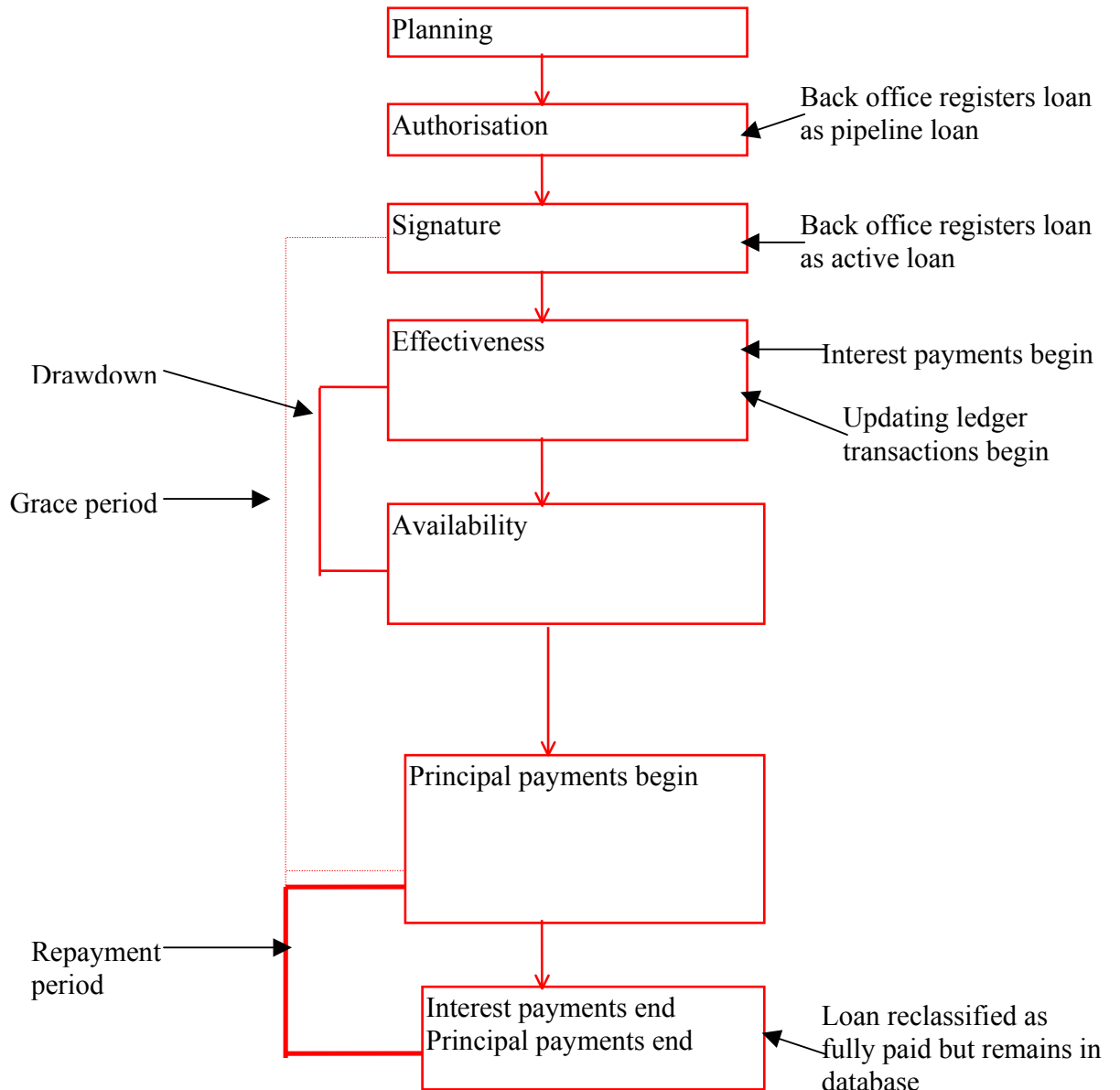
- *Debt management objective*; A country's debt management objectives should be in place.
- *Borrowing process*: A policy on borrowing which spells out authorization processes, composition of negotiating teams and preparations for negotiations should be put in place.



- *Borrowing Limits:* There is need to set borrowing limits but taking cognizance of the fact that borrowing limits are dynamic.
- *Use of Funds:* Borrowed resources must be targeted to priority areas.
- *Risk Management:* Technical analyses of any loan or grant offer should be done to evaluate the costs and risks that a country may expose itself to. Interest rate, currency and rollover risks, operational risks and other risks as detailed in the middle office part of this manual must be properly assessed before a loan is contracted.
- *Benchmarks:* A policy on benchmark risks and costs must be put in place and reports on compliance must be submitted to senior officials of Government and the Central Bank. Benchmarks that are especially necessary may include: share of domestic debt to external debt, share of variable to fixed interest rate debt, duration of debt, average life of a loan portfolio, share of different currencies in the loan portfolio and cost of debt benchmarks among others.
- *Debt Database Management:* A policy on information management to ensure information sharing and accessibility by key institutions/departments is necessary.
- *Co-ordination:* A policy on coordination between Government and creditors/donors and also amongst the institutions of debt and aid management is necessary.
- *Accounting principles:* A policy on accounting principles on all external and domestic debt whether direct, on-lent or guaranteed should be in place.
- *Capacity Building:* Owing to high staff turn over in key debt management institutions; a policy on the development of training and other capacity building programs in debt and aid management is necessary and a deliberate staff retention policy should be put in place.



## 2.7 THE EXTERNAL LOAN CYCLE



### Other loan cycle events

- Cancellation of undisbursed
- Face value adjustments
- Restructuring
  - Refinancing
  - Rescheduling
  - Buy back

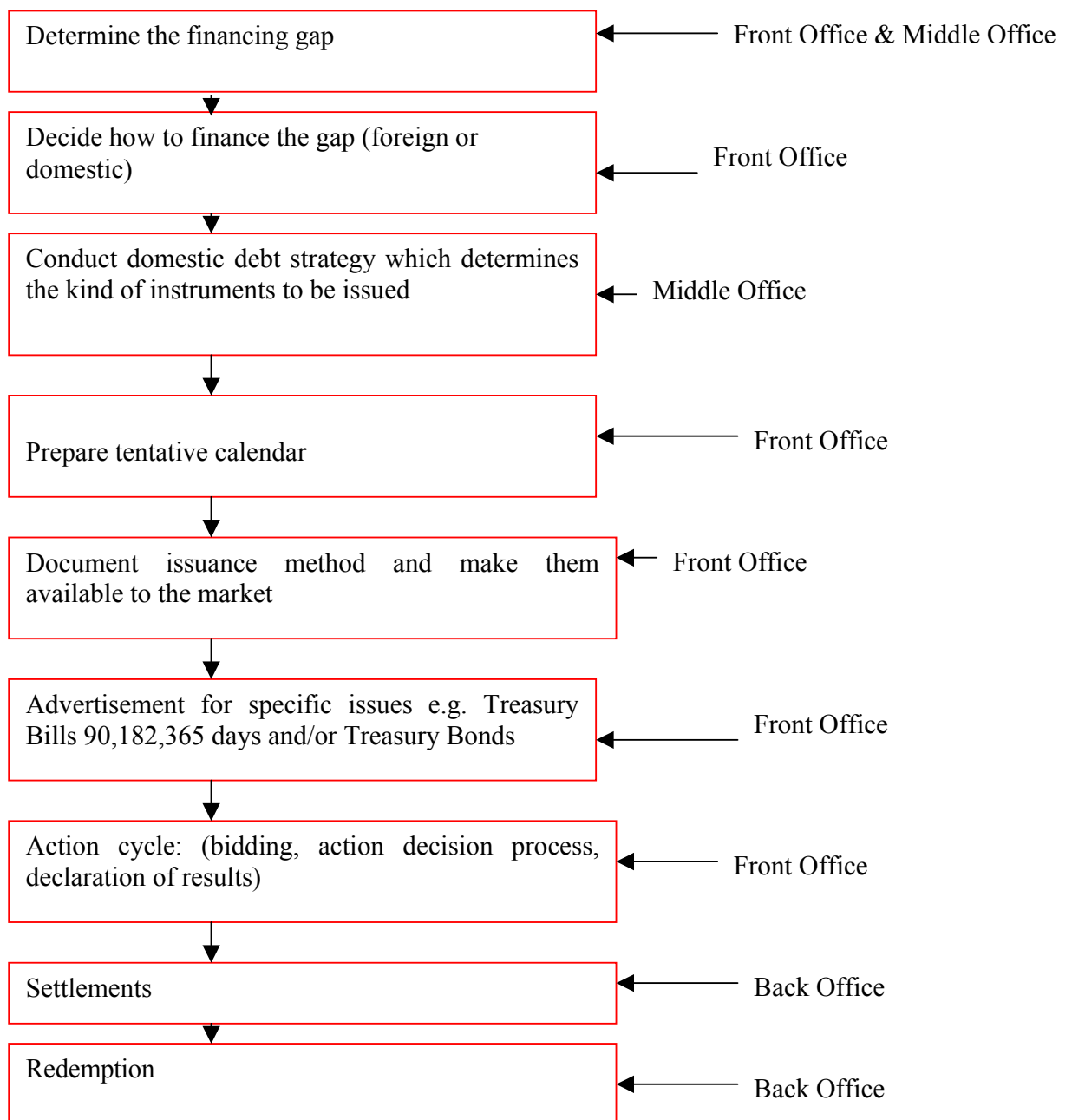




- Debt swaps
- Debt forgiveness
- Accumulation of arrears
- Payment of arrears
- Penalty accumulation and payment.

## 2.8 DOMESTIC DEBT CYCLE.

This refers to the time period covering all actions on a debt instrument from the time of its initiation to final repayment.





### **3. PARTII - BACK OFFICE PROCEDURES**



The tasks of a back office include debt recording and validation, debt accounting<sup>1</sup>, quality control and debt reporting. It also includes making debt service payments. Accounting transactions should be accurate and should be reflected in Government accounts. Good debt management requires accurate, up-to-date information and an efficient storage and retrieval systems.

Specifically a Back Office undertakes the following activities: -

- Manage debt information systems and maintain an accurate and up-to-date loan database.
- Prepare debt service forecasts for external and domestic borrowing of the public sector as an input to the balance of payments forecasts and for total government borrowing as an input to the expenditure estimates of the fiscal budget.
- Reconcile all debt transactions with stakeholders.
  - Ensure timely and accurate debt service for public and publicly guaranteed debt.
- Monitor the implementation of loan agreements, including disbursements, utilization of loan funds and other obligations of government.
- Monitor disbursements and repayments of loan guarantees.
- Monitor disbursements of on-lending agreements.
- Monitor all contingent liabilities and ensure that adequate loan loss provisions are made in the budget to meet likely defaults;
- Prepare forecasts of government cash requirements to provide guidance on the volume and timing of issuance of debt by government.
  - Validate debt data regularly
- Prepare statistical and management reports.
  - Coordinate with the Front Office so that the recording and monitoring of new financing is done in a timely manner.

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<sup>1</sup> **Debt accounting transactions** deals with the financial transactions of debt. It is defined as the accounting for all receipts and payments which lead to preparation of journals etc, arising from the receipt or disbursements of funds, their utilization and repayment. This covers the responsibility for sourcing these entries into the Treasury or Accountant General Financial Management Information System .



### **3.1 EXTERNAL DEBT**

This section of on external debt back office operations will include the following aspects: recording, disbursements and repayment procedures, reporting and performance standards and indicators. It important to emphasis that, to ensure efficiency and cost effectiveness in managing the countries debt, back office procedures must be put in place. Whenever a loan agreement is signed on behalf of government or guaranteed by government, a copy of the agreement is deposited in the debt office. The debt office will thereafter extract all relevant information from the agreement that will enable efficient processing and monitoring of its performance and timely provision of advice.

