OPTIMIZING THE UNIFIED CHART OF ACCOUNTS DESIGN

Tips for Public Financial Management Practitioners

October 2020

Abstract

This paper was prepared at the request of the members of the PEMPAL Treasury COP Public Sector Accounting Working Group. The objective of the paper is to provide public financial management practitioners with a practical guide for developing or updating a government's Chart of Accounts. The guidance has been informed by actual country experiences among PEMPAL member countries and beyond, and through inputs from World Bank experts working with PEMPAL. The paper is not intended as an academic reference, rather it is designed to be a practical tool including examples and tips which officials can utilize when redeveloping the government's public financial management reporting framework.

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Preface

The objective of this paper is to provide PFM practitioners with a practical guide for developing or updating a government's Chart of Accounts (CoAs). The paper seeks to extend beyond the focus of most of the existing reference material and the theory with practical tips on how to develop a CoAs including detailed guidance regarding each segment. The guidance has been informed by actual country experiences among PEMPAL member countries, and beyond, and through inputs from World Bank experts working with PEMPAL. This paper is not intended as an academic reference, rather it is designed to be a practical tool including examples and tips which officials can utilize when redeveloping the government's PFM reporting framework.

The paper also provides guidance on how countries can better utilize technology and government financial management information systems (FMIS), through a more comprehensive design of the CoAs – this is termed a Unified CoAs (UCoAs) structure. The UCoAs is a more strategic approach to CoAs design including coverage of all major public financial management (PFM) reporting and analytical requirements in a single integrated and unified CoAs. The paper, however, also acknowledges the practical challenges for many countries in implementing a UCoAs, which requires consensus on the UCoAs structure across all the major functional areas among government PFM stakeholders. For many countries this will be a medium to long-term goal. In recognition of this the paper also provides useful tips for how countries can improve their existing BC/CoAs and move towards a more integrated approach.

The paper is a product of the PEMPAL Treasury COP Public Sector Accounting Working Group (PSAWG). It builds on and expands the earlier paper titled "*Integration of the Budget Classification and Chart of Accounts: Good practice among TCOP member countries*" which was finalized by the PSAWG in 2014. The 2014 paper, focused on how to develop an integrated economic segment, became a useful reference tool for PEMPAL countries and beyond.

The primary author of this paper and the 2014 paper was Mark Silins, TCOP Lead Thematic Advisor, who has been working with the TCOP since 2012. The work was supervised by Elena Nikulina, the World Bank Team Leader for the TCOP resource team and the former Team Leader for the whole PEMPAL program. Contributions were also provided by other members of the World Bank resource team working with the TCOP, including Yelena Slizhevskaya and Galina Kuznetsova. Ekaterina Zaleeva put significant effort into formatting the report and organizing its translation.

The document is a result of team effort and we have many people to thank. The members of the PSAWG contributed to the paper through provision of country examples, review of the drafts and providing comments and suggestions which have been used to enhance the practical nature of the paper. Special thanks are due to Mimoza Pilkati (Albania); Firuza Abdullayeva (Azerbaijan); Lyudmila Guryanova, Natalia Rusakevich (Belarus); Mladenka Karačić (Croatia); Zurab Tolordava (Georgia); Angela Voronin, Nadejda Slova, Svetlana Placinta (Moldova); Anton Dubovik, Svetlana Sivets (Russian Federation); Nataliya Botsman (Ukraine).

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Acronyms

ADB	Asian Development Bank
BC	Budget Classification
CoAs	Chart of Accounts
COFOG	Classification of the Functions of Government
DoF	Department of Finance
DP	Development Partners
ESA	European System of Accounts
FMIS	Financial Management Information System
GAAC	Generally Accepted Accounting Concepts
GFS	Government Finance Statistics
GFSM	Government Finance Statistics Manual
GL	General Ledger
ICT	Information Communications Technology
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standards
IFMIS	Integrated Financial Management Information System
IPSAS	International Public Sector Accounting Standards
IMF	International Monetary Fund
MDA	Ministries, Departments and Agencies
NFA	Non-Financial Assets
NEC	Not Elsewhere Classified
OECD	Organisation for Economic Co-operation and Development
PEFA	Public Expenditure and Financial Accountability
PEMPAL	Public Expenditure Management Peer Assisted Learning
PIU	Project Implementation Unit
PFM	Public Financial Management
PPB	Program Performance Budgeting
PSAWG	Public Sector Accounting Working Group
PULSAR	The Public Sector Accounting and Reporting (PULSAR) Program
SoF	Source of Funds
SU	Spending Units
TCOP	Treasury Community of Practice
TSA	Treasury Single Account
UCoAs	Unified Chart of Accounts
UN	United Nations
WB	World Bank
WG	Working Group

Executive Summary

This paper reflects a topical issue confronting many PEMPAL member countries as they move to reform and update their PFM systems and framework. Many countries continued to maintain accounting and budgetary practices inherited from their centrally planned systems which were formed when processing was largely manual. The advent of automation and financial management information system (FMIS) implementation has provided an opportunity to review these old approaches and consider a more integrated framework. Key to this integration is the development of a Unified Chart of Accounts (UCoAs) which supports all major reporting requirements for PFM across government.

There have been passionate debates in PEMPAL and other countries as to what the terms Budget Classification (BC) and Chart of Accounts (CoAs) mean. Some argue that the CoAs only refers to the accounts required for financial reporting, and that this is quite different from the requirements of budgetary reporting. In the past, it was certainly true that these reporting requirements were different, and due to the absence of FMIS and modern information communications technology (ICT), these were not integrated. However, even historically, many of the financial events that created the transactions were common in both reporting systems. Indeed, with the advent of FMIS an opportunity arose to refocus away from the differences between the two reporting requirements to consider the common elements for reporting.

> ***This paper will take the position that the requirements for budgetary presentation, control, execution and reporting should be included in a broader structure which encompasses all major financial reporting requirements of government and that this is the UCoAs.***

Given the encompassing focus of the UCoAs, it is important to first define and map the scope and requirements of the entire PFM system in each country. Ideally countries should first develop their own concept for the PFM framework as this will ensure all major functional and reporting requirements are considered before developing or redeveloping the UCoAs. Once the scope has been defined it will be possible to build an indicative structure for the UCoAs schematic, reflecting the major reporting requirements of the PFM framework. The UCoAs may not be able to meet every detailed reporting requirement, and therefore allowance should be made for users to extend the UCoAs for their own requirements. However, the major structural elements must be universal and apply across all systems and functions in the PFM framework.

While the paper recommends seven primary segments in the UCoAs, each country must determine for itself whether supplementary structures are required. These requirements should be carefully reviewed and based on a strong understanding of the capabilities that modern ICT can deliver. Given the evolving challenges in government reporting today, it may be prudent to build a flexible crosscutting reporting capability into any new UCoAs structure. This can be particularly useful for reporting on issues such as gender budgeting (social exclusion), disaster risk financing and climate change.

Economic Segment

The economic segment is the most important in the UCoAs as it is where financial, budgetary, statistical and macro-fiscal reporting converge. Proper design to meet all of these major reporting requirements is therefore critical. GFSM2014 provides a useful template for developing the general structure of the economic segment, but this needs to be modified for specific country requirements. There are different reporting requirements in government including externally for GFSM2014 and IPSAS which are not always completely aligned, therefore countries need to be pragmatic about how these are met. The differences do not however mean different economic segments are required.

Developing a single fully integrated economic segment that supports all reporting requirements is possible and recommended, however, this may not be achievable for all countries in the short term. Indeed, a review of PEMPAL countries reveal most countries that have reformed their CoAs recently have not implemented a fully integrated economic segment. Notwithstanding this all the approaches implemented by countries have assured the integrity of financial data within the new segment(s). The move to full integration could be considered an evolutionary rather than revolutionary process. Partial integration may therefore be more achievable and prudent for many countries when seeking to address conceptual differences and views from different functional stakeholders. The paper provides many examples regarding the options for design of the economic segment.

Source of Funds Segment (SoF)

It is important for governments to have comprehensive information on all of the available resources – the SoF segment is key in providing this. A SoF segment provides the capability to control specific funds and sources of financing in the general ledger of an FMIS separately from other funds, to allow segregation of controls over receipts and spending, and for accounting and reporting. In government there has always been a need to ensure separation of different sources of financing and to ensure that spending of specific sources can be controlled and reported on. This segment can therefore support segregation required under law by the budget, or externally, for example, by Development Partners (DP).

As the segment allows funds to be controlled within the general ledger of FMIS, countries can move to implement or enhance the operations of a treasury single account (TSA) by consolidating cash across general government operations. This also allows all transactions internal to general government to occur within the ledger as journal entries, eliminating many unnecessary intra-governmental transactions. It also ensures consolidated reports can be produced for general government directly from the FMIS.

Organizational Segment

Countries should consider implementing a detailed organizational segment for Ministries, Departments and Agencies (MDAs) which extends down to Spending Units (SUs), as this will provide detailed information for all stakeholders and ensures that budget allocations can be directly linked with the final spending decisions. It will also improve the reliability and timeliness of reporting by SUs, and reduce their workloads in preparing reports for different stakeholders. Consultation should also take place with all users of the FMIS to ensure the individual reporting requirements of each MDA are fulfilled – this will improve the usefulness of the UCoAs and FMIS for management reporting in MDAs, perhaps reducing or eliminating the need for specific separate systems in those MDAs.

SU and MDAs are frequently required to report different formats to multiple central agencies. Even though it may not be possible to eliminate and redesign all these reports immediately, in the future this integrated approach will allow the establishment of a data warehouse which can reduce the inefficiencies and duplication of current reporting for MDAs/SUs.

Project Segment

Projects[1] in government can be described as finite activities where separate budgetary control and management is required, and these should be identified using a unique code for each individual project. Providing a breakdown for budgeting and control within each project through components and even sub-components will fulfil any specific project budgetary reporting required in government or by DPs. Projects may have numerous sources of funding, both domestic and external, so the project segment should be developed closely with the SoF segment. Using the combination of the project and SoF segments allows DP funds to be '"quarantined"' (separately controlled and reported) even within the TSA of a government, ensuring integrity over the original allocation of those funds. This capability may satisfy DPs and other funding sources regarding the separate controls over their funds and encourage them to use country systems such as the UCoAs and FMIS.

Functional Segment

Sector based reporting is key for strategic planning and policy formulation and the Classification of the Functions of Government (CoFoG)[2] can be used to guide the development of a comprehensive functional segment in all countries. Country specific variations to the core CoFoG structure are often required and encouraged as long as the integrity of the mapping to CoFoG is not compromised. However, cross cutting structures in the functional segment should be avoided as they are likely to undermine its integrity and record final expenditures incorrectly.

Geographic Segment

Most countries have structures in place for administration of electoral boundaries or for statistical reporting which provide for the requirements of a geographic segment, and these should be used in lieu of developing new structures. If more than one structure exists, the structure that provides the best reports for stakeholders is the appropriate one that should be utilized.

Program Segment

While program or results-based budgeting (PBB) may be a challenging reform, developing a program structure in the UCoAs is relatively straight forward. It is important to assess the need for detailed program structures against the other segment structures in place in the UCoAs, particularly the organization and functional segments. Mapping between these three segments is key. It may not be necessary to develop a detailed program segment where very detailed structures are already in place, for example where the organizational segment is coded down to SUs such as primary schools and health clinics. In many cases the reporting requirements can be met through mapping tables derived from these other detailed segments.

1 Thus, a project segment provides a mechanism for budget allocation and control separate from the ongoing budgetary activities of government.

2 Published in GFSM2014 and used for sector-based reporting internationally.

UCoAs and Budgetary Controls

With the expansion to more sophisticated and detailed UCoAs, governments must consider the appropriate level of control to assure the integrity of the budget. Controls that are too detailed will shift the focus away from results and limit MDA/SU flexibility. Controls which are set too high may result in funds being spend in lower priority areas in lieu of high priority spending. Designing appropriate budgetary controls should focus on ensuring the integrity of the original appropriations, allocating responsibility to specific entities and managers, and ensuring accountability and facilitating reporting.

Ultimately budgetary controls must extend beyond cash to include the earlier stages of the payment cycle including commitments and payables (which is an accrual). Without this there is a risk that cash based appropriation controls will be breached. If these controls are to be effective and reduce the risk of human error or intentional omission, they should be system based, ideally in FMIS and supported within the design of the UCoAs.

UCoAs and the FMIS

The UCoAs should represent the underlying data structure for the entire PFM framework. As such it should operate across all major systems within the framework. Advances in technology such as web-based government portals and the use of Application Program Interface (APIs)[3] are providing more affordable ways to better integrate ICT across the framework using the UCoAs to assure data integrity.

FMIS should gradually expand its operations beyond payments to include the full payment process, including commitments and payables. Ultimately the UCoAs can also be used to move to capturing the full balance sheet for general government, either by capturing transactions in FMIS and the general ledger, or through periodic reporting from MDAs and SUs.

