

Treasury Reference Model

**Key Treasury Reform Priorities
Implementation Pointers
and Sequencing**

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Treasury Reference Model –TRM*

- TRM was developed to:
 - Assist Bank and IMF member countries in implementing Treasury Reforms
 - Inform manufacturers of COTS Package software of key **Treasury functional requirements** to enable them to incorporate these requirements in products that had been primarily designed for the **private sector**.
- Describes essential aspects of Treasury Reform, core Treasury Functional processes and key activities involved in setting up Treasury Systems.
- Shows how Treasury processes fit in the overall set of processes and systems for Government Fiscal Management- GFM

*Ali Hashim and Bill Allan, World Bank
Technical Paper No: 505, 2001

Presentation outline

- **Part I: Re-visits some of the topics covered in the TRM including:**
 - Rationale/Objectives for Treasury Systems
 - Policy Pre-Requisites
 - Scope and Functionality of Treasury systems
 - Technological Considerations
- **Part II: Summarizes some implementation experiences**
- **Part III: Gives some implementation pointers**
- **Part IV: Discusses some sequencing issues involved in extending the scope of Treasury systems to cover broader GFM processes**

Part I: Treasury Systems

Basic Concepts

Define the correct rationale for setting up Treasury systems – what is the problem that we are trying to solve.

- **Pre-Reform situation I**
- **In transition economies** there was a lack of a legal framework, institutional structures and accompanying systems required for management of Government finances:
 - Spending units were allowed to open up Bank accounts outside the control of the MOF and the MOF transferred money to these accounts periodically.
 - As a result sizable idle balances could build up in spending unit bank accounts while the MOF was in deficit in overall terms
 - MOF had no means to exercise control to ensure that expenditures are in accordance with budget appropriations
 - Other resultant problems, like lack of timely information on expenditures and revenues required for economic management, statutory reporting, base line data for budget preparation

Pre-Reform situation II

- **In other countries** the legal and institutional structures for management of Government finances did exist but were /are in need of repair since they are frequently bypassed
 - Erosion of controls (e.g. appropriation control)
 - Blurring of the roles and responsibilities of participants (*SU- Treasury*)
 - Multiplication of bank accounts outside the control of the Treasury – e.g. personal ledger account
 - This resulted in essentially the same situation as that in transition economies with regard to lack of MOF control over government finances, expenditures and availability of timely information for economic management.

The Solution is defined by the problem -

Two part solution

- **A- Set up /repair policies and institutional structures required for management of government finances**
 - **Transition economies-** There was a need for building the legal framework and institutional structures *ab-initio* to enable the MOF to regain control over the financial resources and ensure that expenditures are in accordance with budget appropriations
 - **In other countries –** There is need to build on and repair the existing policies, structures and systems- *to plug the leaks*

B - Set up systems that ensure that these policies are implemented without exception

Systems should enable

- **Better Fiscal control:**
 - By ensuring that expenditures are in accordance with budget appropriations, commitments and cash allocations
 - Close monitoring of outstanding bills, cash in Government bank accounts, arrears and fiscal deficits
- **Better cash management**
 - By bringing all government accounts under the control of Treasury and consolidation in a **Treasury Single Account (TSA)**
 - By reducing **idle balances** in Government Accounts and improved planning for cash
- **Timely and accurate reporting for Economic management and in Preparation of statutory financial statements**
- Improved quality of **baseline data for budget preparation**