#### **3.1.1 RECORDING**

Debt recording entails capturing vital information on:

- (a) Basic instruments details
- (b) Terms and conditions of loan instruments
- (c) Forecasts of disbursements of loan funds and data on actual disbursements,
- (d) Exchange rates and interest rates that are applicable to various instruments.
- (e) Codes to designate creditors, borrowers and disbursement agencies, implementing agencies, economic sectors and use of funds.
- (f) Ledger transactions including principal, interest, commitment fees and other charges (penalty, management, legal etc);

Basic loan details:

The following are basic details of a loan, which should be recorded once a loan agreement has been signed:

- Unique identification number
- Status of the loan
- Creditor Name
- Creditor Reference
- Date of Signature
- Last date of disbursement
- Effective date of loan
- Date Authorized
- Purpose of Borrowing.
- Maturity profile
- Amount borrowed.
- Currency of borrowing.
- Participants and their roles
- Amendments to agreements.
- Type of Creditor.
  - Credits from suppliers;
  - Loans from financial institutions;
  - Government securities



- Loans from governments (bilateral sources);
  - Loans from multilateral agencies;
  - Type of Creditor.
  - Central Government;
  - Central Bank;
  - Local Government;
  - Mixed enterprise;
  - Official Development Bank; and
  - Private borrower.
- 
- Guarantee status.
  - Insurance status
  - Economic sector.
  - Use of funds

#### Terms and conditions

- Interest terms including interest rates, applicable day convention, and interest period.  
The following types of interest are recorded:
  - Interest free
  - Interest included in principal (annuity)
  - Fixed rate
  - Variable rates
- Commitment and other fees.
- Penalty rates
- Principal terms.
- Mode of payment
- Payment dates.
- Payment amounts and currency of payment.

### **3.1.2 DISBURSEMENTS AND REPAYMENTS PROCEDURES**

Disbursements refer to the release of funds by the creditor. Expenditure occurs when funds are utilized for purchase of goods and/or services. Disbursements may or may not precede expenditure (it all depends on the method of disbursement).

### **3.1.3 DISBURSEMENT METHODS**

Timely data on loan disbursements is needed for several reasons; firstly, the Back Office must keep track of available loan balances (commitments less disbursements made to date). Secondly, amounts of disbursed debt are also needed to estimate interest due to lenders. Lastly all records of external financing must be consistent with records maintained elsewhere on public sector borrowing.

Creditors should be required to notify the borrower, the Debt Office and the executing agency of such disbursements, so that disbursement transactions can be recorded in a



timely manner. Depending on the terms of the loan, different stakeholders get disbursement information at different times. Therefore it is imperative that all stakeholders inform the back office of disbursement received.

The Back Office should enter the record of liability in the debt management system and the Government Financial Management System.

Institutional arrangements should be such that the Back office receives details of disbursements irrespective of the method used.

There are three methods of disbursement namely: direct, reimbursement and replenishment:

**Direct disbursements:** refer to the release of funds by the creditor directly to the beneficiary. It is important to note that direct disbursements may be made in kind. In such cases the lending agency should be required to report to the Ministry of Finance and to the Debt Office as well as to the implementing agency on the type and value of all direct disbursements to the project. Examples of direct disbursements are Letters of credit, Budget support and Balance of Payments support.

**Reimbursement method:** In this case, the government undertakes expenditure from whatever source and then submits evidence of such expenditures to the creditor for reimbursement. The funds have to be warranted from Ministry of Finance to the implementing agency before expenditure can take place. The line ministry or the project involved should ensure that all reimbursement claims are made and paid in order to clear any advances.

**Replenishment method (or advance/special account disbursements method):** On receipt of a signed copy of a loan agreement and a disbursement letter, the Back Office writes to the Treasury to open special accounts in accordance with the loan agreement.

Special Accounts are required to be opened normally with commercial banks, although in certain circumstances the account may be with the Central/Reserve Bank. The institution holding the Special Account must be able to:

- execute foreign exchange and local currency transactions
- open letters of credit
- handle a large number of transactions promptly

The Creditor advances funds, usually on installment basis to the project account. The implementing agency undertakes the expenditure by drawing down the project account. When funds in the project account are reaching a minimum level, the implementing agency, through Government, initiates the reimbursement process by applying to the creditor as per the terms of the loan.

Replenishment or advance disbursements follow the same procedures as reimbursements, but with initial funding provided by the Creditor.



### **3.1.4 WITHDRAWAL OF FUNDS**

The fact that a loan is effective does not mean that the funds will be released. The debtor has to make a formal application for the requisite funds. Some creditors provide standard application forms.

Withdrawal applications are prepared by the project implementing agencies and submitted to the Back Office for processing and approval in line with the institutional arrangements of the debtor country. The approved forms are then submitted to the creditor for disbursements.

The Back Office pre-screens or reviews the withdrawal applications and the supporting documents to ensure that all documents meet the loan agreement conditions and have no errors.

For accountability and control purposes it is necessary for the Auditor General to be involved in the authorization process.

## DISBURSEMENT CLAIMS/WITHDRAWAL APPLICATIONS AND PROCESSING – LESOTHO CASE

The disbursement claims are expressed in currencies, which may be different from the commitment currency and may be approved or rejected by the creditor with or without the agreement of the borrower or executing agency. As the actual rate of exchange and date of payment by the lender cannot be known it is inappropriate to calculate the incurrence of debt liabilities and then enter into the debt records. They are useful for forecasting purposes, such as the potential receipt of foreign exchange and overall cash flow needs etc. Each and every creditor or donor has a different claim form, but they all contain similar information with different formats. All Back Office staff members should be familiar with different disbursement procedures for different creditors.

The Back Office should follow up unpaid claims and act as a channel of communication between the executing agencies and the creditor. The office should also reconcile the differences between claims and disbursements. The executing agency is likely to be the first to be informed by unpaid supplies of problems over details of the claims made and is in the best position to respond on what are usually technical or contractual rather than debt related matters. Back Office in this area is primarily ensuring the maintenance of accurate debt records from creditors' notifications and reconciling them with claims made.

Entry in the disbursement/reimbursement record of actual liabilities incurred depends upon the receipt of disbursement notifications for individual payments and periodic statements of debt outstanding issued by the creditor. These are in the currencies of the payments made with their equivalent in commitment currency which is the true liability incurred under the provision of the debt agreement. The notifications and statements are checked against claims made.

The following are steps for processing withdrawal applications.

1. Ensure that the form used is a proper form for a particular creditor.
2. Ensure the correctness of the loan number.
3. Ensure that the total amount claimed is equivalent to the sum of the invoices attached or the percentage eligible for payment by a particular donor.
4. Ensure that the summary sheets have been signed by the projects' accountants / project managers.
5. Ensure that each category of expenditure has its own summary sheet.
6. For direct withdrawal applications, check that original invoices are attached.
7. For replenishment to the special accounts, check that copies of debit vouchers; Statement of Expenditure and the special accounts statement covering such vouchers are attached.
8. For reimbursements to the government or local currency transfers, ensure that copies of treasury vouchers are attached.
9. For Creditors such as BADEA, OPEC etc ensure that withdrawal applications are always in US Dollar.
10. Where the amount claimed has been converted to the claim currency, check that the exchange rate used is reflected and it is on the transaction date.
11. Ensure that there is payee's address and the account number, where the funds should be deposited.
12. If there are some queries, contact the implementing agency.
13. If the application is in order, pass it on to supervisor for crosschecking.

Four copies should accompany original withdrawal application. After signature by Authorized Borrowers representatives, the original and one copy should be sent back to the implementing agency for onward transmission to the creditor.

The other three copies should be distributed as follows; -

Accountant General  
Auditor General.  
Back Office Project file





### **3.1.5 CONFIRMATION OF DISBURSEMENTS**

The back office should receive information on disbursements from any of the following stakeholders: -

- Reserve/Central Bank (which manages foreign accounts)
- The creditor - Disbursement advices (creditor notes)
- Suppliers
- By down loading disbursement details from creditor website like IDA, IFAD, NDF, ADF

### **3.1.6 DISBURSEMENTS PERFORMANCE STANDARDS AND INDICATORS**

There should be performance indicators to assist in the monitoring and evaluation of disbursement processes, which should at least cover the following aspects:

- The promptness of information delivered to the Back Office
- Accuracy and timeliness of disbursement and management reports
  - Identification, reporting and follow-up of non-disbursing loans.
  - The rate of rejection of applications for disbursements due to inaccuracy of information from the borrower.

## **3.2 DEBT SERVICE PROCEDURES**

The Back Office prepares debt payments falling due in a financial year for inclusion in a government budget for both government direct and guaranteed debt. The debt office must ensure that the database is up-to-date especially with disbursements and all ledger transactions. An invalid database will generate wrong payment amounts, which may defer from creditor billing statements. It is ideal, for the purposes of accountability and ease of reconciliation, that the debt office should maintain separate/dedicated accounts for debt servicing of external and domestic transactions. The mandate to operate those accounts should be held between the debt office and the accountant general. The accounts should be funded from the consolidated fund (revenue account) as and when debt payments fall due.

Procedures for debt service:

- The Back Office initiates the debt service process by generating debt service amounts falling due in the following month.
- This debt service report is verified with creditor bills.
- Creditors should be requested to send a bill to the Debt Office for any principal, interest or commitment fees due. The bill should be sent before the actual due date of the payment.
- Having satisfied itself on the correctness of the bill as per the Loan Agreement and account standing, the Debt Office then request the Treasury Department or Accountant General' Office to authorize payment.
- The debt office prepares a debt service payment advice requesting the Accountant General to authorize the payment as indicated in the advice. The



debt service advise specifies the principal payment, interest payment and or commitment payments in foreign currency, local currency equivalent, details of creditor bank account, due/value date, the accountant general's codes and the government account to be debited by the bank.

- Depending on the institutional arrangement of each country, the Accountant General could prepare the necessary documents for authorization after receiving the documents from the debt office.
- Authorization process should include Auditor General.
- The authorization should be given for the equivalent of the foreign currency to be paid to avoid effects of exchange rates movements.
- The Debt Office should instruct the Central Bank to effect payment.
- After effecting payment, the Central Bank should confirm having affected the remittance to the Debt Office and other copies sent to Treasury/Accountant General.
- Where payments of debt are settled by third parties e.g. HIPC trust fund, the debt office should obtain necessary information from the third party and advise other stakeholders.

Note: The creditor bank and account details must be protected from unauthorized changes/modifications. In the Central Bank all authorized signatories must be verified before any payments/remittances can be effected.

See Annex 2: External debt payment procedure – Uganda case.

#### Debt servicing of guaranteed loans

- Borrowers with Government guarantee should pay directly to the creditor through their respective banks. The debt office should be advised of all such payments.
- Borrowers with Government guarantee who are unable to pay due to cash flow problems request the Treasury to pay on their behalf by observing the following procedures:
  - Send demand note(s) received from creditor to Ministry of Finance (as guarantor) explaining reasons for their inability to service the debts and requesting Government to pay on their behalf as well as indicating when to reimburse government.
  - Ministry of Finance seeks payment consent from Attorney General in order to conform to the Guarantees Loans Act.
  - The payment follows the normal payment procedure.
  - Borrowers are then required to reimburse the Government as per their approved request. Failure to reimburse government as agreed may prompt Government to have recourse in accordance with Loans and Guarantees act or regulations.



## Performance indicators for debt servicing

There should be time frame set for all processes to promote efficiency and avoid late payments.

### 3.2.1 REPORTS

Different reports are required by various users for different purposes. CS-DRMS has inbuilt generic reports while DMFAS allows for user defined reports. These reports include Validation reports, Debt Portfolio reports, debt sustainability reports, debt stock and data flow reports, debt service reports, projected debt service reports, national accounts reports, balance of payments reports, Management reports, IMF and World Bank reports etc.

There should be a documented circulation policy of reports, which specifies the users and frequency of circulation.