Use of the UCoAs should be expanded to cover the full general government sector where possible. It may also be useful to require FMIS to be utilized for this purpose. This is also a useful strategy to expand coverage of the TSA. It is also possible to utilize modern electronic payment and banking arrangements to enhance TSA coverage (utilizing the UCoAs) even where FMIS is not the primary system in use in MDAs and SUs.

Redeveloping a UCoAs

Redeveloping a UCoAs is a major undertaking which requires political support, resources and adequate time for successful completion. It must be properly planned within a project management framework with each stage, milestone, and responsibility defined and reporting and accountability in place. Planning and timing for the implementation must also take into account other related reforms, for example, transition to accrual accounting.

Establishing a working group to lead the redevelopment process is important, ensuring representation from all major functional areas in central government and including stakeholders from users such as MDAs and subnational government. Communication regarding the UCoAs is also

3 Application Program Interface (API) is a link established between two systems (over Internet or intranet) to automate data transfer from one portal to another, based on a well-defined secure data exchange protocol

critically important. This should be formal including development and promulgation of a concept note, and informal, including through the use of social media.

A single functional unit should be given responsible for maintaining and approving changes to the UCoAs. The change process should also be underpinned by clear policies and guidelines, and where necessary updated legislative authority. A UCoAs manual must be developed and updated each year and made available electronically to all stakeholders.

Summary Table of the Key Tips for (re)development of a UCoAs

The following summarizes the key tips from each of the chapters in this paper provided in a single table for ease of use. It will however be important for each tip to be reviewed along with the supporting information provided in the body of the paper.

Table 1 - Summary Table of Tips for (re)development of a UCoAs

Number	Tips
Introduction	
1	Utilize the redevelopment of FMIS to reassess how financial information is captured for reporting purposes, seeking more integrated data structures to support the different reporting requirements of stakeholders
2	Ensure the concept of the CoAs refers to the data structure that supports all major reporting requirements for PFM, not just for financial reporting. If well designed, it should support budgetary, financial, macro-fiscal, statistical and management reporting
Redevelopment of UCoAs	
3	Define the overall scope of the PFM system to better understand the major data and reporting requirements and to maximize integration of all these requirements
4	Design a UCoAs schematic which identifies the key segments and an indicative structure for each segment
5	Widely circulate a UCoA's Concept Note to all stakeholders to ensure a better understanding of its scope and purpose
6	Ensure the UCoAs when designed complies with the seven design principles in Box 2, Chapter 2
General Principles in Unified Chart of Accounts Design	
7	Define each UCoAs segment hierarchically using "parent-child" relationships as this improves the usability of the overall structure
8	Utilize unique registers in key positions in the UCoAs segments to improve the usefulness of the UCoAs. While this approach increases overall coding length, counter-intuitively, it will actually reduce the codes required for data input due to the one-to-one relationships which are established across the UCoAs
9	Establish a UCoAs Working Group when undertaking major UCoAs redesign. It is very important that participation extends beyond the Budget and Treasury functions to involve all major PFM stakeholders
10	Define the appropriate structure in the UCoAs to reflect the specific country requirements including going beyond the seven recommended segments to include supplementary structures. However, these requirements should be carefully reviewed and based on a strong understanding of the capabilities that modern ICT can deliver
11	Ensure strategic planning processes in government are effective by linking them into the budget process through the UCoAs design
12	Consider whether a flexible crosscutting reporting capability is required in the new UCoAs structure to support evolving government reporting requirements
13	Ensure changes from the old to new UCoAs occurs only at the beginning of the financial year to minimize disruption and to allow adequate preparation for implementation for the new year
Economic Segment	
14	Ensure the economic segment is properly designed as it is the most important structure in the UCoAs where financial, budgetary, statistical and macro-fiscal reporting converge. Proper design to meet all of these major reporting requirements is therefore critical

15	Ensure the economic segment only includes generally accepted accounting concepts: revenues, expenses, assets, liabilities and equity/net assets. All other requirements should be met in other segments
16	Utilize the general structure of GFSM2014 as a template for developing the structure of the economic segment, but this should be adjusted for specific country requirements
17	Ensure the structure of the economic segment meets both fiscal and accounting requirements. There is a debate internationally regarding whether assets should be structured according to financial/non-financial or current/non-current. Government budgetary operations suggest the former maybe more useful, however, both must be supported in reporting
18	Develop a single economic segment to meet the different reporting requirements in government including externally for GFSM2014 and IPSAS. Countries need to be pragmatic about how these are met. The differences do not mean different economic segments are required
19	Consider whether the development of a single fully integrated economic segment that supports all reporting requirements should be an evolutionary rather than revolutionary process, given the challenges in reaching consensus across stakeholders. Partial integration may be more prudent for many countries when seeking to address conceptual differences and views
20	Ensure ICT is properly utilized to address any issues arising from a decision to partially integrate reporting requirements. Partial integration does pose risks of increased errors or omissions and may impose additional reconciliation requirements
Source of Funds Segment	
21	Design the SoF segment to provide the capability to control all specific funds and sources of financing in the general ledger separately, also to allow segregation of controls over receipts and spending, and for accounting and reporting
22	Ensure all legislative fund requirements are met in the SoF segment design. This segment can support segregation required under law by the budget, or externally, for example, by DPs
23	Consider whether the cash holdings of government can be further consolidated in a TSA once the SoF segment is comprehensively defined in the GL
24	Redesign all internal government transactions to be undertaken as journal entries eliminating many unnecessary intra-governmental transactions
25	Create a register of bilateral and multilateral DPs to allow reporting of DP financing including the capital budget completely within the FMIS. This also assists to better integrate the recurrent and capital budgets. This approach also allows each project to have multiple sources of financing, which is a common governmental requirement
Organizational Segment	
26	Consider implementing a detailed organizational segment from MDAs down to SUs, as this will provide considerable information for all stakeholders and ensures that budget allocations can be directly linked to final spending decisions. It will also improve the reliability and timeliness of reporting by SUs, and reduce their workloads in preparing reports for different stakeholders
27	Consult with all users of the FMIS to ensure the individual reporting requirements of each MDA are fulfilled – this will improve the usefulness of the UCoAs and FMIS for management reporting in MDAs, perhaps reducing the need for specific systems in those MDAs
28	Consider how existing budget appropriation and allocation processes work and determine whether these can be improved through a more integrated organizational segment
29	Consider developing a “short code” in the UCoAs based around the “one-to-one” relationship between the SU code and other segments in the UCoAs (Figure 8). This will

	reduce the burden on users to key these additional classifications into FMIS when transactions occur
Project Segment	
30	Establish a unique code for each individual project
31	Consider whether components and even sub-components should be developed in the project segment to fulfil any specific project budgetary reporting required in government or for DPs
32	Coach MDAs and DPs on how to use the UCoAs properly for reporting. It may be useful to develop an "external financing" policy which would be widely circulated including to DPs
33	Develop the project segment closely with the SoF segment to ensure all the sources of financing are covered. Using the project and SoF segments allows DP funds to be "quarantined" even within the TSA of a government, ensuring integrity over the original allocation of those funds
Functional Segment	
34	Ensure CoFoG is used to guide the development of the functional segment
35	Consider whether country specific functions and subfunctions are required. If so, this may require an elevation of specific lower level CoFoG elements to the level of subsector or sector for domestic reporting requirements. However, this should ensure integrity for mapping to CoFoG for external reporting and international benchmarking
36	Ensure the functional segment is able to report government outlays (final expenditure). Budgetary devices such as contingency funds and block allocations should not be used to record final expenditures. In addition, cross cutting elements such as capital/development sectors should be avoided as they impact the integrity of proper functional reporting
37	Ensure functions are mapped to both programs and the organizational classification. If this mapping is reliable there may be no need to explicitly code functions when transactions are processed – the functional coding can be derived from pre-set mapping tables in FMIS
Geographic Segment	
38	Do not build a new structure if there are existing structures already in use elsewhere in government, for example, used by the statistical or electoral agencies. If more than one structure exists, consider the one that will provide the best reports for stakeholders
39	Ensure pragmatic solutions are found to capture information in the UCoAs where specific projects or activities are not definable at the lowest level of the geographic segment
Program Segment	
40	Assess the need for detailed program structures against the other segment structures that already exist in the UCoAs.
41	Develop clear policies and procedures to ensure MDAs understand the approach required in developing a program structure. MoF should review the proposed structures and assure their compliance with the policy and the quality of the proposed structures
UCoAs and the Budget	
42	Extend budgetary controls beyond the cash payment stage to include earlier stages of the payment cycle including commitments and payables. Without this there is a risk that cash based appropriation controls will be breached
43	Ensure each stage in payment control is system based, ideally in FMIS, to be effective and to reduce the risk of human error or intentional omission
44	Consider the appropriate level of budgetary control for your country's circumstances. Highly detailed controls create a large number of budgetary categories, frequently resulting in the MoF spending all of its time moving (viring) funds from one account to another
45	Rethink how budgetary controls are implemented in the UCoAs and FMIS when moving to PBB as this should normally be accompanied with some devolution of authority from central agencies to MDAs

46	Understand that PBB while shifting the focus to results does not eliminate the focus on inputs. Indeed, inputs are a critical element in any budgetary and accounting system and must be managed and controlled by MDAs
47	Ensure when designing budgetary controls that the focus is on maintaining the integrity of the original appropriations. You should consider where budgetary controls should occur in each segment, as this has a significant impact on flexibility in MDAs and workloads for both MDAs, Budget Department and Treasury
UCoAs and the FMIS	
48	Ensure the UCoAs operates across all major systems within the PFM Framework - government portals and APIs are providing more affordable ways to better integrate ICT across PFM using the UCoAs to assure data integrity
49	Expand use of the UCoAs to cover the full general government sector[4] where possible. It may also be useful to require FMIS to be utilized for this purpose
50	Expand the coverage of the TSA including through the use of modern electronic payments and banking arrangements even where FMIS is not the primary system in use
51	Ensure intra-government transactions are either processed within FMIS or flagged for future elimination when consolidated reports are produced. FMIS can gradually expand its operations beyond payments to include the full payment process, including commitments and payables
52	Consider utilizing the UCoAs to capture the full balance sheet either in FMIS and the general ledger, or through periodic reporting to FMIS
Planning and the UCoAs Manual	
53	Ensure when (re)developing the CoAs that political support, resources and adequate time for successful completion are in place
54	Ensure any (re)development is properly planned within a project management framework with each stage, milestone, responsibility and accountability defined. Planning must also consider related reforms including the primary reason for the proposed changes to the existing CoAs
55	Establish a Working Group drawing its membership from all major functional areas in central government and including stakeholders from users such as MDAs and subnational government
56	Ensure strong communication continually regarding the (re)development of the UCoAs. This should be formal including development and promulgation of a Concept Note, and informal, including through the use of social media
57	Assign a single functional area to be responsible for maintaining and approving changes to the UCoAs. The change process should also be underpinned by clear policies and guidelines, and where necessary, updated legislative authority
58	Develop a UCoAs manual which is updated (at least) each year and which is available to all stakeholders, ideally electronically

4 The GFSM2014 definition of general government – "...the general government sector consists of resident institutional units that fulfill the functions of government as their primary activity..." It includes central and subnational government and not-for profit entities which are delivering government functions. For most countries this will include most statutory bodies which are defined as outside the budget (but excludes profit making businesses typically define as state owned enterprises).

1. Introduction and Background

What are PEMPAL and the TCOP, and what is the TCOP Public Sector Accounting working group?

1. **The Public Expenditure Management Peer Assisted Learning (PEMPAL)[5] network facilitates exchange of professional experience and knowledge transfer among public finance management (PFM) practitioners across the Europe and Central Asia (ECA) countries.** Participants work together face-to-face and on-line to share knowledge and develop approaches to solving common PFM problems. PEMPAL comprises three communities of practice (COP), including the Treasury COP, which focuses its activities on challenges in implementing reform initiatives in treasury and on issues that are of professional interest to its members.

2. **Since its inception the TCOP has been encouraging members to form smaller working groups to share experiences and work on common agendas.** This created a number of small topical based groups in the area of accounting and CoAs which were eventually combined into a thematic working group on Public Sector Accounting (PSAWG) which has led TCOP work on BC/CoAs reforms including inputs for this paper.