Implementing the solution requires - Legal and Institutional Reforms

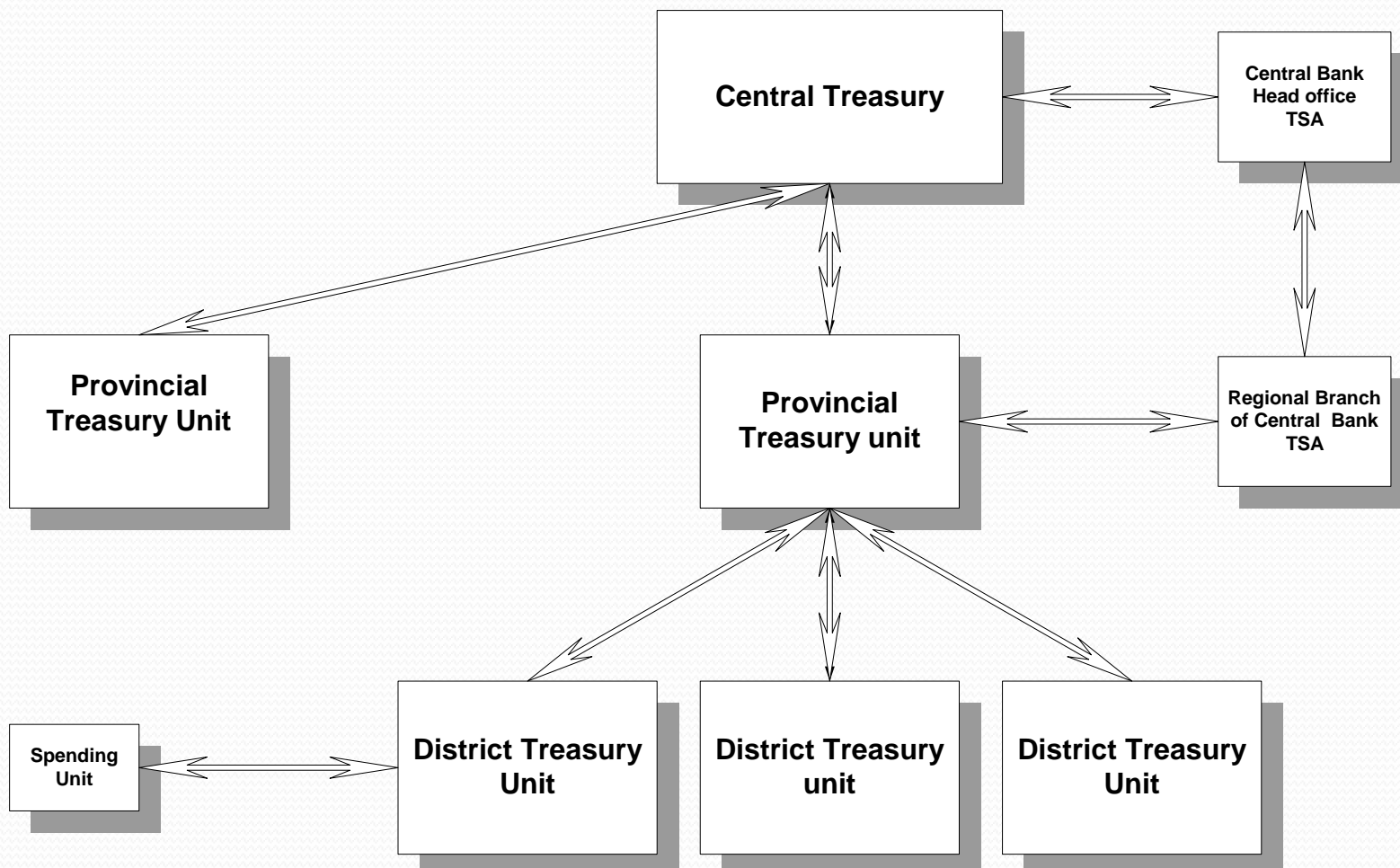
- **A budget management law for management of public funds and property provides the legal basis for Budget Execution Systems**
 - Specifies the roles and responsibilities of the MOF, Treasury and Line Agencies;
 - Specifies the authorities and responsibilities for:
 - Receipt and custody of public funds
 - Public expenditure management control processes,
 - Management of Public Debt, Accounting, Financial Reporting and Audit

Policy Pre-Requisites - Institutional Setting

May require changes in Institutional arrangements for banking Government funds and processing payment transactions

- Consolidation of bank accounts in a **Treasury Single Account (TSA)** held at the central bank
- Setting up a Treasury organization with a network of offices located country wide. (or locating Treasury staff with SUs)
- Re-engineering payment processes and **routing all payment transactions through the Treasury/ out posted Treasury staff**
- Re-engineering all receipt processes to ensure revenues are directly deposited in the Government account

TREASURY ORGANIZATION STRUCTURE I



Policy Prerequisites - Budget Classification System

- **Adoption of a budget classification system consistent with the IMF's GFS**
 - Design of a chart of accounts embodying this classification
 - Budget classification structure would need, as a minimum, segments for function, organization and economic classification.
 - The function and economic classification structures need to be consistent with IMF's GFS.
 - Additional segment may be used to classify and monitor budgets and expenditures by Level of Government, Source of Funds, Programs, Projects and Activities.
 - **Note:** Additional segments will entail additional work by transaction processors while recording actual transactions.

Treasury systems- Scope

Systems provide support for:

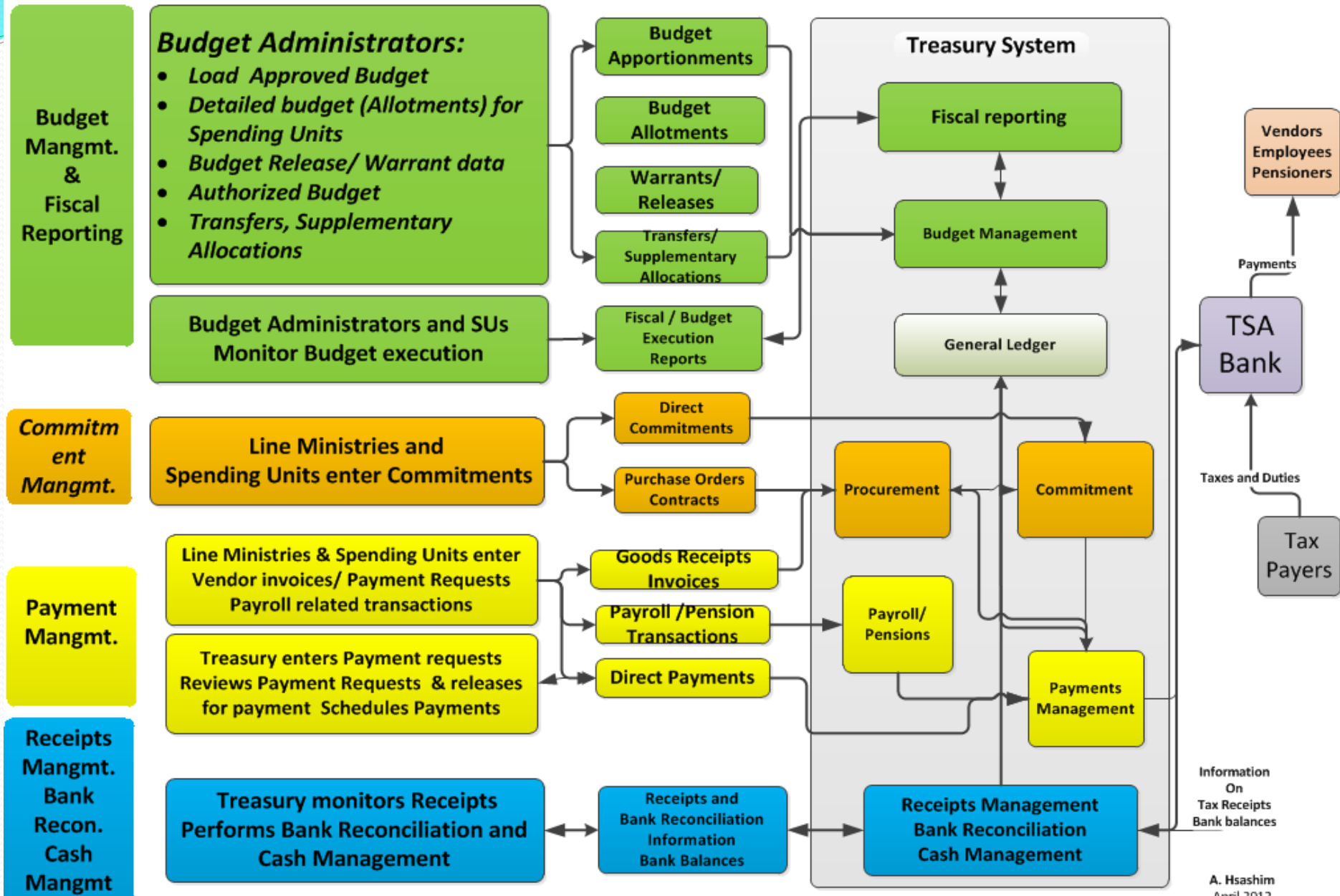
- **Budget Execution**
 - **Budget Management**
 - Budget Apportionment, Budget Allotment,
 - Budget Releases, Budget Transfers
 - **Commitment Management** – Recording all commitments relating to intended government expenditures
 - **Payment Management**- Processing all government expenditures relating to:
 - Procurement of goods and services from current/capital budgets
 - Salary and Pension Payments
 - Debt servicing payments
 - Subsidies/Fiscal transfers to sub-national levels or SOEs
 - **Receipts Management** - Recording revenues and other receipts
- **Accounting** (posting all transactions as they occur)
- **Cash Management**
- **Fiscal Reporting**

Treasury systems- Functionality

- **Systems Record**
 - Initial budgets, budget revisions, budget releases
 - Commitments
 - Purchase orders, Contract details
 - Receipt of goods and services
 - Vendor Invoices
- Authorize payments after checking for controls
- Give payment instructions to Bank
- Record revenues and other receipts paid into Government accounts
- Reconcile with bank records
- Enable monitoring of balances in Government accounts
- Enable posting of all transactions, enforcement of controls, accounting and comprehensive reporting

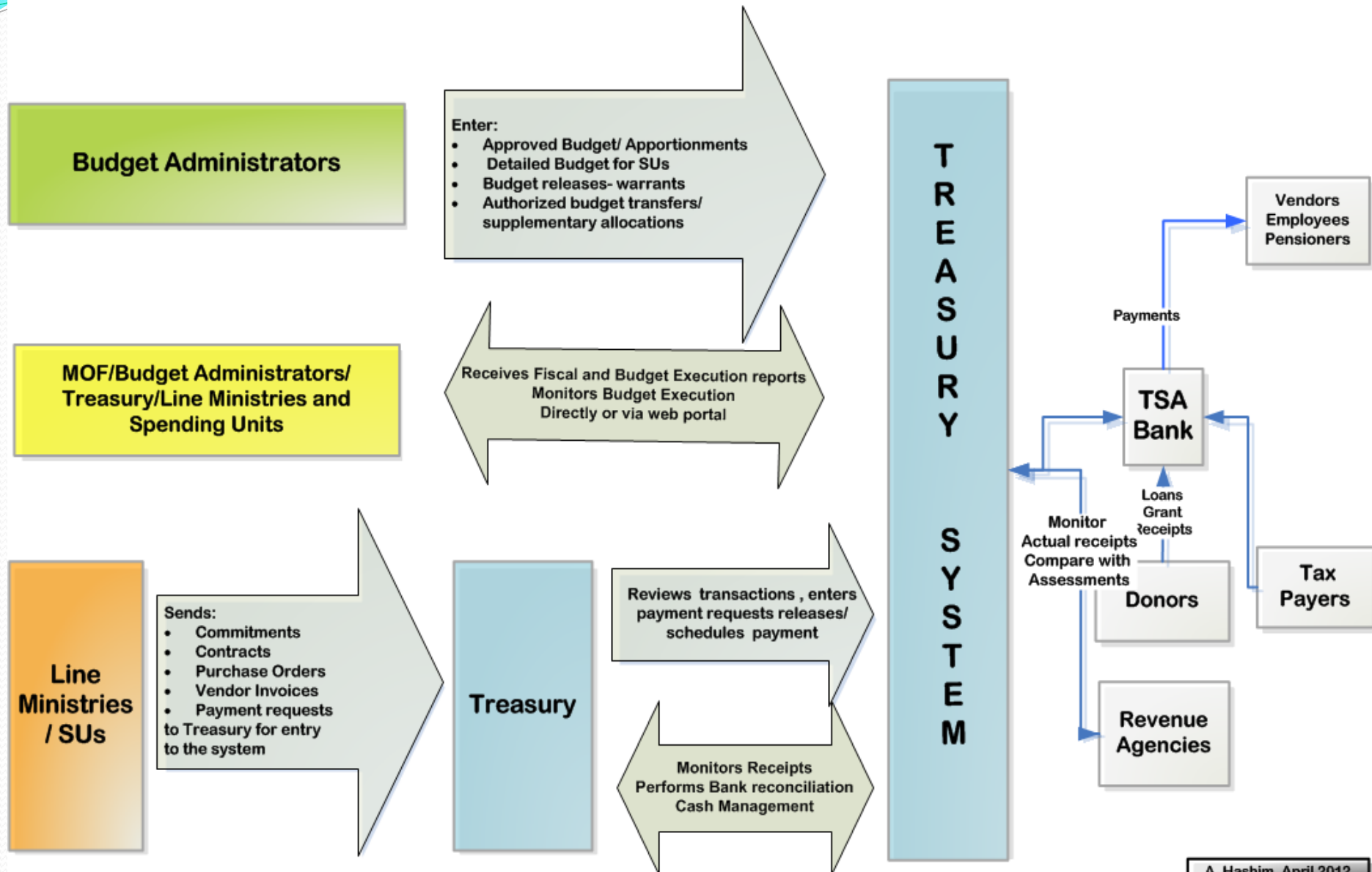
Ensure that these functions are performed by authorized staff only