### 3.2.2 PERFORMANCE STANDARDS/INDICATORS

- Standards in respect to production and dissemination of reports should be observed. Such standards include General Debtor Dissemination Standards (GDDS), Special Data Dissemination Standards (SDDS) and any other standards set by management.
- Accuracy, periodicity and timeliness of reporting.

## 3.3 DOMESTIC DEBT

Domestic Debt includes claims on government and quasi government institutions by residents. This includes outstanding government securities; loans from local banks, arrears (pension payments, pending bills), and guarantees.

For the purpose of this manual domestic debt instruments covered are Treasury bills, Treasury bonds, domestic commercial loans and Government stocks.

**Functions of the Back Office** of domestic debt include creating an investor database, disbursement/settlement operations, payments and redemptions, verification and updating of records resulting from secondary trading.

**Creation of investor database:** It is important to create the investor database as a means of having investor details, recording the holdings of various investors and minimizing the possibility of using government securities for money laundering. The high values and frequent transactions in Government securities provide opportunities to fraud. An effective Know Your Customer (KYC) procedure helps minimize the exposure to such transactions.



Investor details may include: Name and address, Bank details, national identification, Tax identification number.

Bank details will normally include the following: Name of Bank, Branch, Account number and a statement. The Back Office needs to reconfirm the bank details above directly with the bank as a control measure. For companies the following details will be required: Registration number, Article and Memorandum of Association, Bank, Branch, Account number, statement, Tax identification number, and Board Resolution authorizing investment in Government securities. The Board Resolution should also indicate authorized signatories.

### **Disbursement/settlement**

The instruments issued for the purposes of obtaining domestic debt usually specify the value date i.e. the time the investors are required to make payments for the instrument they have qualified to purchase. In most cases the account into which the proceeds are credited is at the Central Bank. This account should be a suspense account operated by the Debt office. On the value date the funds are credited into the suspense account and the back office reconciles the amounts realized against successful bidders list. The reconciliation is necessary because of the different modes of payments viz cash, bankers cheques, electronic funds transfers, rollovers from maturing securities. In case of default by investors the Back office has to institute penalties. From the gross receipts, all administrative costs are paid out and the net is transferred to the relevant government account. The costs that are usually netted-off include: advertisement, commissions to appointed agents (banks, brokers, fund managers), printing of Treasury bonds prospectus. This presupposes that the accounting system has been set to allow the Debt office to meet these costs.

## **3.3.1 REDEMPTION /DEBT SERVICE**

### **Call-ups**

It is important to note that Government securities constitute the contractual obligation for the debt office to pay maturities on due date. Therefore, the debt office does not have to obtain funds from the Treasury before making payment for interest and/or redemption of matured securities. However the Back Office prepares a call up (monthly maturities due) to enable Treasury prepare funding. For every issue the register is closed a few days to maturity to allow reconciliation of holders to be paid. On the due date the Debt Office instructs the Central bank to remit the payment. The Debt office should therefore have another suspense account from which such payments are made. When funds are made available by the treasury (accountant general) the position of the suspense account is regularized.

### **Secondary trading**

The following are types of secondary trading of securities:-

- Assignment of security (lien): It is where the investor pledges holdings of government securities, in full or in part against financial consideration. Generally the assignment of securities does not constitute transfer of ownership and therefore the investor continues to earn interest until maturity.



- Sale/ purchase or any derivative trade: It is the transfer of securities through trading. The holder authorizes transfer in part or in full, with accrued interest to the third party against consideration.
- Transfer: it is the gratuitous change of ownership i.e. the investor transferring holdings to the third party without any consideration.
- Re-discount; in cases where it is applicable investors may rediscount their securities. Re-discounting is the process of redeeming the investment in government securities before the maturity date.

The role of back office relating to the above types of trading securities includes the following: -

- Verification of the holding before the transaction can be effected. (Pre-trade verification).
- Updating of records to reflect changes in ownership.

Depending on the institutional structure, the Back Office may be dealing with the either the Dealing Office of the Central Bank or the Stock Exchange.

### **3.3.2 BACK OFFICE REPORTS:**

The following reports should be generated and disseminated in a timely manner:

- Statements to investments,
- Stock reports
- Reconciliation reports
- Validation report including overdrawn positions
- Call-ups
- Settlement/Disbursement reports
- Statistical reports
- Portfolio reports
- Debt service reports
- Debt service projections

### **3.3.3 PERFORMANCE STANDARDS**

- Timely receipt of proceeds from purchases of government securities;
- Timely receipt of call-up cheques from the Ministry of Finance for settlement of redemptions.
- Timely payment and settlements of rediscounts and redemptions to the correct beneficiaries
- Timeliness of processing secondary trading documents.
- Accuracy of pre-trade verification. (Matching the investor details against amounts to be sold or traded.)
- Completeness in record keeping;
- Ability to show movement in records and documents



### **3.4 VALIDATING /RECONCILIATION OF DEBT DATA**

Data validation is the process of ensuring that debt data is complete, accurate and consistent in order to produce reliable and timely information meeting the objectives and needs of domestic and external institutions.

Data validation is an on-going process of verification of the consistency and accuracy of data and invalidating errors corrected. The process is to ensure that data maintained is consistent with data sources, i.e. Ministry of Finance, Accountant General, Creditors and cooperating partners like World Bank and IMF.

This does not mean that the data should be the same; but where data is not the same, the underlying factors are identified and reasons for the differences given. Data is invalid when big unacceptable differences exist for the same set of data generated by different sources.

The validation process done by the Back Office is carried out by various desk officers, at the various levels of the validation process. It's a continuous exercise and involves other debt related functional units. Validation involves the entire loan cycle process.

*For further details on validation processes please refer to the manuals of CS-DRMS, DMFAS and the UNCTAD data validation handbook.*

### **3.5 MANUAL RECORDS**

Manual records are important for an effective and efficient debt office. Even in a computerized environment it is important to maintain manual records. No computer system can effectively be maintained without proper filing procedures of documents, correspondences and other inputs/outputs of the system. The most comprehensive source of data in the Debt Management Office is the individual debt files.

The back office should maintain files containing agreements, correspondence with lenders, the receipt of funds, lenders periodic debt statements, disbursement notifications, correspondence with lenders auditors (usually confirming the borrower's agreement to specific balances outstanding at a particular point of time). In order to bring together these debt information scattered through various manual records and files, the creation and regular updating of debt recording and management system such as CS-DRMS and DMFAS is required. Such computerized debt recording and management system is able to capture in summary most of the information available in the various files and records that are used for the production of management information. All such debt data contained in the database should be reconcilable with or traceable to original records in the files.

An appropriate coding system that will facilitate efficient storage and retrieval of records is necessary. For country illustration of filing procedures, see annex 3:Lesotho Debt Office filing system.



### **3.5.1 INVENTORY AND DOCUMENT CUSTODY**

Back Office should be in charge of the following records:

- Recording and custody of all unutilized accountable documents which include mandate cards, sale and purchase forms.
- Recording and custody of relevant copies of processed documents.
- For filing purposes all security documents are distinguished and filed according to the type of Government security and serial number. Other important details that identify the debt instruments should be recorded.
- Once the filing is complete, all the utilized securities must be kept in the fire proof safe.

Note: There should be documented procedures for recording incoming and outgoing mail/documents.

### **3.5.2 COMPUTER RECORDS**

CS-DRMS and DMFAS do register external debt and domestic debt instruments.

Detailed procedures of CS-DRMS and DMFAS can be obtained from their respective manuals and /or Web sites for Commonwealth Secretariat - [www.csdrm.org](http://www.csdrm.org) and for DMFAS -[www.dmfas.org](http://www.dmfas.org) .



## **4. PART 3 - MIDDLE OFFICE PROCEDURES**





The middle office of a country's debt unit undertakes analytical functions that enable government to meet its financing needs and its debt service obligations at the lowest possible cost with a prudent degree of risk exposure. It also monitors the front office's performance in terms of compliance with the chosen strategy and risk and cost limits.

The **Middle Office** functions include:

- Determining borrowing ceilings for government consistent with fiscal and monetary policy requirements.
- Formulating of debt strategy
- Providing reliable medium and long-term forecasts of debt servicing and interest income that feed into fiscal forecasts;
- Monitoring unplanned debt requirements;
- Performing adjustments to borrowing plans in the course of fiscal year based on budget monitoring outcomes and fiscal policy adjustments;
- Estimating of effects of changes in interest rates and exchange rate on debt service;
- Undertaking frequent portfolio analysis to assess future debt service obligations and problems and propose action that should be taken to overcome them;
- Preparing debt sustainability analysis to assess the long-term sustainability of projected borrowing levels;
- Assessing external vulnerability using debt and reserves adequacy indicators;
- Recommending policy changes in debt management.
- Providing inputs on public debt to periodic economic and financial reports and data for presentation to Cabinet as well as Parliament.
- Coordinating with Ministry of Finance and Central Bank for effective debt management.
- Designing benchmarks or reference debt portfolios that reflect the countries debt strategy in order to guide the Front Office in its funding and hedging operations. Such benchmarks include the currency composition of debt, interest rate structure, duration etc
- Identifying and quantifying exposures related to contingent liabilities including designing strategies that will allow effective management of these exposures or risks.
- Implementing the risk control, compliance and performance monitoring of the Front Office
- Making recommendations for debt restructuring as and when necessary.
- Monitoring and supervising performance against set benchmarks.

#### **4.5.1 DEBT ANALYSIS**

There are two main categories of analysis undertaken by the Middle Office namely: instrument and portfolio analysis.



#### **4.5.1.1 Instrument Analysis**

Instrument analysis is necessary for the purpose of assisting the Front Office arrive at the best options of instrument mix to be used for borrowing in conformity with set benchmarks. Through sensitivity analysis, evaluate the impact of the instrument mix on the overall debt portfolio. Instruments analysis could include determining concessionality for external debt, tenure and coupon for domestic debt and duration.

#### **4.5.1.2 Portfolio analysis**

Portfolio analysis is the critical analysis of the status of the loan portfolio. This includes financial analysis as well as sector analysis focusing on source and use of funds.

The analysis can be broken down into the following broad categories:-

**Creditor category:** Analyzing debt by major source of finance to the country i.e. multilateral sources, bilateral sources, and Commercial sources.

**Category of Borrowers:** categories of borrowers include the following: - Central Government, Central Bank, Local governments, Development Banks, quasi government institutions.

**Guarantee status:** It is meant to show the extent to which the government is exposed to credit risk in case of default by the borrower.

**Use of Funds:** It analyses utilization of funds for projects and programmes.

**Economic Sector:** The main objective of analyzing the composition of debt by economic sector is to identify the sectors to which the disbursed funds have been applied and in particular, to examine whether they are compatible with the country's development strategy.

**Maturity structure of debt:** An analysis of the maturity structure of debt stock is important in identifying bunching of payments well in advance, so that corrective action can be taken. This helps to minimize roll over risks.

**Interest rate structure:** Determining the interest rate structure of the debt portfolio is important in order to assess the risk and the performance against set benchmarks.

**Currency composition;** The currency composition of any debt portfolio is crucial to mitigate against the impact of volatility of exchange rates in the debt portfolio.

**Disbursements profile:** An analysis of loan disbursements profile is important because it shows expected inflows, which is an input to cash flow analysis.

**Debt service arrears:** an analysis provides an indication of the liquidity and solvency status of the country.



## **Financial terms**

In the financial terms analysis the coverage would include: -

**Average borrowing terms:** It provides the general indication of the cost and structure of borrowing.

## **Debt Sustainability**

Debt sustainability analysis is important because it gives a country a medium to long-term perspective of its debt burden. For an effective debt sustainability analysis, the following requirements are necessary:

- Reconciliation and validation of debt data in the DMFAS/CS-DRMS systems.
- Historical averages of currency specific interest reference rates (CIRRs), (these correspond to secondary market yields on sovereign bonds in industrialized countries).
- Baseline Macro economic projections (with different scenarios of economic performance i.e. GDP growth, export performance and new borrowing)

### **4.5.1.2.1 Debt indicators**

Debt indicators are basically used to measure the indebtedness level of a country. Different analysts give different weights to these indicators, hence there is no single indicator or set of indicators that can be used to assess the overall situation of an economy, that is, no single indicator is perfect. The ratios simply offer various measures of the cost of, or potential capacity of, servicing debt. The Exports criterion is used because exports provide the foreign exchange to service debt while the GNP criterion is used because it is the broadest measure of the income generating power of the economy. A high ratio indicates a greater burden of debt servicing, with the magnitude of the burden depending also on the difference between the interest rate and the growth rate of exports, GDP, GNP, revenue, etc. A growing ratio, especially if the level of debt is already high, may suggest that a country is on an unsustainable path.