3. **In late April 2013 this working group met in Kiev to largely focus on presenting country experiences in reforming CoAs and BC.** Each country had embarked on significant reforms driven by the need to improve financial management and accountability through improved reporting. The reforms have generally been a component of a larger program of general reform. Each country has undertaken the reforms in a different way and at a different pace; however, each country shared some common features:

- Each is a transition economy and thus they shared the same challenges in moving from a central planning approach to governance, to one which places an increased focus on devolution to Ministries, Departments and Agencies (MDAs) while seeking to retain strong central fiscal management;
- Government CoAs were originally developed for narrower specific reporting purposes, however these did not always support effective fiscal management, rather the focus was on reporting the entity balance or result.[6] This result had some relationship to IPSAS[7] based reporting but fell well short of meeting these standards. In some cases, a number of CoAs exist(ed) in general government - for example a separate CoAs for the state and local government and other structures for specific extra budgetary funds;

5 www.PEMPAL.org

6 This balance was intended for a single audience, the government, and was designed to meet the reporting and accountability needs of a centrally planned economy. There is not a strong relationship between this approach and what is required under IPSAS, however, the component transactions are very similar. For more on this refer to https://jyx.jyu.fi/dspace/bitstream/handle/123456789/9135/thassine.pdf?sequence=1

7 International Public Sector Accounting Standards - for more information on these standards refer to www.ifac.org

- Each country created a separate BC for appropriation control and cash management centrally. Unfortunately the BC was generally also not integrated with the CoAs – the structures were seen as separate and serving different purposes, particularly cash based reporting against the budget; and
- Automation was a core component of the reform agenda.

4. **This paper is a product of the PEMPAL Treasury COP Public Sector Accounting Working Group (PSAWG). It builds on and expands the earlier paper titled "*Integration of the Budget Classification and Chart of Accounts: Good practice among TCOP member countries*" which was finalized by the PSAWG in 2014.** The 2014 paper largely focused on the challenges in properly designing the economic segment of the CoAs, particularly how to support budget-based cash reporting simultaneously with accrual based financial reporting. It became a useful reference tool for PEMPAL countries and beyond.

5. **In 2018 at a PSAWG meeting in Baku, the group members requested the paper be expanded, to address some of the broader challenges countries had been experiencing with CoAs design and related issues.** This new paper, while building on the 2014 document, is significantly more detailed, expanding coverage to all segments in the UCoAs and including other practical issues such as how to utilize FMIS and the role of the UCoAs and the budgetary process. These latter issues extend beyond CoAs in some cases and were identified as important areas for coverage in the paper by PSAWG members during feedback sessions.

6. **The PSAWG have undertaken a number of reviews of the paper since 2018 including during a video conference in June 2019, face-to-face discussions in Moscow, Russian Federation in October 2019, and another videoconference in June 2020, where officials provided further country examples and feedback on the draft document.** Group members provided valuable input directly to this paper and in reviewing its content. Their comments, suggestions and discussions have been used to enhance the practical nature of the paper. One important example of this is that while the paper initially suggested countries consider developing a UCoAs, discussions revealed that for many countries this will be impractical in the short term. This is largely due to the degree of ICT integration that is in place and due to conceptual differences between stakeholders. Thus, the paper was refocused to ensure it provided useful practical advice even where a country decides that a fully UCoAs is impractical.

7. **Currently two very useful guides to budget classification (BC) and CoAs have been issued, the first by the IMF[8], and a more recent paper by PULSAR[9]. These papers largely focus on the overall design and capabilities required in developing a BC or CoAs which are very important.** This paper is designed to complement both publications in providing practical tips and guidance for

8 Chart of Accounts: A Critical Element of the Public Financial Management Framework, Julie Cooper and Sailendra Pattanayak https://www.imf.org/external/pubs/ft/tnm/2011/tnm1103.pdf and Budget Classification, prepared by Davina Jacobs, Jean-Luc Hélis, and Dominique Bouley https://www.imf.org/external/pubs/ft/tnm/2009/tnm0906.pdf

9 PULSAR – Public Sector Accounting and Reporting Program paper titled "A Good Practice Outline of the Multipurpose Chart of Accounts;
https://www.pulsarprogram.org/sites/pulsar/files/libdocs/PULSAR%20FINCOP%20Paper%20on%20MCoA_final_0.pdf

practitioners. During the Moscow event in 2019 Ms Svetlana Sivets, Deputy Director of the Budget Methodology and Public Finance Reporting Department of the Ministry of Finance, delivered a presentation on the approach of the Russian Federation where she described the CoAs as the "language in which an accountant codifies the history of PFM" – this is very much in keeping with the broader concept which this paper is espousing for the UCoAs.

Defining a BC and CoAs and why separate BC and CoAs evolved?

8. **There have been passionate debates in PEMPAL and other countries and amongst experts as to what the terms BC and CoAs mean.** Some argue that the CoAs only refers to the accounts required for financial reporting, and that this is quite different from the requirements of budgetary reporting. In the past, it was certainly true that these reporting requirements were different, and due to the absence of FMIS were not integrated. However, even historically, many of the financial events that created the transactions in MDAs were common in both reporting systems. Indeed, with the advent of FMIS an opportunity arose to shift the focus from the differences between the two reporting requirements to consider the common elements for reporting. This also provided an opportunity to examine how to integrate these and other major and important reporting requirements including macro-fiscal, statistical and management reporting.

Structure of the Paper

9. **The paper is structured to first introduce the topic of CoA/BC to the reader and how and why the PEMPAL PSAWG developed the paper.** Chapter Two provides insight into relevant PEMPAL country experience and how this can be useful in (re)developing the UCoAs. Chapter Three highlights certain principles in (re)design which should guide the work in CoAs reform. Chapters Four and Five focus on the UCoAs itself. Chapter Four deals with the very important economic segment, and adds to the work undertaken in the 2014 paper. Chapter Five provides guidance on the major other segments recommended in a UCoAs structure. Finally, Chapter Six examines other important areas of focus in this work, particularly the relationship between the UCoAs and the budget and how the FMIS, and more broadly, the PFM system, can be improved through proper UCoAs design. There are also eight appendices that provide further examples and guidance in support of the information in each chapter.

Key Definitions

10. **It is important to clarify some specific definitions to ensure the meaning of key terms used throughout this paper are not misinterpreted. These are detailed below.**

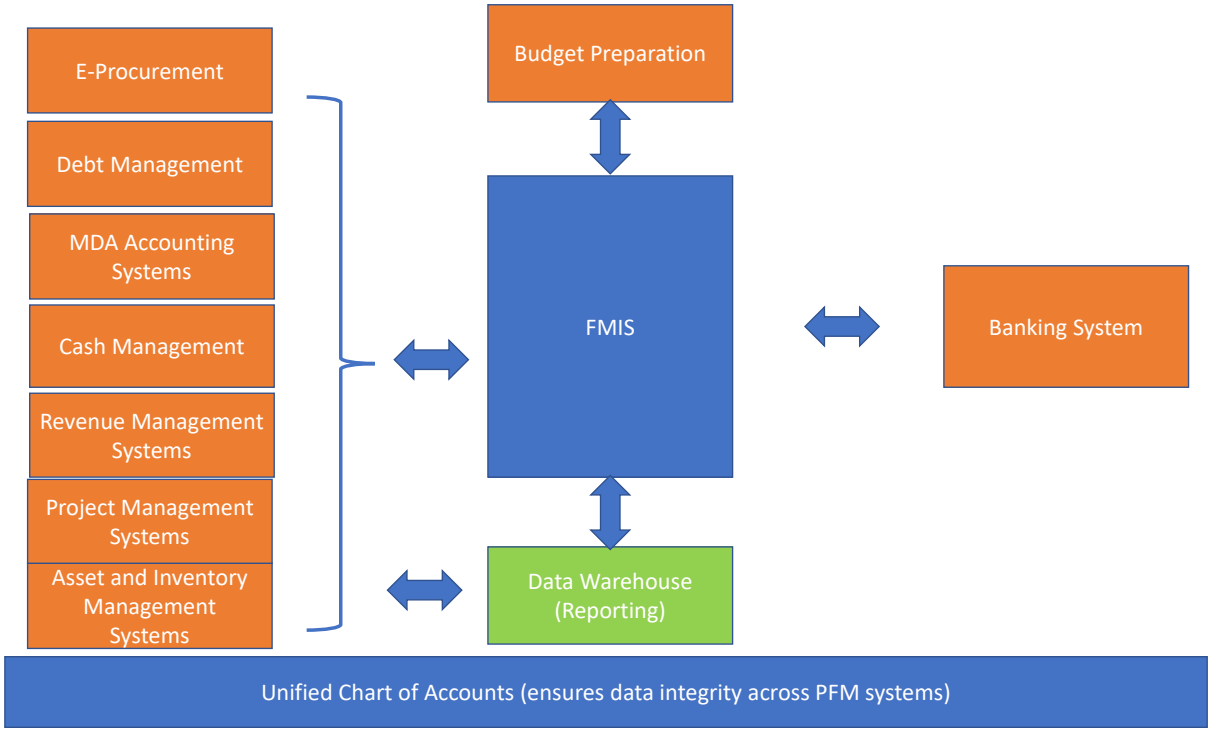
- ***Budget Classification*** is one of the fundamental building blocks of a sound budget management system, as it determines the manner in which the budget is recorded, presented and reported, and as such has a direct impact on the transparency and coherence of the budget.[10]
- ***Chart of Accounts*** is a critical element of the PFM framework for classifying, recording and reporting information on financial plans, transactions and events in a systematic and consistent

[10] https://www.imf.org/en/Publications/TNM/Issues/2016/12/31/Budget-Classification-23470

way. The CoAs is an organized and coded listing of all the individual accounts that are used to record transactions and make up the general ledger system. The structure of the budget—inparticular the budget classification—and the CoAs have a symbiotic relationship.[11]

- ***Financial Management Information System (FMIS)*** consists of a set of computer programs, databases, associated processes, procedures and technology platforms that enable government finance and accounting staff to carry out their day-to-day operational tasks.[12]
- ***General Ledger (GL)*** – a traditional definition of the GL is the master set of accounts that summarize all transactions occurring within a reporting entity. This definition still applies, however, modern government requires the GL to be more than just an accounting structure, to ensure financial information is recorded and reported in accordance with the full range of requirements of government, not just accounting.
- ***Unified Chart of Accounts*** is the broad classification system which provides linkages across the PFM framework and systems to ensure data is classified in a unified manner allowing consolidation of information across all of general government (see Figure 1). Ideally the UCoAs will also be the CoAs in the GL of the FMIS. However, where the FMIS does not serve all MDAs/controlled entities, the UCoAs enables consolidation of data and transactions from those entities too. It also provides the data linkage to other PFM systems.

Figure 1 – The UCoAs Ensures Interoperability across the PFM Framework



[11] https://www.imf.org/en/Publications/TNM/Issues/2016/12/31/Chart-of-Accounts-A-Critical-Element-of-the-Public-Financial-Management-Framework-25189

[12] http://documents.worldbank.org/curated/en/147241467987856662/A-handbook-on-financial-management-information-systems-for-government-a-practitioners-guide-for-setting-reform-priorities-systems-design-and-implementation

This paper will take the position that the requirements for budgetary presentation, control, execution and reporting should be included in a broader UCoAs structure which encompasses all major financial reporting requirements of government.

PSAWG and TCOP considers this paper provides a useful practical guide for implementing and updating existing BC/CoAs but also how to extend the coverage of country systems through development of a more UCoAs.

Box 1- General Tips

- Utilize the redevelopment of FMIS to reassess how financial information is captured for reporting purposes, seeking more integrated data structures to support many different reporting requirements
- Ensure the concept of the UCoAs refers to the data structure that supports all major reporting requirements for PFM, not just for financial reporting. If well designed, it should support budgetary, financial, macro-fiscal, statistical and management reporting

2. Redevelopment of UCoAs in PEMPAL Member Countries

Historical Background for the Evolution of BC and CoAs

9. **One of the key reasons as to why a separate BC and CoAs were developed can be found today when discussing the local definition and scope of a CoAs.** For many countries, the CoAs was frequently described as the structure of the accounts to fulfil the requirement to prepare formal financial statements or reports. As a result, the concept of a CoAs was viewed quite narrowly. In some countries each major reporting entity, for example the state verses local government, or specific extra-budgetary funds, may have developed its own separate CoAs. This was the situation in several PEMPAL countries in the past, including Moldova [13] and Ukraine, although both countries have since developed structures that seek to integrate all the CoAs and the BC structures. The interesting aspect of the different CoAs is that the areas of commonality are quite significant with the general structure of each CoAs very much aligned.

10. **In addition, in many countries the requirement to manage cash against the budget (budget execution control), was also seen as separate and different from financial reporting.** While budget execution control is a very different management issue from formal financial reporting, what was absent was an understanding of how these two reporting and control requirements were linked. Thus, in developing the BC and CoAs, the structures focused on the differences rather than the areas of convergence. Other issues which probably contributed to the separation of these structures were, as follows:
    - There was a strong historical institutional commitment to continue with the CoAs operating in governments (which generally predated the central budget control sought in the development of the BC) making it difficult for it to be upgraded or amended to accommodate budget execution control;
    - The CoAs was a modified accrual structure while the BC was generally cash based;
    - The CoAs was more narrowly focused on financial reporting, a more traditional accountants view of reporting, while the BC sought to include additional aspects, for financial management, such as the sources of financing (where the receipts came from) because of the important relationship to the financing of the budget;
    - In most cases, there was an urgent need to manage cash, both in terms of appropriation control by limiting unapproved spending, but also from a consolidated perspective, to improve cash management and also fiscal discipline. Thus, the BC initially anyway, was more operationally focused – in some cases this urgent requirement meant the institutional commitment to the original CoAs was an impediment to reform; and
    - There was a lack of automation in relation to accounting in general, making it difficult for implementers to integrate the two structures effectively.