Treasury Systems: Core Functional Processes. Information flows and Systems Modules

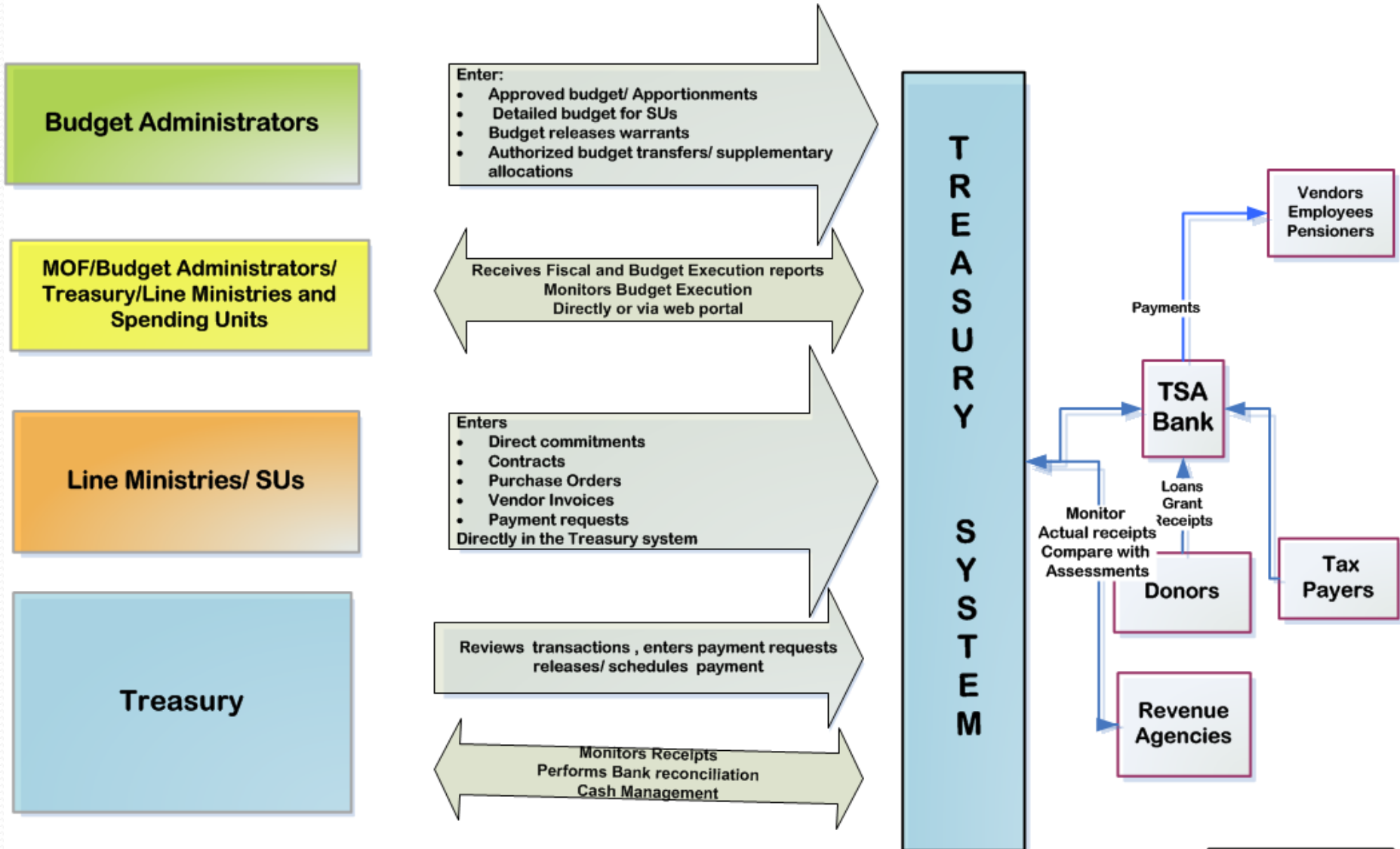


Case I- Treasury Systems: Core Functional Processes and Information Flows Treasury Centric Deployment