Commonly used indicators are: -

#### **Debt Burden Indicators**

- Debt to GNP ratio examines the level of external debt to the size of country's output;
- External debt to Exports
- Total debt service/GNP

#### **Liquidity Indicators**

- Total debt service to exports (also referred to as debt service ratio) indicates the proportion of exports earnings, which are to be absorbed by debt service payments in a particular year.
- Debt service/budget revenue:
- Interest payments in a given period of time expressed as a ratio of domestically generated budget revenues. For projections, interest is estimated based on disbursed and outstanding amounts and estimated disbursements on undisbursed balances on loan commitments as well as on pipeline loans and expected new gap filling financing.



- interest cost/exports:

#### **Solvency Indicators**

- Present Value of debt/exports: shows the number of earnings, at current levels, which are required in order to repay the whole debt stock
- Present Value of debt to Budget Revenue:

#### **Dynamic Indicators**

- Growth of interest rate to growth of GDP:
- Change of Present value of debt to change in exports:

It is better to look at all the above indicators together in order to form a better opinion on a countries debt burden and its Balance of Payment situation.

### **4.5.1.3 Risk analysis**

#### **The notion of risk in debt management<sup>2</sup>**

Risk is the potential destabilizing impact financial shocks may have on the budget. Risk analysis therefore is a comparison of the impact of financial variables such as exchange rates, interest rates and commodity prices to debt service. Risk of a liability portfolio is modeled by simulating future debt service cash flows (cost) and the potential deviation of debt service flows from the expected path due to shocks in interest rates, exchange rates and commodity prices (risk).

Modeling projections of debt service could either be deterministic<sup>3</sup> or stochastic<sup>4</sup>. In deterministic modeling, cost is determined by a baseline scenario designed to be market neutral, whereas risk is given by debt servicing costs under various assumptions of future interest and exchange rate shocks to the baseline scenario. In the case of stochastic simulation, Monte Carlo simulation method to generate a large number of interest and exchange rate paths, each generating a particular projection of debt servicing flows may be used. Cost is given by the mean of all possible scenarios and risk is measured based on the dispersion of debt servicing paths around the mean. Also for deterministic simulations, past shocks in a country or in a region can be used to estimate future interest and exchange rates in the worst-case scenario while in stochastic simulation, historical volatilities can be applied to the base case projections and then used as parameters of an interest or exchange rate generating process following a specified statistical probability distribution. The specification of a statistical distribution allows the dispersion about the mean to be associated with a probability level. This allows the specification of a confidence interval for the potential increase in debt servicing costs to be used as a meaningful measure of risk.

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<sup>2</sup> The section on risk management is based on workshop materials of joint MEFMI/World Bank/African Development Bank and on Ruhakana. F (2004)

<sup>3</sup> Deterministic model identifies cause of relationship between two parameters.

<sup>4</sup> Stochastic modeling is a modeling that takes into account the random nature of a variable.



When more than one variable is simulated, projections need to be consistent with either historical correlations between exchange rates and interest rates or among interest rates of different maturities.

Some risk measures use confidence intervals. These include Value at Risk (VaR) or Cash at Risk (CaR). VaR is associated with volatility of present value of debt while CaR deals with volatility of future debt servicing flows, and expresses the maximum expected increase in annual costs relative to the mean with a given probability in a given period.

The costs and risks from different funding alternative strategies are simulated for assessing the cost-risk trade offs.

Governments are prone to a number financial risks such as Interest rate risk, Currency risk, Rollover/Refinancing risk, Liquidity risk etc. Failure to guard against such risks may be detrimental and may force Governments to incur high costs of servicing the debt.

In a typical government Asset Liability Management (ALM) framework debt managers are expected to explore the financial characteristics of the government assets with a view of matching them with government liabilities so as to minimize risk and cost of debt service.

#### **4.5.2 DOMESTIC DEBT SUSTAINABILITY**

MEFMI has established benchmarks for evaluating sustainability of domestic debt. Debt sustainability is achieved if future primary surpluses respect Present Value Budget Constraint (PVBC). i.e. today's government debt is matched by an excess of future primary surpluses over primary deficits in present value terms. This can be computed as follows:-

$G_t^* - R_t$  is stationary. Stationary is achieved when the two variables are co integrated of order 1 i.e. they are I (1) with a co-integrating vector of (1, -1).

In the above expression,

$$G_t^* = G_t + rB_t$$

Where:

$G_t$  is government expenditure excluding debt service

$B_t$  is debt at the beginning of the period

$R_t$  is government revenue

$r$  is interest rate

For details of the methodology, please refer to MEFMI's manual on Public Domestic Debt Sustainability Analysis (Training Manual) and Study Report



### 4.5.3 PERFORMANCE BENCHMARKS

Benchmarks offer a clear and simple way of communicating to policy makers and should therefore be developed and discussed in good time. They are also good control instruments and performance evaluation tools.

#### **Benchmarks for Measuring Sustainability under HIPC initiative.**

Criterion	Original HIPC	Enhanced HIPC
NPVdebt/exports	200-250%	150%
Fiscal Window NPVdebt/revenue	280%	250%
Qualifying Thresholds		
Exports/GDP	40%	30%
Revenue/GDP	20%	15%
TDS/Exports		15%≤20%

#### **Other benchmarks**

- Maintain a stable ratio of debt to GDP
- Real interest rate should not exceed the economy growth rate especially if government is running a primary deficit.

#### **Rules of thumb benchmarks**

- Fiscal deficit should not exceed 3% of GDP (Maastricht Treaty)
- Public debt service should not exceed 15% of budget revenue
- Public domestic debt should not be consistently higher than 200% of domestically generated revenue.
- Gross debt to GDP ratio should not exceed 60% (Maastricht Treaty)

### 4.5.4 DEBT STRATEGY FORMULATION AND REVIEW

Based on the outcome of the overall portfolio analysis, the strategy will assist countries achieve set benchmarks. Middle Office should design strategies that will enable the Government to meet its financing needs and set benchmarks. This includes determining borrowing criteria with respect to maturity structures, marketing strategies and borrowing terms.



The country's debt strategy involves:

- Setting borrowing levels that will ensure debt sustainability
- Concessionality of debt to be borrowed or interest rates and maturity of domestic debt to be issued during any particular period
- Currencies in which debt will be issued or borrowed
- Interest rate structure of new debt that balances the portfolio
- The proportion of short-term vis-à-vis long term debt
- The proportion of domestic debt vis-à-vis external currency debt that should be issued
- The markets in which new debt should be issued
- Risk and cost tolerance of the sovereign

#### **4.5.5 MIDDLE OFFICE REPORTS**

- Benchmark reports
- Compliance reports
- Debt Sustainability Analysis reports
- Debt Portfolio reports
- Risk-Cost reports, charts and graphs.



## **5. PART 4 - FRONT OFFICE PROCEDURES**





## 5.1 INTRODUCTION

Government finances its budget deficit from either domestic or external sources. The Front Office has the responsibility of mobilizing resources from these sources efficiently and at minimum cost. In this manual the Front Office procedures on external and domestic debt function have been separated. Some of the main responsibilities undertaken by the Front Office include: -

- Implement the borrowing plan based on the strategy approved by the government.
- Mobilize resources from external and domestic sources based on the country's borrowing strategy;
- Process applications for government guarantees, issue guarantees and conclude agreements with borrowers and creditors;
- Function as a clearing house for requests for information from/to donors/creditors, international financial institutions, commercial banks etc
- Implement strategies that minimize costs and risks of debt management including hedging and derivative.

## 5.2 EXTERNAL DEBT

The main objective of the Front Office is to raise funding for the government at the minimum cost subject to an acceptable level of risk as defined in the country's borrowing strategy. The office is in charge of the external borrowing process in consultation with sector ministries, the Ministry of Planning and different debt management committees that advises government on all issues relating to debt management.

**Conformity with the legal and regulatory framework:** The Front Office should always operate within the legal and regulatory borrowing framework that instills confidence and protects investors, creditors and rating agencies. It should always adhere to government debt guidelines and strategy and should also adhere to systems and procedures that ensure that the government's funding and risk management activities are conducted in a timely and transparent manner.

**Interaction with funding sources:** It is the responsibility of the Front Office to maintain well-informed and coordinated relations between the government and the markets, investors, credit rating agencies and international creditors. Periodic reports of the country's debt and risk management strategies, funding needs and development priorities help to increase stakeholders awareness while promoting transparency and confidence.

**Evaluation of funding alternatives:** The Front Office should be able to evaluate funding prospects and their impact on the debt portfolio in terms of compliance with the approved strategy. Evaluation should be made of the technical, financial and legal terms and conditionalities of the external loan proposals, including the loan purpose, conditions for disbursing loans and the degree of concessionality.

**Compliance with middle office guidelines:** Front Office activities need to conform to the parameters of the medium and long term debt management strategy as recommended by the middle office and approved by the policy makers. The Front Office should adjust the



borrowing mix to the recommended guidelines: grant element and other benchmarks ratios, instrument to be issued, redeemed or rolled over and the borrowing currencies; interest rates, maturities and debt-service profiles that could help avoid a lumping of maturities.

### **5.2.1 Identification of potential creditors**

The Front Office has to have a rating system against which it ranks the alternative sources of funding. Depending on the country's scoring procedures under each criterion, the Front Office should then choose the preferred creditors which have obtained the highest average scores as the possible sources of financing for Government.

The Front Office is then required to sell the project proposals to the chosen potential creditor after which negotiations are conducted with the creditor. Potential financiers will normally undertake their own appraisal in order to justify their involvement in the project. If the potential creditor gets interested in funding the project, the Front Office prepares to start negotiations. Negotiations may involve selection of the negotiating team, identifying creditor Information / Culture / precedents and other details about the creditor. Before negotiations begin, necessary prenegotiation authorizations and approvals must be obtained.

### **5.2.2 Selection of negotiating Team**

Selecting the loan negotiating team is based on the role played by individual institutions in the debt management cycle. The Government negotiating team should be composed of well-trained professionals who can meaningfully engage the experienced negotiating teams of creditor institutions/countries.

There must be representation from the sector involved, the parent Ministry, Ministry of Finance, the debt office and the government legal office (Attorney General). Ideally, the borrower's team should not be too large.

A negotiation strategy needs to be agreed upon by the team during preparations so as to ensure that guiding principles are developed and conformed to. Extensive preparations for negotiations need to be done and this should lead to formulation of a game plan, which will be a basis for negotiations.

The time and resources for preparing for negotiations is an important aspect of the loan negotiation process. It is difficult to prescribe the amount of time and resources that may be required because they are dependent on the type of creditor and the purpose of the loan/credit proceeds.

### **5.2.3 Creditor Information / Culture / precedents and other details**

The other function of the Front Office is to collect and update information on creditor practices and policies.