Thus, as a result of the different structures, MDAs also managed the two processes separately, creating challenges in relation to reconciliation and management.

[13] In 2008 Moldova designed a new UCoAs to integrate six existing CoAs and the BC which was implemented in 2016. Moldova now has a single integrated UCoAs covering all major financial reporting requirements

Contemporary Chart of Accounts Design

11. **A number of the circumstances that prevailed at the time separate BC and CoAs were implemented changed including:**

- Countries have been redeveloping their approaches to accounting, focussing on compliance with IPSAS and also reporting according to GFSM[14] or ESA[15] frameworks – the traditional approach to accounting was recognized as having a limited application;
- There is a much stronger convergence between IPSAS, that is financial reporting, and budget control and reporting since 2008. Until 2009, IPSAS required a very traditional private sector accountants' view of government reporting. However, in 2009, this was amended to also require accounting entities to report against the appropriated budget. This has created a stronger convergence and understanding in government reporting that the budget is a primary control and accounting device;
- The 2014 GFSM framework also sought to better align statistical and financial reporting with the framework amended to provide the statistical equivalent of the statement of financial performance[16];
- The advent of automation in each country has highlighted the benefits of integrated databases for the FMIS and in-turn revealed issues in relation to the separation of the BC and CoAs. Many countries now recognise the possibility of better integration of these different structures. With automation, data and financial transactions can be captured just once, with the UCoAs able to provide the different reporting requirements for different users.

[14] The IMF's Government Financial Statistics Manual (GFSM). There have been three versions: GFSM 86 which was cash based, GFSM2001 which moved to an accrual framework and GFSM2014 which updated the 2001 version better aligning the statistical framework with the accounting framework of IPSAS and extending disclosures of some major areas of risk. GFSM is consistent with the UN System of National Accounts (SNA). For more information on GFSM refer to. www.IMF.org

[15] European System of National and Regional Accounts (ESA). This is referred to as ESA 95 although it is subject to regular updating. ESA 95 is largely consistent with the UN System of National Accounts. It is the required financial reporting system for all EU member and accession countries

[16] Appendix 6 in GFSM2014 also provides clearer guidance on the areas where GFSM and IPSAS depart

Box 2 - A Modern Country Challenge – Beware the Expert Opinion

There are many opinions available internationally and developing countries are frequently presented with an "expert" view on PFM including on how a CoAs should be structured. Expertise will always be influenced by the experiences of those providing the advice. In 2018 Moldova was provided with an "expert" opinion on its UCoAs. They were informed that the UCoAs was not structured in accordance with IPSAS and could not fulfil IPSAS based reporting requirements. In fact, IPSAS provides very little detailed guidance on the required structure of the CoAs although high level structural requirements are implied by some of the disclosure requirements in the standards and the format of the financial statements and notes.

On this occasion, because the Moldovan economic segment of the UCoAs was not primarily structured to report current and non-current assets and liabilities the advice was that the UCoAs was flawed. In Moldova's case assets were aligned with GFSM general structures, which is divided into financial and non-financial, which is largely consistent with the reporting requirements for the cashflow statement under IPSAS 2. In government information should be presented in both formats: current and non-current and financial and non-financial reporting (see the Chapter on economic reporting and Appendix III which is an example of a country that presents its financial statements in the financial and non-financial format). On this occasion the "expert" did not have a complete understanding of the requirements of modern government PFM reporting. The advice provided focused only on one reporting element, financial reporting, and largely on the balance sheet rather than the cashflow statement. As this paper explains, financial reporting is indeed extremely important, however budgetary, macro-fiscal and statistical reporting are also key. A well designed UCoAs should meet all of these requirements.

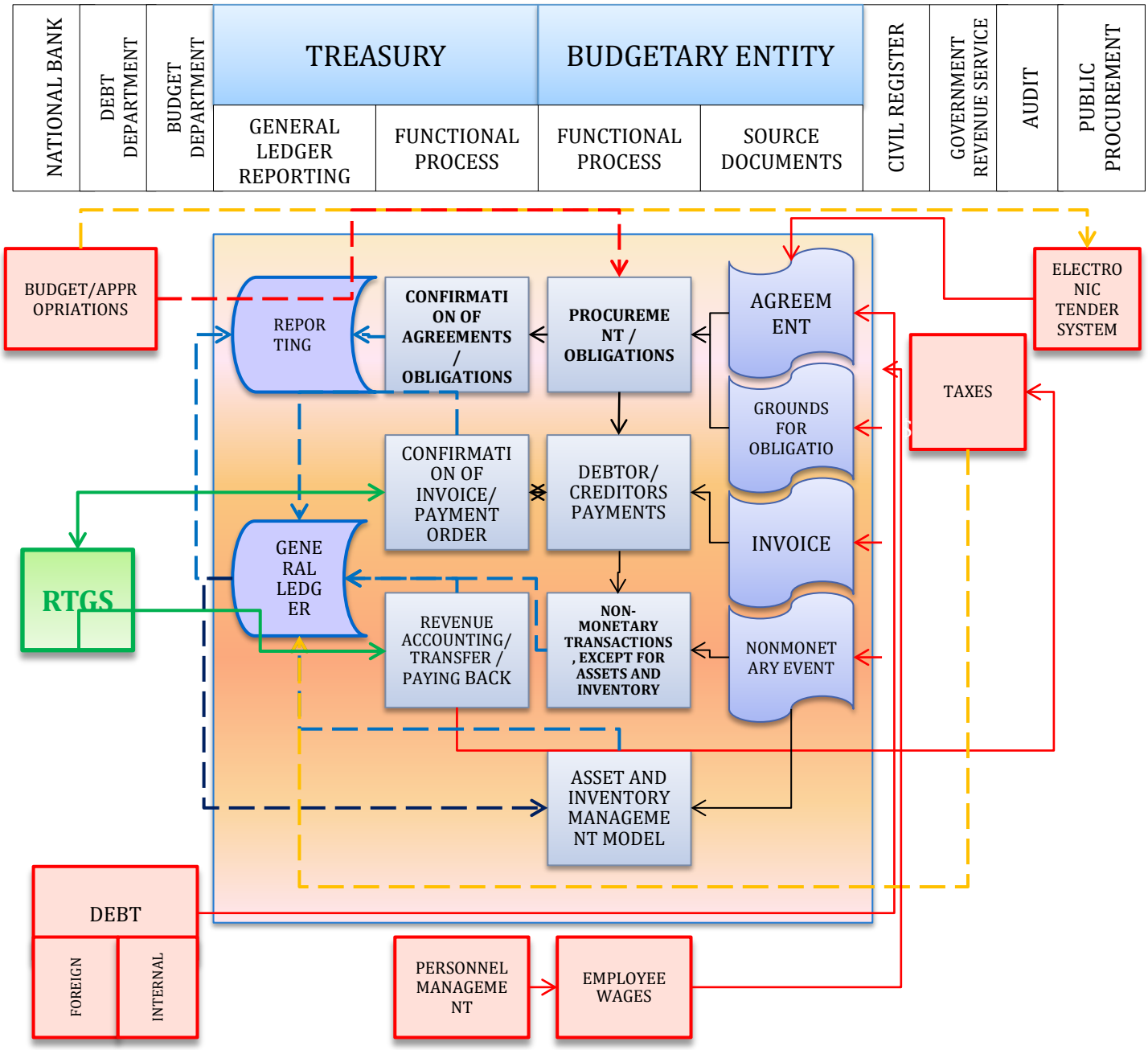
Designing a CoAs

Defining the scope of the Reporting and Accounting Framework

12. **As highlighted in Box 2 above, modern FMIS and the UCoAs should be focused beyond one aspect of PFM to encompass all major reporting requirements in an integrated manner.** Georgia, which has been redeveloping its accounting and reporting framework to ensure consistency with international requirements (IPSAS and GFSM), first designed a concept of its overall Public Financial Management Framework that can be seen in Figure 2. Georgia first developed its accounting requirements in relation to its automated salary and pension payment processes, to support both cash control and accrual reporting requirements. Georgia plans to gradually extend this system to encompass all government operations, but by ensuring the overall concept is planned at the front end, it has taken a comprehensive and inclusive approach to the design before developing actual coding structures. Thus, even though a country may take many years to implement its (accrual) accounting framework or other major PFM reforms, by ensuring it first defines the scope of the PFM framework it is more likely to include all of its accounting, control and reporting requirements in the design. As Figure 2 demonstrates, Georgia is seeking a fully

integrated approach to PFM, and, as a result, the UCoAs design is more likely to also be developed in an integrated and comprehensive manner.

Figure 2 – Georgian PFM Framework



13. **Countries need not develop such a framework from scratch. The WB publication "***A Handbook on Financial Management Information Systems for Government***"**[17] authored by Ali Hashim is an excellent resource in this regard as it provides a useful template for how each functional element of the PFM framework integrates with other processes and the accounting system. Appendix I includes a flowchart from the paper that has a strong relationship to the Georgian PFM framework.

[17] Please refer to the publication by the World Bank authored by Ali Hashim, A Handbook on Financial Information Systems for Government

14. **Modernization of the PFM framework must be underpinned by strong information technology (ICT) solutions and for many countries the focus had been on developing fully integrated FMIS (IFMIS).** However, few countries have achieved full integration and post implementation evaluation of numerous IFMIS projects reveals significant issues in striving for this objective[18]. A number of countries have therefore shifted the focus to the development of specific ICT tools for differing requirements, while ensuring the interoperability of the component systems. Interoperability ultimately depends on a common data structure across the different systems. For example, the data structure in a budget preparation system must strongly align with the budget execution system in the Treasury, and accounting systems operating in MDAs. The UCoAs is thus key for interoperability to be possible.

15. **Thus, in designing its UCoAs a country needs to ensure it meets all of its major reporting requirements.** Too often a UCoAs is designed too narrowly, failing to fulfil the reporting requirements of all major stakeholders. This was certainly the issue in relation to the majority of CoAs originally designed and operating in TCOP countries, with few upgraded to integrate new budget control requirements. Developing a cash-based BC separately from the modified accrual CoAs has made reconciliation between the two structures and the related reporting requirements at least more difficult. As countries move to adopt FMISs or upgrade and replace them, there is an opportunity to review how the general ledger and accounting will support better integration of the overall accounting and reporting framework. There are at least seven principles required for effective (re)design of a government CoAs or UCoAs detailed below in Box 3.

[18] http://documents.worldbank.org/curated/en/147241467987856662/A-handbook-on-financial-management-information-systems-for-government-a-practitioners-guide-for-setting-reform-priorities-systems-design-and-implementation. The experience highlighted in this publication is why this paper refers to FMIS in lieu of IFMIS, stepping away from the focus on full integration to focus on the more achievable and affordable path of interoperability of PFM systems

Box 3 - Principles for the effective development, implementation and maintenance of a CoAs

Comprehensiveness. The CoAs should be comprehensive enough to capture all the required/relevant information. The budget classification should be a core component of the CoAs. This is because the accounting and reporting system should be the primary source of financial information for reporting on budget execution and, since 2009, reporting against the budget has become a core element in relation to compliance with IPSAS. The accounting and reporting system may, however, require additional classifications or accounts to meet the financial management needs of the government.

Granularity. The segments and sub-segments of the CoAs should be designed to facilitate many possible different combinations of data elements necessary for control and reporting purposes. Each segment should have sufficient detail to meet all control, accountability, management, and reporting needs for all stakeholders.[19]

Mutual exclusiveness. The attributes of CoAs segments should be defined in a way to make them mutually exclusive and avoid confusion in transaction posting and reporting. This is a particular issue with many of the economic segments in CoAs, where the inclusion of non-economic descriptors and posting accounts frequently undermine fiscal data integrity.

Non-redundancy. There is no need for an independent segment in the CoAs if the related information can be derived from another segment. Where there are multiple classifications, it can be useful to explore the relationships between those classifications. For example, the requirements of COFOG[20] can often be derived from either the organizational segment or a program segment, should such structures exist.

Internal consistency. The logic applied in designing the hierarchical structure of CoAs segments should be internally consistent. Using a consistent coding system and structure helps make the CoAs user-friendly and will reduce the chance of coding errors. Hierarchies in segment design allow codes to be grouped logically, making it easier for users of the CoAs to understand the structure and navigate it for use.

Scalability. The CoAs should allow flexibility for future additions and changes as far as possible. It should provide for capturing additional information in the future, particularly when such additional information has been anticipated/identified as part of an on-going PFM reform program. Providing room for growth, change and future reporting requirements can help ensure that a CoAs will be relevant for a long period of time and is able to cope with the changing needs of the business environment, regulatory requirements and reporting needs. A CoAs with a well-designed structure and open account range can accommodate future legal and business requirements.