Spending units send transactions to the Treasury as hard copies/on electronic media/ or via webportal



Case II- Treasury Systems: Core Functional Processes and Information Flows
Spending unit based deployment
Spending units enter transactions directly into the Treasury System



Treasury Single Account

Basic Requirements

- All government financial resources should be under the control of the Treasury;
- The Treasury should be in a position to determine the magnitude of these resources at any given point- i.e. the balances in Government accounts;
- All expenditures from the TSA should be subject to budgetary controls;
- All government receipts should be deposited in the TSA.

TSA is normally located at the Central Bank

- However, often the Central Bank uses commercial banks as its fiscal agents to collect revenues and pay government creditors.

Technology Requirements : Design, procure and implement appropriate technology to support systems

- **Application Software** – to support functional processes;
- **Hardware**- Servers located at various processing centers
Work stations, peripheral hardware
- **Middle ware**- Operating systems, DBMSs, Application development tools, systems management tools
- **Telecommunications Infra structure**
 - WAN-Links between various Treasury offices via telecommunications network- public switched network, leased lines, dial up lines;
 - LANs- connections between work stations at a particular site
 - Network management systems
- **Back up / Disaster Recovery arrangements**
 - Business Continuity Strategy
 - Power back up systems
 - Information security systems

Part II

Some Implementation Experiences

Some Recently Financed IFMIS / Treasury Projects

Name and Country	Number of main Sites	Approx. Cost US \$ million	status	Remarks
Europe and Central Asia				
Ukraine Treasury Systems Project (TS) I Ukraine PFMP (II)	700	26.9 (16.5+10.4) 55.0	Completed 7.0 yrs Ongoing Started 2005	Custom S/W Follow on project ongoing; plans for COTS software
Kazakhstan Treasury Modernization Project (TS)	250	17.7(15.7+2.0)	Completed 8.9 yrs	Oracle Financials
Hungary Public Finance Management Project (TS)	20	10.4(7.3+3.1)	Completed 7.1 yrs	Custom S/W
Turkey PFMP (TS)	1500	15.9(15.9 + 0.0)	Completed 8.5 yrs	Custom S/W
Albania (TS)	35	9.0(8.5+0.5)	Completed 6.8 yrs	Oracle Financials
Russia Treasury Development Project (TS)	2200	613(231.0+382.)	Completed started 2002	Oracle Financials
Moldova PFMP (IFMS)	35	15.3(8.5+6.8)	Ongoing started 2005	SAP
Azerbaijan (TS)	90	13.4(9.5+3.9)	Ongoing started 2004	SAP
Kyrgyz Republic (TS)	65	10.2(6.7+3.5)	Ongoing started 2005	Selected Free balance
Tajikistan (IFMS)	75	10.0(5.0+5.0)	Under Preparation	COTS planned

Some observations

- **Scope:** Initial Projects focused on the implementation of Core Treasury Reform and Functionality. As new institutional structures and reform measures have stabilized newer projects have a wider scope
- **Software Choices:** The major COTS packages had not incorporated Public Sector requirements. There was a need to develop core functionality so that the reform could start yielding results. Many countries therefore started out with the implementation of **interim custom developed systems**. These were used as a means of firming up requirements, - a first step of a two step transition. These have been or are now being replaced by COTS applications. New projects are starting off with COTS software. Open source Software opens up additional opportunities . Currently widely available as middle ware but not fully tested in the application area.
- **Telecommunications infra - structure** was not well developed in the early nineties. Interim systems were first implemented on a **distributed architecture**. Migrated to centralized architecture as telecommunications infra-structure improved. All new systems are being implemented on a **centralized architecture**.
- New systems use **web-based** versions of the Application S/W

Some Metrics

- **Implementation Cost** of Systems based on **COTS packages** has been approximately \$13-15000 per licensed user.
- Projects have taken **7-10 years to finish** (from Board approval to completion). Many ongoing projects are expected to take similar times for completion
- Obtaining consensus on and implementing the policy reforms has been a major factor contributing to long implementation times (**Specially at Green field sites**)
- Systems procurement using Bank procedures has also contributed to long completion periods
- The actual implementation time of the COTS solution from contract award to completion is between 3-6 years, depending on scale size

Part III

Some Implementation Pointers

Hierarchy of Requirements

- Political will to implement sound PFM policies and procedures and support within government (the MOF and others) for reform measures
 - **Realistic Budget Formulation**
 - **Institutional arrangements to implement Fiscal Control**
 - Control of Treasury over all Government Financial Resources - Consolidation of Bank Accounts in a TSA
 - Routing of Transactions through a Treasury office/ Treasury staff
- HR Capacity within implementing agencies to implement reform measures and associated systems
- **Appropriate Technology to support transaction processing and data management**
 - ✓ Application Software which reflects functional processes
 - ❖ Technology Platform to implement Software (H/W, Networking, Middleware)

Government Commitment and support of the MOF has been a Critical Success Factor for Treasury Reform Projects

- Can be achieved better if projects are framed as public expenditure management (PEM) systems reform initiatives rather than just accounting systems reform
- Senior level policy makers in MOF and donor organizations relate to this better
- Linkages can then be established between project and requirements under policy based lending
- The MOF then starts taking an active interest in ensuring that project milestones are met.