Specifically, the Front Office should use the following criteria in evaluating all the creditors policies, procedures and lending instruments in order to find the preferred creditors:

- The *type of support* traditionally provided by a creditor;
- The *traditional sectors and projects* supported by a particular creditor;
- *Concessionality and amounts* of the loan instrument and other financial terms at which the loan instrument is offered;
- The *channels* through which the resources will be delivered to the country;
- The *flexibility* of the creditor in accommodating the Government's funding requirements;
- *Predictability* of the creditor in the delivery of the committed loanable funds;
- *Conditionality* associated with the disbursements of the committed loans and how strictly they are enforced;
- Assessment of the degree to which a creditor plays an independent role in the *policy dialogue* relating to disbursements of loans. That, is, how strict is the donor's disbursement tied to the performance of Government under the IMF Programme.
- Previous contracts that have been signed with the creditor are reviewed with the objective of looking at improvements in the proposed contract and other clauses for negotiation.
- Other detailed information that relates to the financial rating and the disbursement and procurement procedures, which in most instances have resulted in loans not being disbursed on time, which results among others in high commitment fees.

The Government negotiating team should also have its national data and information on important variables, which might be crucial in arguing out their case for the best possible loan terms. Other documents that may be required by the creditor are the project and credit documents. Appraisal reports on the project in question are also considered and all other relevant documentation.

In view of the above functions the Front Office has to keep in constant touch with the market, credit rating agencies, investors and even networking with fellow debtor Governments.

#### **5.2.4 Authorizations / Approvals**

Generally the terms to be negotiated must be in line with the National Debt Strategy provisions and the detailed funding requirements as contained in the budget documents. The above documents should be sufficient to enable the Minister of Finance and the Debt Office to initiate the negotiation process. The team must obtain a legal, technical and financial opinion on the draft documents before proceeding for negotiations.

The final or actual approval of the loan will be obtained from Cabinet or Parliament depending on the institutional arrangement after the negotiations.

#### **5.2.5 Negotiation process**

Loan negotiations involve three main stages:

- (I) Pre-negotiation



- (ii) Negotiation
- (iii) Post-negotiation

#### **5.2.5.1 Pre- negotiations**

Negotiations involve obtaining and analyzing all loan information based on the standard strategy explained above. A negotiating team reviews the project documents (e.g. appraisal documents, draft agreements, disbursement and procurement procedures etc) including the legal obligations. Importantly, this review helps to ensure that the proposed obligation's clauses are not in conflict with the objectives and laws of the state.

There is no specific time and resources needed during the initial stage of negotiations (soliciting). However, when the process reaches decision stages, negotiation timeframe should be such that the conclusion is reached within the time span that funds can be effectively utilized.

#### **5.2.5.2 Negotiations**

It is important to appreciate that negotiations is an “ART” i.e. there is no standard way of negotiating for funding. The type of negotiations will vary from one creditor to another. Generally, the efficacy of the negotiations requires thorough preparations by Government. Adequate preparation provides the borrower's negotiators with the foundation of a credible performance. The negotiators should be conversant with the rules of loan procurement and must be ready to cite evidence to support their position. During the negotiations, the borrower should cite sources of precedent and data that the lender is likely to respect. On the other hand, parties should be intimated by statistics, principles, regulations or precedents cited by another party, since these may, upon close analysis, be obsolete, irrelevant or distinguishable from its own case. It is also useful for borrower to anticipate objections to its position so that it can have answers ready in advance. The borrower may also want to raise some hypothetical objections to demonstrate reasonableness and depth of analysis.

Adequate preparations include the provision of fallback positions or options a borrower could adopt in the course of negotiations. For any option, the borrower should know and understand its monetary or other qualitative implications. (UNITAR, 1993)

During actual negotiations, the Government negotiating team takes into account points of consensus and divergence and they need to take particular note of non-verbal communications.

Non-verbal communications is deemed to be very crucial during the negotiation process. Such will include the appearance, the punctuality, the conduct and the composition of the negotiating team. This, it is felt, reflects the preparedness, confidence and credibility of the team.



### **5.2.5.3 Post-negotiations**

It is an unpardonable error for any party to assume that an agreement and any other negotiated document on all issues will be reflected accurately after being revised. Both parties must go through the entire document to satisfy themselves that everything in it and other negotiated documents is accurate. Both parties take minutes of loan negotiations proceedings, recording specific agreements reached upon the various issues. Before putting together the final loan documents, both parties must confirm these minutes to avoid any later confusion or disputes. (UNITAR, 1993)

### **5.2.6 Renegotiations**

There are instances where the need to re-negotiating terms of existing debts by either re-scheduling or refinancing arises. In such instances, the practice is to go through the whole process as if dealing with a new loan.

The renegotiations can arise when the borrower needs to: refinance, swap, reschedule or buy back some of its instruments. It is imperative that the debtor undertakes the thorough financial analysis to be able to ascertain the benefits of any intended debt restructuring.

Renegotiations should attempt to explain the nature and the structure of transactions in simple and clear terms and provide basis for understanding the restructured debt. It has to attempt to eliminate future disputes and dispose of existing claims (known and unknown) against both parties.

### **5.2.7 Signing of the Loan Agreement**

After all stages of negotiations are completed and where the process is successful, Cabinet /Parliamentary approval is obtained before the Minister of Finance signs the Loan agreement.

### **5.2.8 Effectiveness of the loan**

The loan becomes effective only after the debtor country has provided the legal opinion by the Attorney General to the creditor. The opinion confirms that the laws, relevant statutes and due process of the debtor country have been followed in entering this commitment. Specifically the Attorney General should ensure that the following have been complied with: -

- Borrowing limits / benchmarks
- Appropriate approvals in conformity with laws and relevant statutes i.e. constitution, Loans and Guarantees Act and Regulations.

To ensure that the database is complete copies of duly signed agreements should be distributed to the Back Office, Auditor General, Accountant General and the Beneficiary or implementing agency.



### **5.2.9 Reports from the Front Office**

The key reports that are required from the front office are as follows:-

- Pipeline loans specifying the amount, the creditor, the currency and status. Such reports include: -
  - Outcome of negotiations reports
  - Loans that are problematic in fulfilling conditions precedent to negotiations or effectiveness.
- Publicity/press release reports relating to new loans agreements, negotiated, signed or committed.
- Evaluation reports on funding alternatives.
- Reports on the implementation of funding programmes or projects detailing the status of the project, achievements and challenges encountered and recommendations;
- Loan assessment reports on borrowing requests by parastatals and private sector (which should put forward a recommendation for approval or rejection of a guarantee request);

## **5.3 DOMESTIC DEBT PROCUREMENT**

Government borrowing from the domestic economy arises from the following financing needs:

- Filling the budget gap after taking into account external financing.
- Settlement of maturing securities.
- Delays or short fall in external inflows.

Once the overall financing gap is identified, the Ministry of Finance communicates the information to the Debt Office who in consultation with the Ministry and the Central Bank, designs the borrowing plan taking into account, the projected cash flow for the year, and the objectives of monetary and debt policy both of which influence decisions on the borrowing instruments and the term structure of the new borrowing.

The gap and domestic borrowing level is, however, reviewed during the financial year based on developments in government revenues and expenditure and the actual disbursement of donor grants and loans.

It is important to coordinate the Auctions and the Monetary Policy Intervention so as to minimize the impact of policy action on the financial system. This suggests that Issuance of Debt instruments should not be on frequent basis so as to give room for other policy intervention. Countries may want to consider issuing benchmark bonds to allow effective coordination between monetary policy intervention and government security auction.



The issuance of few but large value debt instruments have the added advantage of increasing the liquidity of an instrument and thereby improving its marketability in the Secondary Market.

### **5.3.1 Issuance**

The Ministry of Finance informs the debt office the amount of fund intended to be raised through sale of government securities.

The Debt office must get detailed cash flow from the Treasury to enable it to prepare the borrowing program including the instrument mix.

The Front Office liaises with the Middle Office to determine the features of the instrument to be issued. The Front Office takes over and advises the potential investors by advertising.

Following the review of debt operation manual of the member countries it was established that Government Securities are generally issued by auction method. Therefore the procedures below have focused on the auction method.

However it is important to note that there are other methods of issuing Government securities e.g. first come first offered and sold at par, non-market method, Tap sales (at par), auction/syndication method.

### **5.3.2 Prior preparation for listed securities**

When planning to issue a listed security the Debt Office should liaise with key representatives of investors (Forum) with a view to appreciating the type of instrument that is in demand. This information together with whatever market intelligence has provided helps in enhancing the performance of the instrument.

Appropriate authorizations have to be obtained for the listings of securities. The Debt Office has to print and issue the prospectus indicating the specific terms of the bond on offer and yield tables that assist investors in making their bids/ quotes.

### **5.3.3 Advertisement**

The public notice / advertisement has to provide at least the following details for both Treasury Bonds and Treasury Bills: -

- Issue number / Reference Number
- Settlement / Value Date
- Redemption Date
- Tenor
- Currency and total amount floated
- Source of Application form
- Minimum amount acceptable per bid



- Number of bids allowable per investor per tenor
- Maximum amount allowed for non-competitive bids (if applicable)
- Date of submitting applications for roll over instructions
- How and where the applications are to be delivered / lodged,
- Date and time of closing tender applications
- Penalties for breach of settlement on value date

For Treasury Bonds only the following additional details should be included:-

- Coupon rate
- Coupon Interest rate
- Call back clauses (if any)

#### **5.3.4 Bidding**

The following information is required for the identification of the investor, determining successful applicants and the amount that may be realized.

- Name and address of bidder
- Telephone contact
- Amount offered (Face Value of security)
- Bid price / yield
- Mode of payment by bidder
- Investor reference number / code
- Bidder's bankers and settlement account with a local commercial bank.

The duly completed application forms should be submitted by the specific date, time and at a specific location.

#### **5.3.5 Auction Process**

As specified in the Advertisement, bids may be received electronically through the software electronic bidding system, mailed, faxed or delivered by hand until the closing date and time for the bids.

For control and accountability purposes, the opening of tender boxes should be witnessed by representatives from Internal Audit and the Treasury. The data on the bid forms are captured. Due care has to be taken to ensure that data is captured from all applications forms.

The Front Office makes recommendation to the Auction Committee on the amount to be accepted (and by default the yield).

In making recommendations, the Front office has to consider:

- Governments cash requirements
- Rollover requirements
- Interest rate policy and strategy (yield curve where applicable)
- Current monetary conditions
- Developments in the Financial Markets





The Auction Committee deliberates on the recommendations submitted by the front office before making its decisions.

Once a decision is reached, a summary of Auction Results is then prepared, signed and released to the media and other parties on the approved dispatch list.

Reports that give details of successful bids, the purchase price and purchase amount and respective settlement date are prepared to facilitate settlement by investors in line with the specifications of the advertisement or as indicated by the investor on the application form or as per set rules.

On the settlement/value date, the Back Office updates the security holdings of successful bidders who pay. If the securities are dematerialized (paperless), the register is updated and a transaction summary to that effect is dispatched to the investor. If the securities are certificates, certificates are prepared and issued to the investors.

### **5.3.6 Reports**

The requisite Management reports are prepared and distributed / circulated. These may include:

- Results of Treasury Bills / Bond (Stock) Auction
- Monthly projection of redemption and interest
- Tables on Treasury Bills holding as required by IMF.
- Other statistical reports.

### **5.3.7 Other sources of domestic debt**

Government can also finance its operations through

- Loans from domestic sources: the procedures are the same as for borrowing from external sources
- Creating arrears: this arises when government and its agencies fail to honor its payment obligation to local suppliers and other residents.
- Tax reserve certificate: is an incentive by government to tax payers to make advance payments to cover their tax liabilities. Government pays interest on those certificates.



## **6. ANNEXES**



## **ANNEX 1: DOMESTIC DEBT ISSUANCE, REDEMPTION AND TRADING PROCEDURES – THE CASE OF KENYA**

### **Treasury Bills**

Successful Bidders make payments by bankers' cheques or cash on Monday 2.00 PM following tender opening on Thursday. Direct debits instructions from commercial banks are effected on Mondays upon verification of mandates by Banking Division. Rollover instructions are effected on Mondays together with any refunds. No payment is accepted after the 2.00 PM deadline. Balancing and reconciliation of the successful bids, the securities register and the payments received, is done before incorporating the payments received at the branches to produce the paid up and defaulters reports, where applicable. Net proceeds (after deducting administrative costs, commissions) are transferred to the Ministry of Finance Pay Master General Account and a letter advising on the same forwarded to Ministry of Finance, Accounts Department. At the same time, the securities register – the Central Depository System (CDS) accounts are updated as per data in the paid up report, withholding tax certificates and statements printed, checked, signed and posted **to the investor**. Any statement dispatched otherwise has to be released only after stringent positive identification check of the recipient. Alongside these operations, the Stock of Outstanding Treasury Bills Report (SORT) and government interest tables are also updated.