A unified framework. Individual accounting units can be allowed certain flexibility in developing their own specific account codes at a more detailed level. However, the CoAs should be unified to ensure that at least the information at the aggregate level uses the same accounting classification.

Source: IMF Technical Notes and Manuals – Chart of Accounts: A critical element of the Public Financial Management Framework –Cooper and Pattanayak - http://blog-pfm.imf.org/files/tnm_2011-03_web-1.pdf

16. **Typically, a government CoAs includes seven major components as per Figure 3.**

Figure 3 - Segment Structure of a Good Practice CoAs

Source of Funds	Organisation	Function	Project	Geographic	Economic	Program

Source of Funds segment. This segment is used to separate different sources of receipts to allow these to be matched to specific payments. In many countries certain funds are required to be managed separately from the general or consolidated fund. A common example of this is a separate development fund for recording Development Partner (DP) financing. Many countries also use this segment to separate other financing requirements, such as where money is held in trust for other parties or for other legislative separation, e.g. a sovereign wealth fund.

Organizational segment. This segment captures organizational structures in government. Typically, this would include at least ministries, but can include multiple layers for sub-allocation and expenditure tracking, including down to SUs/cost centres such as a primary school or health clinic. Intermediate levels for management, budgetary control and reporting are also useful, for example, departments within ministries.

Functional segment. This generally utilizes the COFOG standard[21] for reporting expenditures and is similar to a sector and subsector approach to reporting. In many countries. It is derived via a mapping table from the organizational segment (sometimes in combination with other segments such as programs)[22].

Project segment. This is required to record government activities which have a finite life and is particularly important to create separate budget control to ensure funds are set aside from general operations to support the project execution. It therefore also has a strong relationship to a country's investment/capital budget component.

Geographic segment. This allows both revenues and expenditures to be reported at the central and subnational government levels as required. It can also assist in tracking grant financing including transfers between levels of government such as general purpose or earmarked grants from central to sub-national governments.

Economic segment. This is the most important element of any CoAs as it is the segment that links budgeting, accounting, fiscal analyzis and statistical reporting. It is often recommended that GFSM2014 be utilized as a general guide when developing this segment as the approach in GFSM2014 supports good economic reporting[23].

[21] Classifications of the Functions of Government (COFOG). The current COFOG structure is used consistently in the UN SNA, GFSM and ESA 95

[22] Some countries may also choose to develop their own variation of COFOG. A common example is to have a separate high level function for Agriculture, which in CoFoG is a third-level component of the Economic Function

[23] No other structure exists internationally either

Program (Results Based Management) Segment. There is a range of different terms used international to describe this segment including programs, outputs, and outcomes - there are also combinations of these terms in use in different countries, although program budgeting has become the most common term in use. Program budgeting is recognized as a medium to long-term reform priority where governments seek to measure performance usually against agreed indicators. Ideally, this should be implemented only after a number of more fundamental reforms are in place[24]. Precursors to implementation of program management are an FMIS and effective control over spending on inputs[25].

17. **The above seven-segment structure can contribute to the achievement of the main reporting, accounting and management objectives:**

- Consolidated classification and reporting for all government finance, including integration of DP resources into the general structure;
- Detailed reporting to support analysis and internal control within MDAs and SUs;
- Fiscal reporting, including the key report of government, the fiscal balance report, and for macro fiscal analyzis;
- Reporting against the budget, and the ability to ensure cash control in an FMIS against appropriations, allotments/warrants, and of commitments;
- Statistical reporting by ensuring the economic segment is aligned with GFSM2014 which in turn is part of the national statistical reporting requirements;
- More timely provision of financial information as a well-designed UCoAs supports the capture of consolidated information, eliminating the time-consuming collation of information;
- The capability to capture transactions just once, improving accuracy and timeliness, with the ability to provide information for a multitude of users and purposes based on the structure of the UCoAs; and
- Performance-based reporting (for many countries this is a medium to long-term goal) to allow an improved understanding of the costs and benefits of government activities and programs[26].

18. **To maximize integration and capacity, each of these components should comprise part of the structure of the FMIS general ledger.** This ensures that the system can be used as the main "tool" for all accounting and reporting requirements. On many occasions, countries do not integrate one or more of these elements into the CoAs. Thus, when stakeholders come to use the system (for reporting based on the dimension which is not included in the general ledger) the system is unable to produce the required reports without modification, or the collation of the required information has to occur in third party systems. In some countries this can be further enhanced by defining

[24] For more on sequencing PFM reforms refer to https://www.pefa.org/resources/good-practice-note-sequencing-pfm-reforms

[25] For more on sequencing budget reforms please refer to: Good Practice Note on Sequencing Public Financial Management (PFM) Reforms (Jack Diamond - January 2013), www.PEFA.org

[26] Performance reporting takes different forms but can involve the matching of related expenditures and outputs, outcomes, or programs, or even a combination of these result-based management concepts

the system as the "statutory" or legal reporting system. Thus, any external accounting or reporting would need to first be reconciled with the statutory system for it to be viewed as reliable.

19. **This is why it is so important for countries to create a UCoAs schematic or concept to ensure all reporting and accounting requirements are accommodated in the design phase of the UCoAs and FMIS.** Figure 4 is the schematic for the Moldovan UCoAs updated in 2015. This schematic went through a number of iterations as the authorities became more aware of both the opportunities that a new UCoAs and FMIS would create, the need to consider reporting requirements beyond the narrow requirements of the Treasury and the MoF, and the benefits of full integration of all accounting and reporting requirements. Despite this hard work and clear conceptual development, there continues to be some scepticism both within Moldova and externally (see Box 1), largely based on a lack of a broader understanding regarding the role of a modern UCoAs. The UCoAs is not just about budget reporting nor is it just about financial reporting, although both of these requirements are critical elements for any UCoAs design in government.

Figure 4 - Moldovan Schematic for the CoA

Annex № 1
to the order of the Minister of Finance
№ 208 from December 24, 2015

1. Structure of the budget classification

Budget classification elements	Structure and short name	Description	Number of digits
1	2	3	4
Organization classification	Org1	Public entity	4
	Org1i	Intermediate budget organization	4
	Org2	Budget organization	5
Functional classification	F1	Main group	2
	F2	Group	1
	F3	Subgroup	1
Program classification	P1	Program	2
	P2	Subprogram	2
	P3	Activity	5
Economic classification	K1	Type	1
	K2	Category	1
	K3	Section	1
	K4	Item	1
	K5	Subitem	1
	K6	Element	1
Source of funds classification	S1	Budget tier	1
	S2	Budget sub-tier	1

	S3	Component	1
	S4	Subcomponent	2
	S5	Origin of funds	1
	S6	Donor	3
Total			41

20. **Even this well-designed schematic does not include one important element, location or geographic descriptors.** Moldova does in fact have this segment designed, with State (national), Rayons (regional), and Primaria (local) governments along with autonomous regional reporting requirements integrated. In fact, this is part of the Moldovan FMIS general ledger specifications but Moldova decided to omit it as part of the formal definition of its UCoAs structure at this juncture. The structure is included as a separate register to reduce the overall length of the UCoAs.

21. **The primary reporting requirements should be a core consideration when designing any UCoAs.** At least five major aspects of reporting should be considered in Government UCoAs design:

- **Budget –** The UCoAs must support the budget formulation and execution process. Given the importance of the government budget, arguably the single most important public accountability process for any country, the budget structure should directly influence the overall design of the UCoAs. Thus, any unique requirements a country may have should also be reflected in the UCoAs design. Given this and given the fact that in most countries budget structure can change each year (although typically this is a shifting of resources from one budget entity to another), a good UCoAs must also be able to change to meet any new requirements. For some countries the budget will include the linkage of expenditure to results (in terms of service delivery). This requires a program structure;
- **Financial Reporting –** Today for many countries this means compliance with IPSAS, either cash or accrual (most countries are in reality managing on a modified accrual basis which represents either partial adoption of the accrual standards on the pathway towards full adoption, or adoption of the cash basis standard with supplementary disclosures in the notes to the accounts). Importantly, in 2009 IPSAS were updated to also require budget reporting as a core element of financial reporting. Transparency and accountability to external stakeholders are core to why compliance with IPSAS is promoted for financial reporting;
- **Macro-fiscal** – the ability to track the budget deficit (or surplus) ideally each day, should be a core design element of the economic segment of the UCoAs. This can be readily achieved by using GFSM2014 as the template for the economic segment ensuring the annual budget can be linked into the macro-fiscal framework (which ideally has a three-year horizon) and progressively monitored during the year;
- **Statistical Reporting –** Ensuring the manner in which government stocks and flows are classified is consistent with the national accounts, will ensure the information captured in the FMIS can be used for statistical analysis. Once again ensuring consistency with GFSM2014 largely ensures that statistical reporting is supported[27];

[27] This is because GFSM2014 has been designed as a component of the System of National Accounts (SNA).

- **Management Reporting and Control –** managing against the budget is a core element here. However, management control of MDAs often goes beyond budget reporting, to ensure information is available where controls have been devolved below the MDA level to sub-units, and to be able to track and analyse spending by inputs (even when the budget does not control appropriations by inputs). Thus, the UCoAs should provide information for transparency and accountability through reporting and also through expenditure tracking and include elements that support asset and liability management. The usefulness of an FMIS to MDAs is often determined by how well the UCoAs and FMIS can support these elements. If it cannot, then MDAs generally invest in their own accounting systems[28].

22. **There are further reporting requirements which a well designed UCoAs could also seek to support, including:**

- Cross-cutting reporting, for example, for high profile national priorities such as climate change and social inclusion measures such as gender budgeting; and
- Intergenerational accounting and reporting, with some countries now considering the inclusion of longer-term balance sheet recognition, examining the longer-term implications of current policies for both spending and revenue collection.

23. **Thus, a well-designed UCoAs should include at least the first five (or six) reporting requirements referred above if it is to be effective for integrated management and reporting.** One way to cover these requirements is to ensure that the UCoAs is comprehensive and inclusive for all elements of government. An example of this can be seen in the design of the SoF segment. In the example below, the SoF segment includes both the general fund and three other funds of government. It also includes components to allow integration of DP resources. This is particularly important for countries that have a significant dependence on external financing from DPs. If DP resources are not included, then the FMIS will not be able to produce comprehensive reports for general government. This will also make it challenging to meet reporting obligations for IPSAS and statistical reporting. In addition, DPs will continue to insist on separate systems and units (often called Project Implementation Units) in MDAs to manage their resources, creating duplicate processes and failing to properly utilize country systems[29]. Thus, the lack of integration in the UCoAs and a countries FMIS and general ledger is a major reason for poor integration and reporting of external financing.

Table 2 – Indicative Structure of a Source of Funds Code

Source of Funds Code	Description
1	General Fund
2	Development Fund
21	Grants
2111	Multilateral Partner 1

[28] In fact, in many OECD countries, MDAs do have their own FMIS. Examples include Holland, UK and Australia. However, for most TCOP countries this is not the case with centralized systems dominant

[29] Using country systems such as the budget and the FMIS are major objectives defined by all DPs and recipient countries under the Paris Treaty and at Accra

2112	Multilateral Partner 2
2121	Bilateral Partner 1
2122	Bilateral Partner 2
22	Loans
2211	Multilateral Partner 1
2212	Multilateral Partner 2
2221	Bilateral Partner 1
2222	Bilateral Partner 2
3	Wealth Fund
4	Trust Fund

24. **The UCoAs cannot however, be everything to every stakeholder.** Trying to overengineer the UCoAs can be as big an issue as not designing it comprehensively enough. This will be particularly true in relation to very detailed requirements for each MDA or DP. Thus, in designing the UCoAs, a country must determine the level at which the UCoAs will be universal and centrally controlled. These are the core structures of the UCoAs which must not be changed within an MDA or accounting unit and which are used as the basis for producing the primary reports for government. Below the UCoAs, entities should be free to add further detail as required, and this should not be impeded centrally. In some cases, this could even involve additional levels being available in the UCoAs and FMIS where a MDA or accounting entity can define its own structures. These levels must always be subordinate to, and consistent with, the "parent"[30] levels of the UCoAs.

25. **The Georgian and Moldovan examples cited earlier show how important and challenging the design of a UCoAs can be for a country.** A major issue is to ensure all parties have a common understanding of the scope and role of the UCoAs in a government PFM system. This will be particularly important as countries transition through major changes, such as implementing an FMIS, moving from cash to modified accrual or accrual accounting, implementing or expanding coverage of the Treasury Single Account (TSA), or de-concentrating accounting functions and roles in government. To ensure all parties understand how these elements will be aligned, a country should develop a concept note for broad consultation and discussion that addresses the major issues. This should include both the scoping element of the Georgian framework and the components detailed in the Moldovan schematic. Below are some of the suggested components of the Concept Note which could be included:

- Background to CoAs reform in the country defining the objectives of UCoAs reform and the relationship to general PFM Reform. It would indicate that the UCoAs is primarily being designed to support the country manage and report in accordance with specific accounting requirements (e.g. cash, modified accrual or full accrual), and also focus on the importance of consolidation of all government activities for proper management and reporting.
- Coverage of the UCoAs – which entities are included in the framework and which are excluded (for example, State Owned Enterprises).