Systems Design

- **Systems should be designed along functional and not organizational lines**
 - Define the **contours of the system** clearly to avoid duplicative investments
 - Budget Department, Treasury, and Line Ministries **should use the same system to process their transactions and should share databases**
- **Budget Preparation and Budget Execution should use the same chart of Accounts.**

Online Transaction entry- Ex-ante controls

- Transactions should be captured in **real time** as they occur
- Financial controls should be applied in **ex-ante mode** to all transactions processed by the system. (e.g. funds availability checking on budgeted expenditures prior to committing funds or making payment).
- **Ex-post** transaction posting should be avoided

Comprehensive Transaction processing

- No expenditure transaction should be processed outside the system. Data captured only once as an accounting transaction progresses through the system.
 - Budget Funds- Payroll, Debt, Subsidies, Fiscal transfers
 - EBFs
 - Donor Funds
 - Technical revenues
- The IFMIS databases should be treated as the primary source for financial reporting within Government- **no second set of books**

Project Management and Interagency Coordination

- **Project Manager** – Senior official from FUNCTIONAL SIDE with stature within bureaucracy, adequate financial and administrative powers.
 - This has been the case in many successful projects
- **Core Team** –
 - Group of trained professionals from core functions, who can act as change agents.
 - Representatives of major stake holders need to be represented on the team to manage the interface with their agencies.
- **Project Secretariat** - should have specialist staff with experience in the installation of large scale IT systems and IT procurement
 - The Familiarity with IT projects and good contract management capacity has been an advantage in ECA

Orientation and Training

- Large numbers - can appear overwhelming.
 - However, most Governments have training institutions which could be used to impart training.
- Program needs to be matched to requirements.
 - Most staff need to know only specific features of the system
- Should be coordinated closely with implementation plans
 - focused to specific requirements of a given site
 - should be imparted just before site implementation;
 - help desk,
 - hand holding clinics
 - Computer based learning courses
- Train the Trainers

Management of Change

- **Need to overcome opposition from vested interests who perceive the reform measures as a threat**
 - advantages of new system need to be recognized by MOF management and opposition resisted
 - perception of the system being a threat has to be removed
- **Lack of incentives for change in a civil service setting**
 - Bureaucracies are normally risk averse
 - Give examples where this has been done successfully
 - Show case results internationally

Realistic time frames for reform program

- The whole process of setting up the legal and institutional framework, systems design, procurement and implementation can easily take 8-10 years
- Sustaining management support over long periods has been a problem. Linkage to IMF program and/ or SAL operations has often been used to reinforce commitment
- **Some times interim technical solutions have been implemented to support the reforms followed by full function systems. This has proved useful.**

Part IV

From Core Treasury Systems to a Broader IFMIS

Some Sequencing Considerations

The current situation and the way forward

- **The basic elements of Treasury Reform are in place** with a functioning Treasury Organization, a TSA and at least a basic interim Treasury System that enables the MOF to exercise some degree to control
- **In some countries these arrangements are comprehensive and in others their coverage is not complete** and the degree of fiscal control inadequate.
- **In some countries the interim system are proving inadequate both in terms of capacity and functionality. They provide basic transaction control for part of the transaction cycle but but lack the full functionality required for budget execution and are also not able to provide overall government wide information that is required for economic management**
- **The scope and coverage of the systems needs to be is extended to upstream and down stream areas of the GFM cycle** such as Budget Preparation, Payroll and Position management, Debt Management, Auditing
- **There is a need for introducing performance criteria in budgeting and more advanced standards for accounting.** This will entail significant changes in the systems.
- **We discuss possible sequencing options for further reform and related issues in this section.**