### **Tap sales (Treasury Bills)**

Treasury bills may be sold on tap when:

1. The primary auction does not realize enough funds to cater for redemption.
2. Government requires additional funds.

All cadres of investors; banks, individuals, and non-bank institutions are eligible to participate in tap sales.

### **Sale Procedure**

Tap sales procedure entails the following:

- The Auction Management Committee gives authority to Open Market Operations (OMO) dealers to advertise/offer given value of Government Securities to the market. The investor has the option to place bids on either 91 or 182 bids. However the bid rates should not exceed the average rates.
- To speed up the process the OMO dealers usually target the unsuccessful bidders from the primary auction.
- Dealing is usually on Mondays between 9.00am and 1.00pm.
- Bids may be received by phone, fax or through the dealing system. Bids have to indicate the face value, tenors, rate and amount to be paid by the investor.



- Successful bidders are informed about the amounts to be paid.

### **Documentation of Tap Sales**

#### Deals with Banks

OMO dealers fill Treasury bills application forms and sign.

Commercial bank will confirm such deals on debit authority letters duly signed by two authorised signatories.

Deals with Non Bank Financial Institutions, Insurance companies, Parastatals and individuals

The investors fill the application forms.

Tap sale deal sheet for all the investors is prepared together with the application letters to be forwarded to the Back Office for confirmation and further processing.

Payment is by bankers' cheque in the Banking Office.

#### Treasury bills pricing formula

$$\text{Price} = 100 \left( \frac{1}{\left[ 1 + \left( \frac{r}{100} \right) \left( \frac{d}{365} \right) \right]} \right)$$

Where  $r$  = rate

$d$  = number of days to maturity

### **Re-Discounting procedures**

Holders of Government securities may rediscount their securities with the Central Bank of Kenya provided that the security has at least 7 days before its date of maturity/redemption. There are three main sections that are involved in the discounting process: The Open Market Operations Dealing Section, which receives the request and offers the price; the Back-Office Section that confirms the deal; and the Debt Office that confirms the validity of the securities.

### **Re-discounting rate**

Investors are allowed to rediscount their Treasury Bills before maturity date at the prevailing rediscount rate. The rediscounting rate is set annually. It has mostly been set at 3% above the prevailing 91-day average Treasury bill rate. The rediscounting rate is set at a punitive level to discourage investors from dumping Treasury bills already purchased.



### **Treasury Bill/Bonds re-discounting steps**

The following are the steps entailed in rediscounting of Treasury Bills:

- A written request from investors to rediscount the bills should be received by 1.00 PM by the Dealers. The following must be attached: CDS statement, a photocopy of the investor's identity card or passport, pay-in slip at the time of investing in the primary auction and a no objection letter from the Nairobi Stock Exchange (NSE) in the case of Treasury Bonds.
- The investor then fills and signs the sale confirmation form.
- Upon receipt of the letter, the dealers calculate the proceeds payable to the investor and forward the same to the Back Office by 1.30 p.m. for verification and payment.
- Requests made through the Central Bank branches should be preceded by a fax message or telephone call and the actual documents should be received in the Back Office by 9.00 a.m. the following day.

### **Confirmation of secondary market transactions in government securities**

Secondary market transactions entail the following:

- The dealers receive duly completed forms from investors intending to discount their holdings of Government Securities.
- Central Bank dealers using the dealing system or dedicated telephone lines confirm all secondary market transactions in government securities by commercial banks and Non Bank Financial Institutions (NBFIs) i.e. lien creation/cancellation, Treasury bonds sales, and Treasury bills transfers. This is done as a control measure to ensure that indeed the transaction has been authorized by the investor/owner of the security.
- The details to be confirmed include: the value dates, the amounts, issue numbers, counter-parties, authorized signatories and dealers.
- The confirmed transactions are returned to the Back Office of Debt Office for confirmation of mandates and adequacy of security in the CDS account being debited.
- The duly validated documents are returned to the OMO dealer using a document movement register.
- The dealing section of the back office completes purchase confirmation forms to match the particulars of the securities being discounted, which are submitted for approval.
- Dealing sheets are received from Open Market Operations dealing section, which shows the amount, price of rediscount, beneficiary and the dealing parties and sale confirmation forms from commercial banks. Documents for transactions that affect the commercial bank accounts at the Central Bank are sent for verification of signatures in Banking Division where signature mandates are held



- Purchase confirmation form is filled by dealing operation of the Back Office and approved.
- Data is subsequently entered into the Treasury bills system; checklists generated and signed; and Vouchers generated, checked and signed. Entries are copied to the Banking Division online voucher system that credits the commercial banks' account held at the Central Bank.

### **Individuals and others Rediscounting Treasury Bills**

The procedure is the same as for commercial banks except for the following information, which must be obtained from the seller:

- Letter requesting to rediscount and specifying bank details, which should be forwarded to Open Market Operations dealing section in Central Bank for determination of price. The following documents must be attached to the letter:
- Copy of identity card (ID) in the case of an individual and company's certificate of incorporation in the case of companies.
- Copy of CDS statement and pay-in slip, if securities were purchased at primary auction.
- Debt Office verifies the signatures and confirms security details of the investor.
- The proceeds of the re-discount are remitted to the investor's bank account via SWIFT.

#### Formula for rediscounting

Proceeds = F.V – discount

$$\text{Discount} = \frac{F.V \times r \times d}{365 \times 100}$$

Where

*F.V* = Face Value of bills

*r* = rediscounting rate

*d* = remaining days to maturity

### **Redemption Procedures**

#### **Treasury Bills**

#### **Cash call-ups**



Prior to any payment, call-ups to cover interest and/or redemption together with cost of advertisements are prepared and forwarded to the Treasury. The steps entailed in the preparation of cash call-ups are as follows:

**Step 1.** Obtain the following:

Stock of outstanding Treasury bills (GOVINT)  
Interest/redemption schedule for Treasury bonds and stocks  
Invoices for advertisements from the main daily newspaper companies

**Step 2.** Preparation of monthly listing of:

Treasury Bonds and Stocks interest/redemption amounts due in the following month are prepared.

**Step 3.** Generate the following reports:

Stock of outstanding Treasury bills report – for Treasury bills  
Interest/redemption listing – for Treasury bonds & Government stock  
Invoice listings – for newspapers

**Step 4.** Prepare separate call-ups under the following broad classifications:

- Treasury bills
- Treasury bonds
- Government stock
- Advertisements

Processing of Call-up cheque at the Ministry of Finance

The Call-ups delivered to the Accountant General's Department/Office who acknowledges by initialing the register from Central Bank.

The Call-ups are recorded in the Accountant General's delivery book and forwarded to the accounts office for the necessary action.

They are received and signed off by the Officer in Charge of the section and passed for processing. The Section verifies the Call-ups amount with the records held in the Section before starting to prepare the payment voucher. They ensure that there is provision in the relevant vote to cater for the implied expenditure.

The prepared payment vouchers are passed through the following offices for authorization:-

- Authority to Incur Expenditure Holder (normally Principal Secretary)
- Examination



- Accountant General
- Internal Audit

After the Internal Audit the processed payment voucher is passed to cash office for a cheque to be drawn, which is payable to Central Bank, and before the cheque is prepared, there must be an Exchequer Issue (or transfer from the revenue account) to meet the requisite payment which is due.

Once the cheque is drawn it is delivered to the Back Office of the Debt Office.

### **Receipt of funds for redemption**

On receiving cash call-up cheque for the Treasury bill interest from the Treasury, Debt Office banks the cheque in Treasury bills issues account; debits Treasury bills suspense account; and credits Treasury bills account.

One working day before maturity date, the following reports are obtained for reconciliation purposes:

- Redemption list from data operators.
- Paid-up list from data operators.
- Stock of outstanding Treasury bills (SORT) from Issues Section.
- Summary of secondary trading/transactions report from data operators.

The steps entailed in the reconciliation process are as follows:

**Step 1.** Totals in the Paid-up list and SORT reports are compared to counter-check accuracy of redemption amount due.

**Step 2.** Original holdings of Secondary trading investors in the Paid-up list are compared with amounts as per summary of Liens / Transfers to compute current holdings.

**Step 3.** Computed holdings are compared with those shown on the redemption list. Errors if any are corrected and a final redemption list is printed.

The Debt Office then produces a credit list based on the following mode of remittance that is to be used for effecting payment:-

- **Direct Credits** for banks with accounts at the Central Bank
- **SWIFT** (Society for Worldwide Inter-bank Financial Telecommunication) **for banks** which use SWIFT
- **EFT** (Electronic Funds Transfer) for banks, which do not use SWIFT. The amount that can be transferred under EFT is restricted.
- **TT** (Telex Transfer) for banks which are neither on SWIFT nor EFT

**The credit lists are approved as follows:**





The SWIFT list is checked, authorized and forwarded to Communications Office for onward transmission and printing of advice slips. The following are also undertaken.

The EFT list is downloaded and approved electronically by two signatories (Level 1 & Level 2) before the approved transactions are processed by clearing house.

A copy of the Telex Transfer list is forwarded to Communications Office for onward transmission.

On due date a voucher list is generated for all payments and the following transactions effected

**Debit** Treasury bills account

**Credit** various banks

The relevant accounts in Banking Office are credited appropriately and a checklist produced.

### **Treasury Bonds**

The redemption procedure for Treasury bonds is as follows:

The process begins with the receipt of interest rate table duly checked and signed from Front Office/Issues Section.

The applicable Floating Rate Bond rates are updated.

Interest/redemption schedule with new issue/redemption and computed interest payments are updated.

The procedure for raising call-up to the Treasury is similar to that of Treasury Bills. The difference is the accounts to be affected by the transaction and the reconciliation process.

Call-up cheque(s) for the Treasury bonds interest/redemption are received from Treasury and banked in the following Treasury bonds suspense accounts:

- Treasury Bonds interest suspense account
- Treasury Bonds redemption suspense account

Three working days before due date, the following reports are obtained for reconciliation purposes

- Redemption list /Audit trail
- Interest/redemption payment schedule
- Summary of secondary transactions-Liens/Transfers/Repos

The steps entailed in the reconciliation process are as follows:

**Step 1.** Totals in the redemption list/Audit trail reports are compared with interest /redemption schedule to counter-check accuracy of interest / redemption amount due.



**Step 2.** For investors who have entered into secondary transactions, the holdings indicated on redemption list are checked against summary of secondary transactions report.

**Step 3.** Errors, if any, are adjusted and a final redemption list/Audit reports trial is printed.

Production of credit list for interest/redemption containing the following:

**Direct Credits** for banks with accounts at Central Bank

**SWIFT** for banks which use SWIFT

**EFT** for banks, which do not use SWIFT. The amount that can be transferred through EFT is up to a limit.

**TT** for banks, which are neither on SWIFT nor EFT.

**ROLL-OVER** bonds being invested in new issue (redemption only)

**TAX** - Withholding tax for taxable investors (interest only)

The Credit list is reconciled with redemption list/Audit trail and approved.

The SWIFT list is checked, authorised and forwarded to Communications Office for onward transmission and printing of transmittal advice slips.

The EFT list is downloaded and approved electronically by two signatories (Level 1 & Level 2). The approved transactions then wait processing by clearing house.

A copy of the Telex Transfer list is forwarded to Communications Office for onward transmission.

A dummy list for tax certificates is produced, compared with the Audit trail and the certificates printed as in the case of Treasury bills.