[30] Ideally segments in the UCoAs are set up hierarchically with subordinate codes termed the "children" of the "parent" code. Thus, it follows that the UCoAs should be the "parent" of any more detailed codes in place in MDAs or elsewhere

- Defining the stakeholders involved – for example officials from: functional departments in MoF, MDAs, subnational government, statutory bodies and extrabudgetary funds, audit and control bodies, both supreme and internal, the political directorate, etc.
- Defining the UCoAs structure. This would include each UCoAs segment, and an indicative hierarchical structure for each segment. The principles of good UCoAs design would be included here.
- The importance of the UCoAs for different reporting and control purposes including budget, financial, macro-fiscal and statistical reporting.
- The relationship of the UCoAs to the FMIS and sequencing of reforms to ensure they are institutionalized.
- Establishment and membership of a working group and consultative process for the redesign of the UCoAs.

The paper should be widely circulated and discussed with all stakeholders**.**

Box 4 - Key Tips in Redevelopment of UCoAs

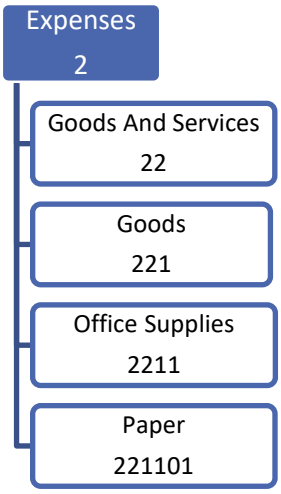
- Define the overall scope of the PFM system to understand the major data and reporting requirements and to maximize integration of all the requirements
- Design a UCoAs schematic which identifies the key segments and an indicative structure for each segment
- Widely circulate a UCoA's Concept Note to all stakeholders to ensure a better understanding of its scope and purpose
- Ensure the UCoAs when designed complies with the seven design principles in Box 2 of this Chapter

3. General Principles in Unified Chart of Accounts Design[31]

"Parent-Child" Structures of each Segment

26. **Developing hierarchies in each segment ensures a logic to the structure of the segment and makes it easier for users of the accounts to identify the relevant code that applies to their requirements more simply and reliably than a segment designed without hierarchies.** Figure 5 shows this concept. At level one the class of the segment is defined. In this example the economic segment is featured where each class relates to a high level accounting concept (assets, liabilities, expenses revenues and net assets) and also the high level structure of GFSM2014. The example uses the expenses class, which largely reflects recurrent spending in government, and which reduce net assets (a government's net worth). Each subsequent lower level is more detailed than the last. Thus, the structure of the segment guides users down towards the relevant code to be applied in each circumstance. Note that in this case the number of each subsequent level links back to the levels above. Thus, for "*paper*", which is the lowest level account, 221101, we can see that the "parent" is 2211 "*office supplies*", the "grandparent" "*goods*" 221, the "great-grand-parent" "*goods and services*", 22 and the "great-great-grandparent" "e*xpenses*", 2. Thus, users can immediately see these relationships in the numbering structure and coding.

Figure 5 – "Parent/Child" Hierarchies in Segment Design



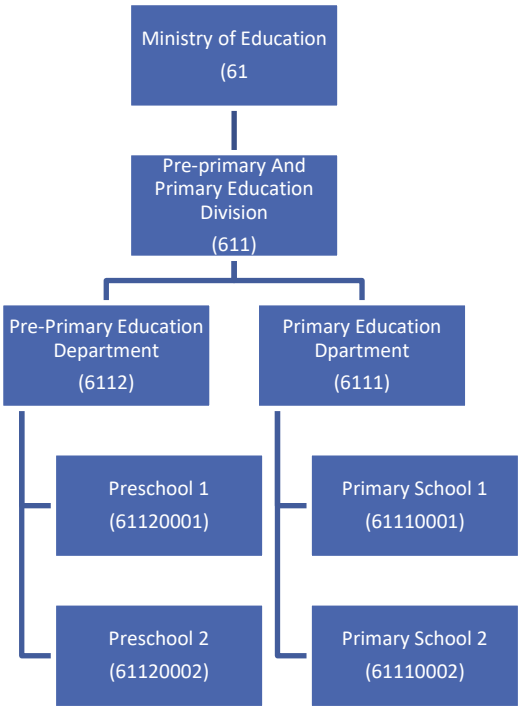
27. **In some cases, it may be useful to use a unique number register in specific positions in the segments.** The same hierarchical principles would apply, that is, you can follow the "parent-child" relationships in the numbering down to the position of the unique register. This variation can be seen in the following examples for the Ministry of Education organizational structure. Figure 6 shows an example where the SU (which is sometimes referred to as a "cost centre")[32] numbers

[31] The majority of text from this chapter was included in the 2014 PEMPAL paper

[32] Cost centre refers to the level of the organization at which costs are generated, which can be viewed as largely synonymous with the concept of a spending unit, that is, the level of the organization where spending is incurred and where services are usually delivered

are not unique. In contrast Figure 7 uses a unique register of numbers for the SUs. In both examples the first three levels of the organizational classification are identical. in Figure 6 at the fourth level, the level of the SU, the first SU in "primary" and "pre-primary" uses the same sub-code, 0001. To differentiate between the two spending units the entire "parent/child" code is required. Thus, the unique number for the primary school 1 is 61110001 whereas for preschool 1 it is 61120001.

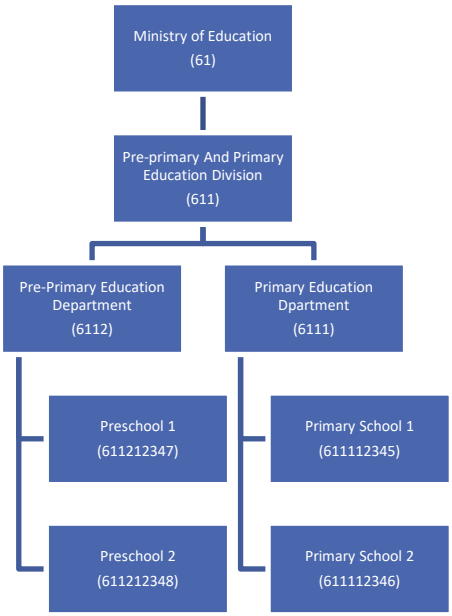
Figure 6 – Non-Unique Numbering in Segment Design



28. **In Figure 7 the number used across government for all spending units is unique**. To identify primary school 1, you only need the final five digits of the entire code, in this case 12345. This code is only ever used for this specific spending unit, no matter what its role is in government. For the spending unit "*pre-school* [1]" the unique code is 12347. Moldova refers to this as the "short code"[33].

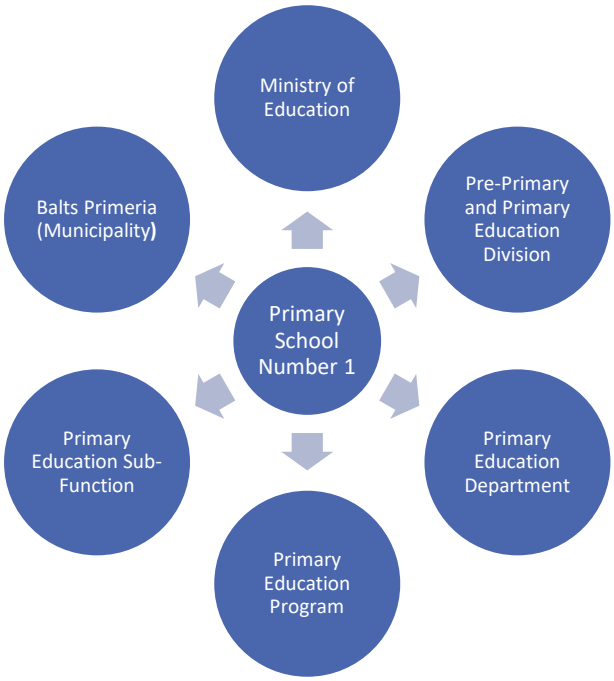
[33] The short code is used by FMIS users for data entry and queries. As all of the "parent" relationships are pre-set in the UCoAs and FMIS, the short code can be used in lieu of the full code, reducing the data-entry load and improving accuracy

Figure 7 - Creating Unique Spending Unit Numbers



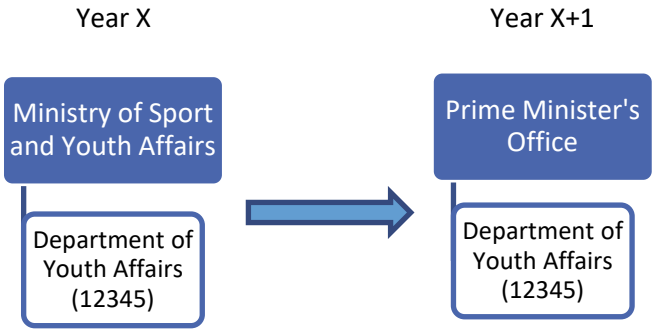
29. **Thus, even though the full "parent-child" institution number is 611112345 for primary school 1 the full code is no longer required to identify the primary school.** The benefit of this approach can be seen in Figure 8. With the new extended segments in the UCoAs the coding length becomes quite long when reflecting all segments and all levels in each segment. However, once the codes are fully defined for each SU in the UCoAs and FMIS, many of the other elements of the UCoAs have a one-to-one relationship with the SUs. In these cases, once the relationships are defined in the UCoAs and allocated to the SU, only the unique code needs be used to identify the SU. In addition, all of the elements that have a one-to-one relationship and have been pre-defined that relate to that SU can be automatically populated by the FMIS.

Figure 8 - Unique Relationships and CoAs Design



30. **This unique numbering can also be used in other circumstances in the UCoAs to enhance reporting and reduce coding issues.** One example relates to the organizational classification and budgetary reporting. From one government administration to the next it is common to see changes in the structures of ministries. Different functions of government may be moved and therefore the UCoAs must be able to accommodate these changes. While changes at the ministry level are common, lower level organizational units tend to remain constant over time. What usually changes is the "parent" or "grandparent" of those units. Thus, it can be very useful to create a unique coding register for government departments. As new departments are added these are allocated a new unique number. While it is conceivable, departments rarely cease to exist but the "parents" and "grandparents" can change overtime. By allocating a unique number it becomes easier to track the historical budget of each unit. It also makes it easier to build the new budget for each new ministry, as this will be made up of the budgets of all its departments plus any new departments/ functions added during the change. This approach can be seen in Figure 9.

Figure 9 – Moving Departments from one "parent" ministry to another



31. **A further example where a unique register maybe useful relates to external financing by DPs in the SoF segment.** Creating a unique register, with a different number for each bilateral and multilateral DP allows the same structure to be used for both grants and loans. This provides the ability to review and report on specific grants and loans for donors, and also report the entire donor financing position. Table 3 shows that there are three sources of financing from donors: grants, loans and in-kind contributions (this allows a distinction between cash and non-cash contributions). In this case the donor code is a unique sub-register grouped by bilateral and multilateral DPs. Thus, the code for each DP is unique, allowing for reports to be generated by type of source e.g. grant, loan or in—kind, and also to produce reports for each DP separately. This approach allows all DP funds to be separately managed and captured even if funds are deposited into the TSA[34] - the separate fund source ensures the funds can be controlled separately in the general ledger.

[34] Many DPs are reticent to allow their funds to be mixed with general government funds due to concerns that the funds will be absorbed into other budget activities. Creating the separate SoF coding allows funds to be pooled for cash management with separate FMIS based controls in place to limit who can spend the funds. This operates in the FMIS in the same way that ministry "X" cannot spend the appropriations for ministry "Y"

Table 3 - Source of Funds Segment - Unique Donor Register

Description	Number	Description	Number	Description	Number
Grants	21	Loans	22	Contributions in Kind	23
Russia	211001	Russia	221001	Russia	231001
Canada	211002	Canada	221002	Canada	231002
Australia	211003	Australia	221003	Australia	231003
World Bank	211010	World Bank	221010	World Bank	231010
European Commission	211011	European Commission	221011	European Commission	231011
ADB	211012	ADB	221012	ADB	231012

32. **This concept can extend externally as can be seen in how Ukraine overcame a major limitation which was imposed on the recording of the full CoAs in the banking system.**[35] The National Bank of Ukraine (NBU) restricts the length of the payment record in the interbank payment system to just 14 digits. This was not a sufficient length for the recording of either receipts or expenses using the redeveloped CoAs, which was 30-digits in length. To overcome this Ukraine developed a "shortened code" that allowed it to correctly record cashflows in the interbank payment system, and which mapped these codes to the more comprehensive CoAs coding segments to allow a more complete set of accounting records and reports to be generated. In 2020, Ukraine's migration to a new UCoAs coincided with the introduction of a new bank clearing system. This allowed the code used to be expanded to 19 digits with the Treasury redesigning its banking "short code" termed the "analytical account of the treasury" to 18 digits. This approach can be seen in Figure 10a/b which presents the coverage of the segments that are used in the current Ukrainian CoAs and in the Ukraine banking system.