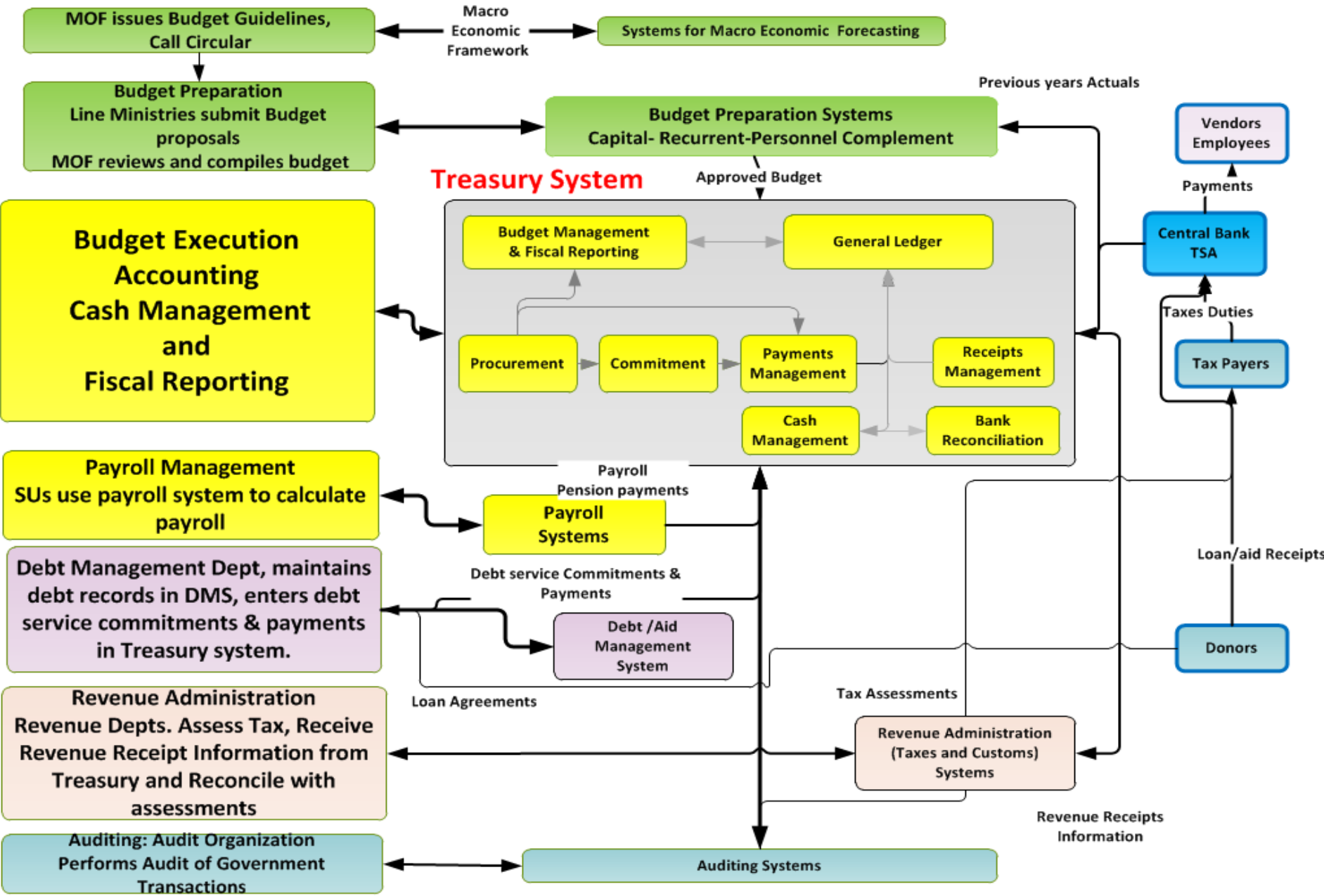
How do the Treasury Processes fit in the functional processes of Government fiscal management

The main functional processes involved in Government Financial Management are:

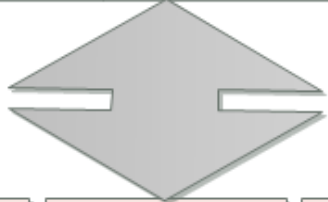
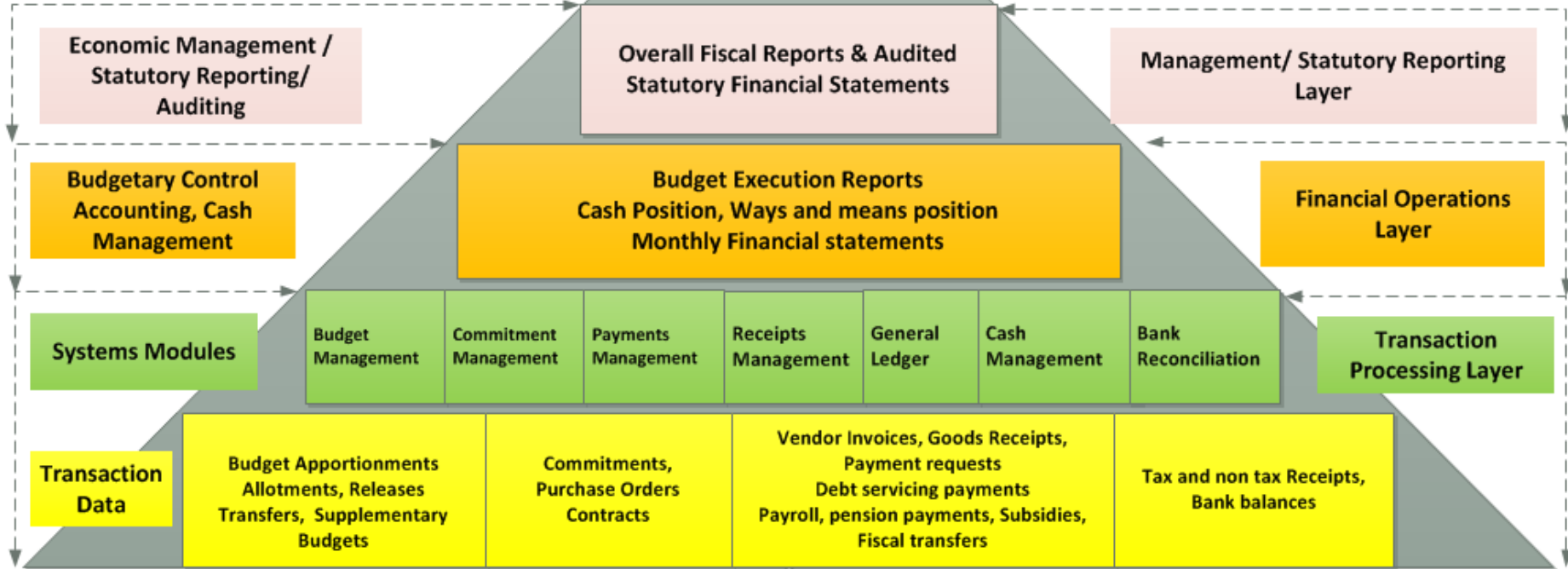
- Macro Economic Forecasting
- Budget Preparation
- **Budget Execution, Cash Management, Accounting and Fiscal Reporting**
- Position, Payroll and Benefits management
- Debt Management
- Revenue Administration (Customs and Tax)
- Auditing