On due date voucher lists are generated for all payments. This entails the following operations:

**Debit** of Treasury bonds account (redemption)

**Debit** of Treasury bonds interest suspense account (interest/tax)

**Credit** of various banks' accounts (redemption/interest)

**Credit** Revenue Authority income tax account (withholding tax)

Voucher lists are updated to banking and checklists of transactions are produced

The CDS accounts are updated, ledger entry showing the value of redemption is printed and mailed to investors;

Withholding tax certificates and credit advices are prepared and mailed to investors.

### **Advertisement Payments**



The following are the steps entailed in processing payments for advertisement of Treasury securities issues:

A summary of payments/cash call-up and forward with original invoices to the Ministry of Finance.

On receipt of cheques from the Ministry of Finance, the Debt Office miscellaneous drawing account is credited with the proceeds of the cheque.

The Back Office prepares a cheque in favor of the beneficiary and notifies Banking Division of the impending payment by submitting a payment schedule.

The cheque is then dispatched to the beneficiary.

### **Secondary Trading of Securities**

The processes entailed in secondary trading of securities are as follows:

The broker delivers complete transfer and sale confirmation forms to the Debt Office between 9.00am and 2.00pm. The forms are recorded by the Registry Section in the Debt Office Correspondence Register and forwarded to the Manager. The Manager receives the documents and forwards them to the Section Head who distributes them in the section.

An officer in the section queries balances through the mainframe and writes the amount and date of balances on the form. The same officer crosschecks to ensure that the serial number matches the one issued to the broker submitting the form. If funds are available and the serial number is in order, the officer endorses on the form. If, however, there are no funds or if the funds are insufficient for the transaction, the form cannot be verified. Similarly, if the serial number does not match what was issued to the broker, then the form cannot be verified either. The broker is called and informed of the outcome.

For individual investors a sale order or contract is required while for companies a corporate seal is required in addition to a sale order. A corporate seal is also required for banks and other financial institutions. Also required is a confirmation through Reuters.

To obtain a Reuters confirmation for transactions involving banks and NBFIs, an officer in the section records the details in the movement register to and from dealers and forwards to the Dealers (Foreign). The dealer receiving the documents must sign and date the receipt in the register.

After dealers have confirmed the transaction type, the issue number and the amount traded, they return the documents together with the confirmation, which is stamped and signed by the chief dealer, to secondary trading section.

An officer in the section receives and acknowledges receipt by signing the register.

The confirmation is attached to the forms and recorded in the signature verification register and forwarded to CDS section for signature verification.

Two signatories from the CDS section stamp and sign for the verification and return to Secondary Trading section. If the signature differs, the form cannot be verified. The broker is informed to collect the form and rectify the problem.

The secondary trading section head and his deputy confirm and approve that the form has been verified by endorsing on the form.



The verified transfer and sale confirmation form is recorded in the dispatch of verified forms register for collection by brokers. Brokers must sign for the forms collected. Brokers collect the original sale form ONLY from the Debt Office counter. All other attachments are to be retained by the office.

#### After Trading at the Stock Exchange

After the Treasury bonds have been traded at the Stock Exchange, brokers submit both the sale and purchase confirmation forms at the Debt Office counter. The officer at the counter receives and stamps the documents and forwards them to the Registry to be recorded. After the forms have been recorded in the register, they are forwarded to the Secondary Trading section through the Manager.

The sale and purchase confirmation forms must have an approval by the NSE. They should have a matching transaction slip number and the NSE stamp on the form.

An officer in the section attaches all related documents that were left in the office before brokers collected the forms for trading (i.e. confirmations, sell orders) to the sale and purchase confirmation forms.

The section head crosschecks all the documents and forwards them to the Manager and Registrar for approval.

After approval is given, the section head forwards the documents for posting to the data operators. Posting is done on the day of the approval, which should correspond to the date of receipt of the documents by Debt Office.

Data operators generate the following reports:

**Checklist (for Bonds)** – List of transactions traded at SE – which is proofread by two officers in the section.

**TRADECHECK (Bills and Bonds)**– by transaction type – checked by two officers

**TRADEMATCH (Bills and Bonds)** – matching transactions dealt on a particular day – checked by two officers

**TRANMASTER (Bills and Bonds)** - by transaction type – checked by section head and deputy

**TRADESUMMARY (Bonds)**

**TRADESTAT (Bills)**

After the reports have been signed, data operators update the Register. Once the Register has been updated, statements are printed and forwarded to the section head together with the Transmaster before they are dispatched to the investors. For banks, an officer in the section records the statements in the **Clearing House dispatch register**, which is forwarded to the Clearing House. Other statements are dispatched by mail through the dispatch section.

The forms and checklist are filed together and the Transmaster filed in a different file.

#### Processing Sale and Purchase Forms for Lien Creation

There are five types of liens

- Interbank – commercial bank & commercial bank
- Central bank overnight - commercial bank & Central Bank



- Insurance companies & Commissioner of insurance
- Individuals and commercial banks
- Companies and commercial banks

The Lien purchase and sale forms are delivered by investors at the Debt Office counter, forwarded to the Registry for recording and passed on to secondary trading section head through the Manager

An officer in the section forwards the form to the Dealers for Reuters confirmation (except forms for Insurance Companies)

Once the confirmation has been obtained, another officer in the section checks the serial numbers and balances.

The forms are forwarded for signature verification to the CDS section. If there is a difference in signature or reference numbers or if the funds are insufficient, the forms cannot be processed. They are returned for necessary amendments or corrections.

After the forms have been verified, the lien certificate is created (in triplicate) and forwarded to the Manager and Registrar for their signatures. The certificate is forwarded in the report that shows the due date on each issue. No lien certificates are required for overnight liens for commercial banks. Instead the memo from Banking Division, which forwards the lien documents, acts as a certificate. Both the Manager and Registrar sign it. Once the certificates are signed, the manager approves the transaction for posting and updating by signing the form. The certificates are sent to the buyer and seller and a copy kept in the lien file.

Data operators generate reports, which are checked by the officers in the section. Data operators generate:

**Checklist (for Bonds)** – List of transactions traded at SE – which is proofread by two officers in the section.

**TRADECHECK (Bills and Bonds)**– by transaction type – checked by two officers

**TRADEMATCH (Bills and Bonds)** – matching transactions dealt on a particular day – checked by two officers

**TRANMASTER (Bills and Bonds)** - by transaction type – checked by section head and deputy

### **Lien Cancellation**

Lien cancellations are processed in the same manner except that:

There is no certificate to be issued

Details in the lien cancellation forms should correspond to an earlier creation. A partial cancellation of the lien is not allowed.

### **Processing of sale and purchase forms for transfer of treasury bills**

A transfer refers to instructions to change ownership of security, but with no consideration in favor of the seller.

Processing of transfer of Treasury bills is done in the same manner as the lien creation forms, except that no certificate is issued



## **ANNEX 2: EXTERNAL DEBT PAYMENTS PROCESS – UGANDA CASE.**

A good payment process is extremely important. This is one area that is vulnerable to severe risks including fraud, late payments which bring about heavy penalty interest costs. The debt payment procedure has been recommended in Uganda and has been to a large extent applied.

1. The Central Bank (Bank of Uganda - CB) makes payments on instructions of Ministry of Finance (Accountant General's office).
2. Bank of Uganda requires two clear days to process a debt payment (This is a lower specification limit)
3. The CB processes only those payments instructions which have been issued by duly authorized officials of government whose signatures have been lodged with the verification sections of banking department of the CB.
4. All communication and copies of such communication relating to debt payment instructions are signed in ink by designated officials of the ministry of finance.
5. A form is used to forward debt payment instructions from the ministry of finance to the CB. Each page of that form is signed in ink.
6. A designated official of the ministry of finance issues debt payment instructions and attaches an audit warrant from the Auditor General and all other forms as may be required by exchange control regulations or laws relating to payment or transfer of public funds. The Auditor General must himself/herself be very conversant with the debt being paid e.g. he/she should be having loan agreements and schedules of debt service. Transmission of the documents to the CB is done in a register.
7. Upon receipt of the debt payment instructions, the department of the CB responsible for processing debt payments enters the details of payment instructions in a register. Also the designated official in the CB receiving payment instructions affixes a date stamp and appends his/her signature in the Ministry of finance register/delivery book.
8. The designated official in the CB peruses through the payment instruction against its own records to ensure that it is correct in all material aspects. Only if satisfied does further processing of the payment instruction be undertaken, otherwise it is referred back to the originator for clarification and correction.
9. The details to be checked includes, among others that:
  - The debt payment to be made is in fact due and the amount and the currency indicated are correct.
  - The proposed payment will not result in a duplication
  - The payment instructions have been signed by those officials who have been authorized by government in writing to do so.
  - The beneficially bank account particulars are in conformity with the records held by the CB.



10. The designated official then personally takes the payment instruction to signature verification section of the CB and later to the department of the CB, which actually does the money transfers (Foreign Exchange Operations Department, FEO).
11. After effecting the debt payment, FEO stamps as “PAID” all copies of government payment instructions including the Audit Warrant.

**Other measures:**

12. All filing cabinets in the debt office in MOF and the CB must be kept locked and in and out movements of debt files should be recorded.
13. Each document in the file should be given a folio number
14. A debt official should be designated to go through all the active files of creditors at regular intervals to ascertain that they have been kept updated as required and that the folio numbers are still in place.
15. Entry into the computer room of the debt department should be restricted to authorized personnel only whose names should be posted on the door by way of a memo from a director of the department. In addition, the computer room should be secured by a combination lock so that only authorized officials can gain entry on their own.
16. The computer system which keeps an audit trail i.e. DMFAS 5.3 should be installed.



## **ANNEX 3: LESOTHO DEBT OFFICE MANUAL FILING SYSTEM**

The most comprehensive source of data in the Debt Management Office is the individual debt files. The Debt filing system in Lesotho has three files for each loan, a yellow file for general matters, a purple file for debt service transaction and the lever arch file which contains copies of disbursements claims and disbursement notifications from the creditors. These files are the main repositories for all debt documents and are generally referred to in preference to the ledgers for confirmation of financial transaction related to disbursements. They are organized by lender and by instrument number.

These files contain the following information:-

- |                  |   |
|------------------|---|
| Yellow Files     | - Loan record e.g. Agreement, all correspondents relating to the loan agreement and general matters. (e.g., Enhancements of loan amount, Cancellation of loan balance, Changes in project categories, extensions of last date of disbursements etc.)                                |
| Lever Arch Files | - Disbursements records (Claims and Disbursement notification from creditors as well as queries related to disbursements)   |
| Grey Files       | - Debt servicing records (Instruction letters to Central Bank for Debt Service payment, debit notes from Central Bank, Bills from Creditors, Acknowledgements of payments from creditors and any other queries related to debt servicing, confirmation of balances with creditors). |

Debt Management Office also maintains the following additional files: -

- Authorized signatures for all loan funded projects.
- All correspondence to and from the Accountant General.
- Balances of Government Accounts with all banking sector.
- Exchange rates
- Debt reports.
- Files for all unpaid bills from creditors





## **Annex 4. Computing Debt Sustainability At Risk**

General Methodology of computing DsaR: (*Acknowledgement: World Bank unpublished paper on risk management, November 2001*)

### Deterministic simulation:

Step 1: Debt service cost flows are projected forward under base case assumptions of future market rates, which should be market neutral i.e., derived from

- Survey of market participants
- Implied currency and interest rate forwards
- Rates remain constant.

Step 2: New projections are made under alternative market assumptions. The alternative cases can be generated using

- Statistical techniques
- Historical analysis
- “Worst case scenarios etc

Step 3: Risk is measured under VAR i.e. the PV of all scenarios is taken and risk is measured as the difference in PV between the base case and the range of alternative scenarios. Risk can also be measured under CaR i.e. the volatility of cost flows under the risk scenarios relative to the base case.