Figure 10a: Example of the CoAs segments in Ukraine for Revenues – Overcoming Externally Driven Restrictions on code length

BBBB K F SSS H RR W OO TTT	– account number code (18 digits)
BBBB.....	– balance account (4 digits)
.....K	– NBU ESP check digit (1 digit)
..... F.....	– type of funds (1 digit)
..... SSS	– tag for revenue reporting (3 digits)
..... H.....	– tag for detailed revenue accounting (1 digit)
.....RR.....	– tag for the controlling authority agency (2 digits)
..... W.....	– tag for detailed accounting (1 digit)
..... OO.....	– oblast code (2 digits)
.....TTT	- territory code (3 digits)

BBBB = 3BBB – accounts to record budget funds 7BBB – budget revenues 9BBB – planned revenues F – tag reflecting the type of funds: 0 – general fund; 1 – special fund, 9 – other funds unrelated to budget revenues. SSS – reporting tag corresponding to the budget classification code for revenues (8 digits)

11010100	340	Personal income tax paid by withholding agents from taxpayers' income represented by salaries and wages
11020100	002	Corporate income tax of state-owned companies and organizations

H (1 digit) – tag for detailed revenue accounting as per the regulations. **RR** (2 digits) – sectoral tag of the authority controlling budget revenues. **W** (1 digit) – tag taking value of "0" or some other value – in case of the need for more detailed recording, **OO** (2 digits) – oblast code as per the Budget Codes Guide provided by the Ministry of Finance of

[35] Not every country will interact with the banking system in the same way as was designed for Ukraine. However, this was a critical design element and they managed to find a solution to a major limitation imposed externally

Ukraine. **TTT** (3 digits) – the numerical number of intra-regional budget as per the Administrative Units Guide that is approved by the ordinance of the Ministry of Finance of Ukraine.

Figure 10b: Example of coding expenditure accounts of client's transactions involving budget funds (accounts of spending units, budget holders and other clients)

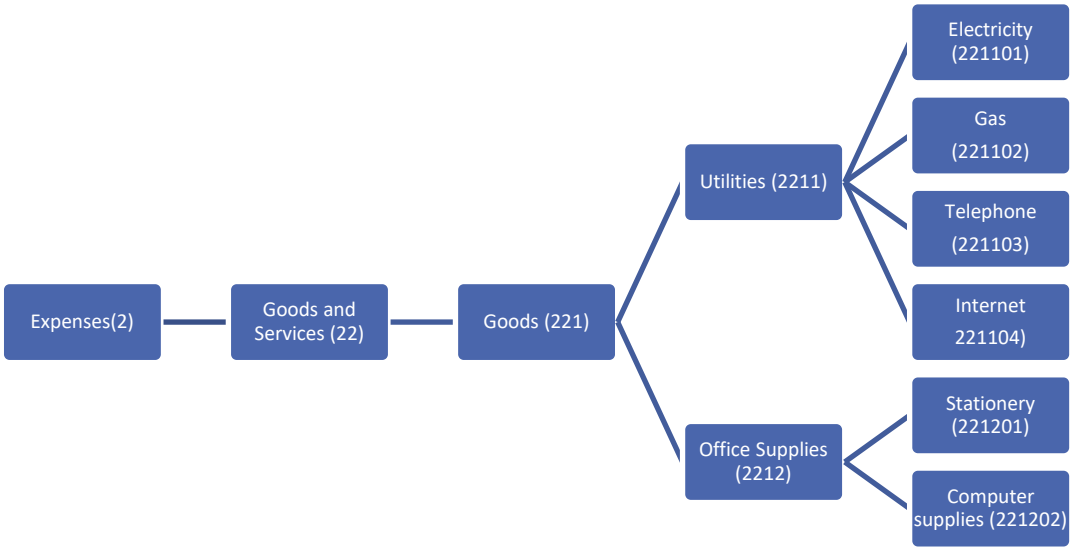
BBBB K F GGG J AA NNNNNN	- account number code (18 digits)
BBBB.....	– balance account (4 digits)
.....K	– NBY ESP check digit (1 digit)
..... F.....	– type of funds (1 digit)
.....GGG	– account type code (3 digits)
.....J.....	– tag to detail type of funds (1 digit)
.....AA.....	– tag to detail accounting (2 digits)
.....NNNNNN	– client code as per the Unified Register (6 digits)

BBBB = 3BBB – registered accounts of spending units 8BBB – budget expenditures 9BBB – expenditure plans as per the approved budget breakdown (ROSPIS), budget estimates and budget commitments assumed by spending units **F** – tag reflecting the type of funds: 0 – general fund; 1 –special fund, 9 – other funds unrelated to budget revenues. **GGG** – account type code assigned to a set of analytical parameters. **J** (1 digit) – tag reflecting the type of funds (own revenues in kind, in FX, subventions etc.). **AA** (2 digits) – tag taking value of "00" or some other value – in case of the need for more detailed recording. **NNNNNN** – client number assigned in the Unified Register of Spending Units and Budget Holders maintained by the Treasury of Ukraine.

Posting Levels

33. **One important control in an FMIS is that all segments must be of a uniform length.** Thus, if the economic segment is six characters, all accounts used to record transactions must also be six characters in length. (See Figure 11) The most detailed accounts are termed "posting levels" as this is the level at which information is recorded or "posted" to the general ledger. While the "parent" levels exist, for example a 4-digit account, they are analytical accounts only, where the information is recorded against these levels through the hierarchical relationship to the posting level. No information can be recorded directly against intermediate level accounts. Thus, in Figure 11 only the six-digit accounts can be used for recording transactions - all the other intermediate accounts are derived from the summary information from the detailed posting level accounts.

Figure 11 – Posting Levels of Accounts



34. **Determining the optimum length of any segment should be a relatively simple exercise.** Once you define the segment and its main purpose, you next need to determine the appropriate number of levels for each segment. This is discussed in more detail in the sections on each segment. The general structure of each segment will have a top level, that is used for consolidation purposes, a bottom level used to post accounts, and then intermediate levels, which provide reports at different levels of aggregation for users of the accounts. Box 5 discusses this issue further.

Box 5 - How proper design of a UCoAs reduces complexity and improves the reliability of reporting

A frequent concern in designing a multi-faceted UCoAs is that the expansion to include new segments and many additional codes increases the complexity and length of the coding for MDAs, increasing the risk of errors. Thus, there must always be a balance struck between adding specific stakeholder reporting requirements, while not extending coverage of the UCoAs too far. The challenge for every country, however, is that in government today, there is an increasing demand for information for improved analysis and reporting. There are a number of ways to mitigate against the risk of MDA errors even where the coding structure has been expanded. This includes:

- Developing a user friendly accessible UCoAs manual to support stakeholders understanding of the UCoAs– this should be available electronically and include practical examples of coding while addressing areas where errors or omissions are more likely;
- Providing regular training for users, particularly for new officials or officials that change roles;
- Ensuring each segment is well designed with clear hierarchies and a logical well organized structure. This makes it easier for users to determine the correct code once they understand its structure;
- Developing FMIS based controls including limiting access to only those UCoAs codes relevant to the access profile and organization of the user. In practice this will reduce the number of codes accessible for each user significantly and allow training to be targeted to only the codes they use. In addition, it could allow the issuance of a unique (ideally electronic) CoAs manual[36] to reflect only the codes in use in each entity; and
- Using lookup tables/drop down menus in FMIS to assist users select the correct code. This could include automatically populating the one-to-one relationships in the UCoAs for each spending unit (see Figure 8).

35. **Determining the character length of each segment and each level in the segment should focus not just on the current coverage and number of existing accounts but future expansion too.** Decisions such as the inclusion of unique registers in specific positions in a hierarchy will also impact the length. However, it is important to ensure the overall coding requirements are met and not be too obsessed with limiting the length of the code. As Box 5 and Figure 8 show there will be ways to mitigate the impact of the length of the code when you move to implementing it in MDAs and SUs. Table 4 shows the total number of codes available using alpha, numeric and

36 Even in the 1970s, the Finance Ledger System in Australia produced unique code books for each department, and users defined all their own requirements below the statutory reporting levels

alphanumeric coding structures (Latin alphabet). This can be further expanded by using symbols allowing significant more variations for each code position.

Table 4 - Options for Code Structures

Length of position in Segment	Numeric (10)	Alpha (26)	Alpha-Numeric (36)
1	10 (0-9)	26	36
2	100 (0-99)	676	1,296
3	1,000 (0-999)	17,576	46,656
4	10,000 (0-9,999)	456,976	1,679,616
5	100,000 (0-99,999)	11,881,376	60,466,176
6	1,000,000 (0-999,999)	308,915,776	2,176,782,336

36. **Even the most extensive classification requirement can be readily met by expanding segments by just one character, with the additional character increasing options by at least a factor of ten.** Where the segments are structured hierarchically the main decision will be whether ten "children" in a numeric code provides adequately for each "parent" code. Expanding to two digits allows for 100 "children", which is a very detailed structure. In general this level of detail should be avoided (except for unique registers) as it is probable that the addition of intermediate "parent" codes will enhance usability and reporting within the structure. Many countries do this in their economic segment for goods and services and also in administrative (non-tax) revenues, with very detailed classifications in place. In both cases there can be an unlimited number of variants possible. However, the question is whether every possible variant should be captured, and whether all of these should be accumulated up to one "parent"? Box 6 provides examples of poor design. The structure used in Appendix II provides specific examples of how to design these more detailed elements in the Economic Segment of the UCoAs.

Box 6- Common examples of poor segment design

- One "parent" code for administrative revenues and hundreds of "children" under that one code. In this case an additional intermediate level in administrative revenues would make the segment easier to use and also provide additional reporting. Thus, administrative revenues could be broken down into fees, document services, inspections, etc.

- Each MDAs has their own general fees code, eg. Hospital Fees, School Fees, Court Fees etc. This breaches the principle of mutual exclusiveness with the economic segment including organizational information. In the UCoAs fees will already include an organizational description when you combine the organizational and the economic segment. Thus, the extra detail is redundant and a single "fees" account is already unique to each SU when used jointly with the organizational segment[37]; and

- Too much detail for input-based expense codes which do not reflect sensible management controls and reporting. Pencils, pens etc. where a code for office stationery would suffice; pigs, goats, sheep where a general code for livestock would suffice[38].

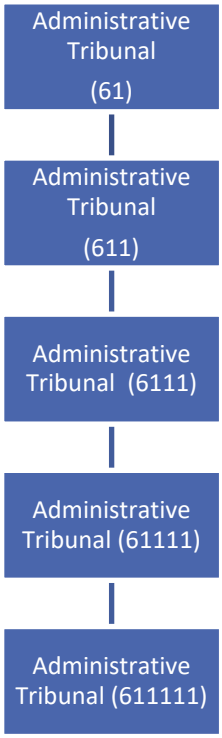
What happens where detailed information is neither required nor possible?

37. **On some occasions certain activities in government may not be divisible down to the lowest level or that level of detail may not be required.** As indicated earlier FMIS and CoAs must operate consistently so if the segment has five levels, posting of transactions must always occur at the fifth level. While this does mean that all five levels must be developed for every posting level, it does not mean they have to be utilized. Thus, if two, three or four levels are required, the lowest level required is simply repeated down to the posting level, in this case the fifth level. Thus, if the Administrative Tribunal is both a first level budget entity and a lowest level SU, the tribunal would be repeated across all five levels of the organizational segment. From the perspective of the Tribunal once this is set up it will have no impact, and they would be included in reports at all five levels with the same financial information reported at each level. This can be seen in Figure 12.