Each of these require specific information systems support. The systems modules required are illustrated in the attached diagram

Functional Processes for Government Fiscal Management and Information Systems Architecture



Government Budget Execution / Treasury Systems
A Layered Implementation Approach



Systems Users / Data Providers



Sequencing I

- First set up the **transaction processing layer** of the systems. This is the most difficult and time consuming
- It is necessary to have this layer in place to get good and **credible information** to be used for financial operations and for management reporting. Other layers would be built on top of this layer
- **In Russia** the Government has **only now** developed a reporting and monitoring system that provides information on **Key performance Indicators (KPIs)** to enable the MOF and all budget participants monitor and control the budget execution process.

Sequencing II

- **First Implement** modules to cater to **Core Budget Execution Processes, payments and receipts transactions**, across government before going on to other non-core elements, like fixed assets management, HR management
- **First implement Treasury Centric System then De-Centralize to spending Units** - An attempt should be made to first capture payment / receipt transactions at Treasury offices then de-centralize to Spending units – if necessary/possible.
- To start with, budget preparation can be done outside the system or by another system, and the final approved budget can then be loaded in the system and used to control expenditure - However, all subsequent in year budget transactions, like budget releases, transfers etc. should then be done in the Treasury system.

IFMIS - Sequencing

Set up Policy Framework

- Budget management law / Treasury decree that provides a Legal Basis for Operations
- Institutional Arrangements : Treasury organization ; Re-engineered Payment and Receipt processes
- Banking arrangements: Consolidation of bank accounts in a Treasury Single Account (TSA) at the central bank
- Chart of Accounts and Budget Classification structure (BCS) conformant with GFS; Uniformity between CoA and BCS

IFMIS Phase I:

- Implement Core Functionality for Budget Execution

Includes: Budget Management ; Commitment Management Recording all commitments relating to intended government expenditures, Payment Management- Processing all government expenditures relating to: Procurement of goods and services from current/capital budgets; Salary and Pension Payments; Debt servicing payments; Subsidies/Fiscal transfers to sub-national levels or SOEs; Receipts Management; Accounting ; Cash Management; Fiscal Reporting.

Load Budget from Legacy system; Apply Budget and commitment control; Comprehensive transaction entry on ex-ante basis; First Centralize then de- centralize

IFMIS Phase II:

- Implement Payroll /Pension Systems;
- Implement Interim Budget Compilation Systems
- Interfaces with Debt Management and Revenue Systems;
- Assets Management Systems

Includes: Position management, Employee records, Calculation of Spending Unit Payrolls, Employee entitlements, Provident Fund Accounting; Calculation of pension entitlements for Government retirees; Interim arrangements to compile budget from SU proposals

IFMIS Phase III:

- Implement full function Budget Preparation Systems

Includes: Calculation of program and project costs; Compilation of budget proposals from Spending agencies; Printing Budget Documents

IFMIS Phase IV:

- Implement Systems to support Auditing

Auditing – Use of Transaction data in IFMIS data bases for auditing

Hierarchy of reforms- Jack Diamond

If we look at advanced countries we see a progression:

First financial compliance= emphasis on inputs

Second aggregate fiscal discipline= emphasis on fiscal aggregates over time

Third efficiency/effectiveness = emphasis on outputs and outcomes

Each new objective was added, it did not replace

AND the reform process took time

Hierarchy of Reforms Contd: (Jack Diamond)

- ❑ First priority is to create a PFM system that delivers financial compliance/fiscal discipline
e.g. Comprehensive input based budget, delivered as approved, a TSA, commitment control, regular calendar, timely year-end accts etc.
- ❑ Once achieved, the PFM system is developed to adjust fiscal aggregates to ensure macroeconomic stability/sustainability
e.g. ability to macroeconomic forecast, monitor and adjust fiscal aggregates, set fiscal policy in medium term budget framework, etc
- ❑ **A list of what not to do in the early stages (no program budgeting, no accrual accounting, no decentralization) according to Allen Schick.**
- ❑ Once this is achieved move to getting better value for money spent
e.g. Strategic planning, program budgeting, performance indicators to monitor and evaluate, more decentralized management

Some Closing Words

- **“It is the political economy stupid!”**

Political economy and institutional issues are more difficult to resolve than technical issues

- Setting up PFM information systems is a **necessary prerequisite, even essential, for improving Governance, but not sufficient**