Step 4: Steps 1 – 3 are repeated for alternative funding strategies, and the cost risk tradeoffs are assessed.

Step 5: Different debt strategies are compared in terms of their expected cost and risk.



## **Annex 5: Selected Cost And Risk Measures**

### **Cost Measures**

#### *Ratios of debt to GDP*

The following debt to GDP ratios should be computed and should either be including or excluding pipeline/new loans:

- Nominal Debt Stock/GDP
- PV of debt/GDP
  - Including or excluding contingent liabilities
  - Including or excluding domestic debt

#### *Ratio of Interest payments to tax revenues*

Interest payments in a given period of time are expressed as a ratio to domestically generated budget revenues. For projections, interest is estimated based on disbursed and outstanding amounts and estimated disbursements on undisbursed balances on loan commitments as well as on pipeline loans and expected new gap filling financing.

#### *Average growth rate of debt*

This is the rate the stock of debt is growing.

#### *Present Value of net cash flows*

This is the discounted value of future debt service flows of principal and interest. The cash flows are discounted using an appropriate market based interest factor. The discounted amount gives an indication of the value of future debt today.

#### *Average interest rates*

These are average borrowing rates of a loan portfolio. The statistic gives a rough indication of the country's cost of borrowing.

*Debt service projections:* it provides an indication of future debt service obligations which helps to mitigate against roll over risks which arise from bunching of maturities.

### **Risks and their Measures**

#### *Currency risk or exchange rate risk*

External debt payable in foreign currency has an unknown local currency or any other currency in which a country's reserves are kept. The payments of the loan in the foreign currency are dependent on the exchange rate at the time payments are made. If a loan is payable in Japanese Yen and the Yen appreciates, more local currency or a currency in which reserves are kept will be required. The risk on this account is known as currency or exchange rate risk.

*Measure 1: Increase in debt stock or debt service on account of adverse exchange rate movements [Debt service at Risk due to changes in exchange rates]*



Currency trading goes on for 24 hours a day and therefore exchange rates may change. This in turn makes the values of debt stock and debt service to change. A loss in terms of higher debt service payments on account of adverse exchange rate movements is currency risk. Central Bank determines a strategic currency distribution to match the currency distribution of assets with that of liabilities. A deviation from the benchmark currency distribution constitutes risk taking. The benchmark hence has to be developed by both asset and liability managers. The decision on the numeraire currency is important in arriving at the desired benchmark.

*Measure 2: Currency composition of debt*

Ratio of debt stock denominated in major currencies as a percentage of total debt stock. To manage interest rate and exchange rate volatility and mismatches, this ratio should always be monitored and compared to the benchmark.

*Measure 3: Ratio of domestic currency debt to foreign currency debt*

This ratio compares the debt stock and could be extended to compare expected debt service in domestic currency and in foreign currency. As in currency composition of debt, this ratio should be constantly monitored and compared with the benchmark. Most developed countries and some emerging markets have set up benchmarks of the ratio of debt that must be denominated in local currency in order to mitigate against exchange rate and interest rate volatilities and to hasten the process of developing debt markets in order to reduce rollover risks.

### **Interest rate risk**

For loans with variable interest rates applicable, the higher the interest rate base, the higher the debt service in terms of interest.

If a country issues bonds in the capital markets, the higher the prevailing interest rates, the lower the bond price implying that investors will purchase the bond at a lower price from bond holders wishing to sell their bonds before maturity. The sensitivity of bond prices to changes in interest rate changes is known as interest rate risk or market risk.

*Measure 1: McCauley Duration*

Duration is the weighted average term to maturity of a bond's cash flow. It is a measure of interest rate sensitivity. In debt management, Duration is expressed in years and is the average time between interest rate reset periods. For fixed rate instruments the calculation of duration is similar to that of average life but in present value terms. For floating rate instruments, duration is the remaining time to the next reset date. A short duration generally implies a higher proportion of floating interest rate debt and/or debt issuance of very short maturities.



$$D = \frac{\sum PV_i \times t_i}{\sum PV}$$

Where:

D = Duration (McCauley)

PV = Present Value of flows

t = Time measured in years

i = Year

#### Modified Duration:

Modified Duration captures the price sensitivity of a portfolio to interest rate movements. It is a measure of elasticity of price versus interest rate movements. It reasonably describes the interest rate risk of a portfolio in a single number.

$$D_{Mod} = \frac{D_{Mac}}{(1+r)}$$

Where

r = Yield

*Colombia's benchmark for modified duration 3.5 years<sup>5</sup>*

#### *Measure 2: Present Value of a Basis Point (PVBP or PV01)*

PVBP measures the change in the value of a position for 1 basis point change in interest rate.

#### *Measure 3: Average Time to Re-fixing*

The Average Time to Refixing (ATR) gives information on the exposure of the debt portfolio to interest rate changes. High ATR indicates low risk as it implies that a relatively small share of the debt will have its interest rates re-set in a short period of time.

$$ATR = \sum_{t=0}^n \left( \frac{t \times RF_t}{Nom} + \frac{t_0 \times RV}{Nom} \right)$$

Where  $RF_t$  denotes redemptions of fixed rate debt at time t and RV is the total outstanding variable rate debt at time  $t_0$ . Unlike Duration, interest payments are not taken into consideration in the calculation of ATR. Only payments of Principal are included and distributed over time according to the time of the re-fixing of interest rate (coupon). Also future payments are not discounted (Presentation during a MEFMI workshop on risk management).

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<sup>5</sup> The duration of a portfolio is equal to the weighted average of the durations of assets or liabilities in the portfolio, where each asset's or liability's weight is equal to its market value divided by the market value of the portfolio.



*Measure 4: Ratio of floating interest rate debt to fixed interest rate debt*

Cost stability is achieved by increasing the fixed rate debt to the floating or variable rate debt. Fortunately, most developing countries especially HIPC's have debt portfolios with a high percentage of fixed interest rate debt, most of which is also concessional i.e. with a long maturity period and low interest rates. As countries graduate from HIPC and start issuing debt on the international market, it will become necessary to take the above ratio into consideration. As part of the debt strategy planning, the fixed rate debt structure should be reviewed periodically to assess its suitability given changes in the fiscal and economic environments. However, to encourage investors to invest in government's tradable securities, it may be necessary to issue floating rate debt or even inflation or exchange rate indexed securities.

The debt strategy of developing countries should emphasize the development of a well functioning securities market. A well functioning market attracts broad investor interest, which help to provide stable, low cost financing over time.

*Total Market risk*

*Measure 1: Value at Risk (VaR) and Cost at Risk (CaR) [This is a summary of the total risk in a portfolio].*

Value at Risk is the increase in debt stock and debt service arising from adverse movements interest rate, exchange rate and commodity prices

Maximum debt service cost of the portfolio with say, 95 percent confidence, taking into account market variables such as interest rates, exchange rates and commodity prices.

Value at Risk (VaR) measures the minimum loss that can be suffered over a given length of time at a specified confidence level. In fixed income portfolios, the standard deviation of the returns for a given asset shows the potential losses that can be suffered over a given time horizon. Hence, VaR is computed as: Number of standard deviations of Asset times the volatility. E.g. at 95% confidence level with a volatility of 14.402, the VaR for an asset would be:  $1.65 * 14.402\% = 23.63\%$ .

For a portfolio of \$10,000,000, VaR for one year would be:  $23.63\% * 10,000,000 = \$2,363,000.00$ .

VaR says the following statement: I am X percent certain that I will not lose more than V shillings in the nest N business days where;

X = confidence level

V = Value at Risk

N = Time horizon



In the above example, we would say: I am 95% certain that I will lose not more than \$2,363,000.00 in the one year (252 days).

The VaR for one quarter of a year (63 working days) would have been:  $23.63\% \times \text{SQRT}(63/252) \times 10,000,000 = \$1,181,500$

One of the three can be used to compute VaR namely: Historical simulation, Variance covariance method (assume probability distribution) and Monte Carlo Simulation.

*Measure2: Cost at Risk (CaR)*

This is also a summary of the total risk in a portfolio but computed using nominal amounts not PV terms, as is the case with VaR.

*Other risks and their measures:*

*Yield curve risk:*

This measures/monitors changes in the slope of a yield curve

*Duration risk:*

This measures the extent to which Portfolio duration is different from that of the benchmark

*Rollover risk/Refinancing risk*

Rollover risk refers to the likelihood of being unable to obtain new financing as debt matures, or of only being able to finance new debt at very high cost. In developing countries, this risk should be given high priority because failure to rollover debt can lead to a financial crisis. It can be measured as volatility relative to fiscal cash flows or refinancing gap to GDP or BOP if external debt cannot be rolled over.

*Measure 1: Average maturity of debt*

This gives the average period a debt portfolio takes to be repaid back. It could be a simple unweighted average or could be weighted by maturities.

*Measure 2: Average Time to Maturity (ATM)*

Average Time to Maturity is related to Duration as it gives information of the time length of debt obligations. Unlike Duration and like Average Time to Refixing, interest is not taken into account and future payments are not discounted. ATM is a better measure of rollover risk because it takes into account the correct maturity of variable rate bonds. In the calculation of ATM, the weights are the nominal payments of principal.

$$\text{ATM} = \sum \frac{t \times R_t}{\text{Nom}}$$

Where  $R_t$  is redemption at time  $t$ , and Nom is the nominal value of outstanding debt. While ATM gives information on the rollover risk, it is not a perfect indicator of risk. Very different redemption profiles can have the same ATM. Therefore, as with Duration,



the ATM should not be used alone in assessing the risk exposure of a debt portfolio. ATM should be supplemented with measures of the share of debt falling due within certain periods and with a graphical description of the redemption profile.

*Measure 3: Average life a loan or a portfolio of loans:*

This is the average length of time before the principal of a loan is scheduled to be paid through amortization payments.

$$AL = \frac{\sum A_i \times t_i}{\sum A_i} - \frac{\sum D_i \times t_i}{\sum D_i}$$

Where:

AL = Average Life

A = Amortization

t = Time (period of amortization/disbursements)

D = Disbursement

I = Time measured in years (0,5,1.5, 3 etc.).

*Measure 4: Medium and long run term structure of debt*

These measures indicate the maturity structure of the debt portfolio. A loan portfolio with more debt maturing on the short end of the maturity may imply difficulties in rolling over/forward the debt maturities falling due during the short period. This may cause a solvency or cash flow problem for the country.

***Measure 4 a): Percentage of debt maturing in the next 12months***

This assessment may be made by inclusive of new debt and/or pipeline debt. The benchmark of this ratio for is 10-15% for external debt and 15-20% for internal debt.

*Measure 4 b): Percentage of debt maturing in the next 2 years to total debt*

This is the lower end of long-term debt, which needs to be constantly monitored. The debt analyst may decide to include arrears categorized as short-term debt. If no new short-term debt is being contracted, a rise in this ratio signifies more accumulation of arrears.

*Measure 4 c): Percentage of debt maturing in the next 5 years to total debt*

As in 4 b) above, it is important to monitor this ratio and to establish benchmarks.

*Measure 4 d): Percentage of debt maturing after 10 years to total debt*

The higher this ratio is the easier it is to rollover debt maturities, which cannot be immediately payable.

*Measure 4 e): Ratio of domestic currency debt to foreign currency debt*

Debt issued in local currency is easier to rollover than debt issued in foreign currency.

*Measure 4 f): Ratio of financing gap to GDP*

*Debt Sustainability at Risk (Dsa R)*



Debt Sustainability Analysis (DSA) evaluates a country's capacity to repay its debt obligations on time i.e. as scheduled. DSA however, often stops at cost analysis and excludes risk. Computation of DSA ratios is complex as it includes computing, estimating or simulating macroeconomic and financial variables. However, both macro and financial variables could seriously deviate from the expected path. Risk analysis then becomes vital in figuring out the likelihood of not meeting debt service payments on time or indeed a debt overhang. Please see the general methodology of computing DsaR in Annex 4.





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