[37] When extracting reporting information for just "fees" it includes all fees for all of government, however, by adding the organisational segment the "fees" reported will only be for that organization eg the ministry, department or spending unit used in the report request

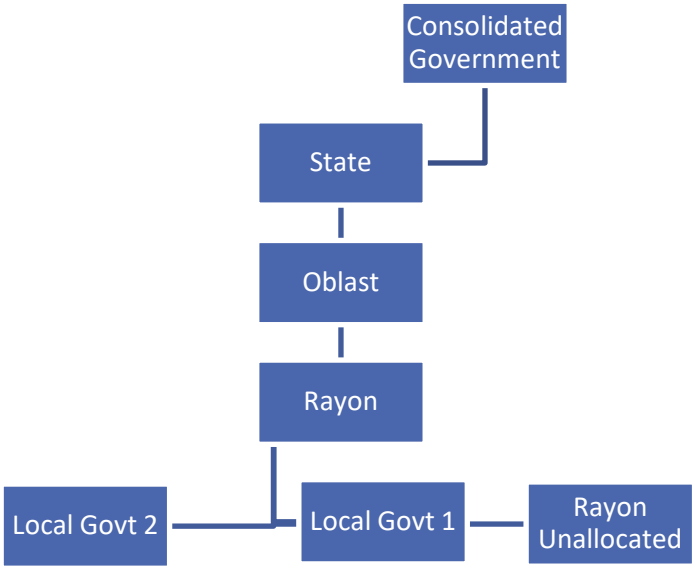
[38] There may be a need for such detail in stock management systems but this would usually not be included in the UCoAs

Figure 12 – A first level budget unit which is also a fifth level Spending Unit



38. **The same repetitive approach would apply in each segment including where elements cannot be subdivided or allocated.** For example, if a national road project is being developed, it may not be possible or preferable to allocate or manage the project down to specific local governments. In such cases a pragmatic approach is required. Ultimately the objective is to control the funds and produce reports for analysis, however, if reporting for certain elements is not required or possible at the lowest level, manageable alternatives should be put in place, for example, by only allocating down to intermediate levels such as the Rayon or not sub-allocating at all. This could be achieved by creating an additional lowest level code called "unallocated", or repeating the Rayon code at the lowest level as well. In both cases a posting level has been created for the Rayon as if it is also a local government (this will also be required for Rayon specific spending). The unallocated elements would be coded to the additional code and therefore report only at the Rayon level. Thus, these elements could either be excluded from the specific lowest level reports, or reported as an unallocated lowest level in the reports. This can be seen in Figure 13. In this example Rayon expenditure is treated as both a local government level (to distinguish it from other specific local government expenditure) and a Rayon.

Figure 13 – Structuring a Geographic Segment for projects which are managed at intermediate levels of government



Numeric verses Alphanumeric Coding

39. **There is often a great debate about whether codes should be strictly numeric, alpha, or alpha-numeric.** Indeed, with modern systems it is also possible to use symbols, as long as the systems using these codes can "read" such symbols. In some cases, alpha or alphanumeric codes could be used because they have a link with the segment's common descriptions. As an example, The Ministry of Finance could have its code using FIN for the first three characters. Such an approach can be very useful in reducing errors. However, it should only be used where there is a high degree of certainty that these structures will remain unchanged over time. In many countries organizational structures change frequently. A common example is where the Ministries of Finance and Economy are combined or separated by different governments. Using codes which therefore have a direct relationship embedded in the coding (eg FIN) maybe more confusing than helpful in the future. In this case FIN only includes Finance and excludes Economy, so its relevance maybe lost over time and in fact detract from the clarity of the coding in the future[39]. Thus, it maybe more prudent to stick with numbers or symbols rather than alpha codes, to reduce the risk regarding any loss of integrity of the original design of the UCoAs coding structure. Of course if alpha codes are used in the same manner as numbers, that is, in sequence without any embedded link to the segments (as is the case with FIN), and this is clearly understood by all users, then no issues should arise.

[39] One country did develop an alpha-numeric coding system for organizations. Within five years major machinery of government changes resulted in a number of realignments of departments and "parent" ministries. The end result was a set of codes where the alpha-codes of the subordinate entities no longer aligned with the "parents". This did result in some confusion particularly for new employees when trying to follow the logic of the organizational segment's codes.

Common CoAs design Issues

40. **When designing each segment structure, it is useful for all major reporting requirements to be assessed, and where possibly, build these reporting requirements explicitly into the structure of the segment.** As an example, in the program segment each ministry may have specific sub-programs or activities, which occur across government, for example for the leadership of the ministry and its corporate support. Using common descriptions and the same numbers would allow the capture of this information for each ministry or for the whole of government directly from the UCoAs. Ensuring uniformity in UCoAs design across reporting entities also allows comparative analysis to be undertaken relatively easily as this is embedded in the UCoAs structure[40].

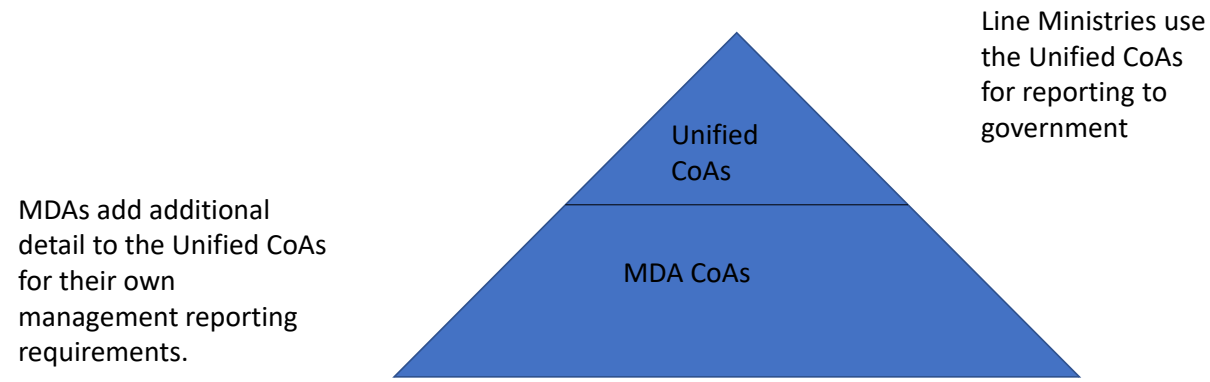
41. **Not-with-standing the benefits of reporting there is also a limit to how detailed a UCoAs should become.** Trying to meet every reporting requirement is not feasible. In any event if the UCoAs is well designed reports can be built using any combination of all of the segments, which literally allows tens-of thousands of user-defined reporting combinations. Thus, many reporting requirements can be derived from existing or other segment structures without the need for modification of the UCoAs.

42. **In many OECD countries line ministries operate their own FMIS and design their own CoAs for reporting.** This can create challenges for consolidation of financial information particularly where the MoF has not provided guidance or direction regarding the universal requirements. Some countries were so focussed on ensuring devolved authority was put in place that limited or no consideration was given to how reporting information would be consolidated. In these cases what is required is a higher level UCoAs which is imposed top down by the MoF and where the specific line ministry CoAs operate as a more detailed extension of the UCoAs as per Figure 14 below[41.]

[40] In the 1980s the Department of Finance in Australia maintained a separate administrative program for each major department. DoF used this to benchmark the overhead administrative costs across government verses costs attributed directly to program delivery, and targeted these areas for future efficiency gains and budget reductions

[41] Even in OECD countries issues have arisen for consolidation because no comprehensive UCoAs was in place - UK and Australia are two examples. In the UK producing consolidated financial statements has proven challenging as this was added on after separate accounting entities produced their own financial statements independently for many years - each entity has its own unique CoAs. Australia does not have a general government CoAs and does not consolidate across levels of government in its financial statements, instead it relies on statistical consolidation for a complete picture of the general government sector. It argues that subnational governments are not controlled entities

Figure 14 – Relationship between Unified CoAs and Line Ministry CoAs



43. **As Figure 14 demonstrates the key is to establish a centrally controlled UCoAs to define the major government reporting requirements, and to ensure uniformity across the PFM framework.** This ensures all major whole of government reporting requirements can be delivered from the UCoAs. At the same time, lower level reporting requirements can be developed, and even captured centrally for these stakeholders in a central system or data warehouse. The relationship of the UCoAs and whether a country has a central or decentralized ICT environments is discussed further in Chapter 6.

44. **In some instances, countries develop additional segments, or sub-segments but these do not provide significant additional reporting capabilities.** This is particularly common when developing organizational, program and sector or functional segments, which tend to share common elements, particularly where each segment captures finances down to very low levels. Thus, where a country captures the organizational structure down to SUs such as schools, it will often be possible to derive reports from this lowest level of detail and not repeat similar detailed elements in other segments. This is reflected in Figure 8 and shows that once the relationships to these reports have been defined, specific additional segment details are not required, given the very detailed level the organizational segment has been coded down to.

Box 7- Which Segment is More Important – Organization, Function or Programs?

The answer to this will very much depend on one's perspective and role. In the MoF, it maybe high-level organizational information combined with functions or programs; in a ministry the focus maybe on intermediate level organizational codes and sub-programs; whereas in a SU it maybe the spending unit itself and the specific economic categories of spending. Each is important and must be reportable in the overall UCoAs structure.

However, if the detailed information at the spending unit level is not captured correctly it will in-turn undermine all of the higher-level reports produced. One limitation in UCoA design in many countries is that the reporting and UCoA were designed from a high-level central perspective. As a result, lower level requirements were largely ignored. The end result is that the information submitted is recorded at least twice[42], once at the detailed level for the SU, and again using the higher level UCoA for central consolidation. This actually results in a disconnect between the detailed reporting source data and the final aggregate reporting. If the UCoA had been properly designed, then the detailed data would provide reports for both the detailed and the consolidated requirements, and most importantly, the integrity of the aggregate reports would be verifiable, as it can be linked back to the source data.

Ultimately government delivers services and incurs costs at the SU level. Ideally this should be the primary structural focus for recording transactions in government, with higher level controls and reports based on and derived from that detailed transactional data. Modern FMIS supported by a comprehensive well designed UCoA can improve the integrity of the overall system.

45. **Similar issues may also exist at the lowest levels of different segments, particularly where stakeholders from different functional areas of the PFM system are responsible for developing specific segments.** As an example, one country allocated responsibility for specific segments to different functional areas of the MoF. The Budget Department was responsible for the organizational and functional classification, with a separate department leading on budgetary reforms including program budgeting. A mapping of the subprogram and subfunctions highlighted a 96% one-to-one correlation at this level within the program and functional segments. In other words, with the exception of 4%, the two substructures were almost identical and would probably provide very similar financial information. The overall design question is whether including these two similar sub-structures was necessary and useful? Perhaps a more efficient option would be to design a report or structure that focused on the 4% which was not common in the two segments, for example building a subordinate structure that supports the dual reports (by defining the lowest level of common data required) and differentiates between the two requirements in one segment. The key message here is that once reporting requirements are defined, working groups should seek to optimize the UCoAs design and ensure segments capture and define different aspects of

[42] In some countries it is three or more times with different stakeholders requesting different aggregations of the same information, for example the MoF receives high level budgetary reports by ministry and program, while the ministry receives intermediate level reports by sub-function and sub-program.

the reporting requirements and are not duplicative. This will often require stakeholders to step outside their specific requirements to understand the broader design and reporting requirements and the overall benefits for the entire UCoAs structure.

46. **One major flaw seen in many countries is including different reporting requirements in one segment**. A very common issue can be seen in country economic segments, where activities, projects and organizational units are frequently included. This will result in a breach of the CoAs core principles in design particularly mutual exclusiveness (see Box 3) and will undermine proper accounting taking place in the economic segment.

47. **A common reason for this issue is officials are caught in their old paradigm and do not think of the UCoAs as having a number of dimensions and purposes.** This is frequently seen where traditional budgetary controls are considered in a limited and traditional way, for example using the organizational and economic segments only. As a result, when considering how to control a new activity, project or program, the designer builds these into these two segment structures, undermining the integrity of the overall structural design and economic reporting, This control and reporting should be achieved in another way in the FMIS and UCoA structure. (see Chapter 4)

48. **An example can be seen where the Budget Department seeks to provide a specific MDA with a single line budget, rather than a detailed "inputs" based budget that is applied to most other entities which is a frequent requirement in government.** Imposing different levels of central control for different entities is very common in government, for example greater flexibility is given to a statutory body verses a line ministry. The Budget Department incorrectly creates an economic item for that budget entity, say for a Pathology Clinic, Aids Awareness Project or for the National Independence Day Celebrations. This creates a new line - economic item which is not economic at all. In each case a structure and budgetary control was required but this should have been created in other segments (as a cost centre in the administrative segment, or as a project or activity). As a result, all spending is now recorded against a single item for that SU in the economic segment – there will not be any spending recorded against salaries, goods and services etc. for this budget entity, undermining proper economic reporting. The correct approach is to create this budgetary control in the segments other than the economic segment (as MoF does not want centrally imposed budgetary control or limits within the economic segment in this case), but as spending is undertaken it would still be recorded against the correct detailed economic items used by all entities to ensure consistency in use of the UCoAs and for reporting purposes.

Developing Other Reporting Structures/Segments in the UCoAs

49. **Some countries will choose to expand the UCoAs segments to facilitate controls or reporting in areas beyond the seven segments defined in Figure 3**. It is important that the UCoAs be designed for specific country requirements and therefore additional segments may indeed be justified. This section discusses some of the more common requirements observed in PEMPAL and other countries and discusses whether these should be separate segments or derived from the existing UCoAs segments. Ultimately each country must decide whether these additional structures are required. If duplicate structures are created they will increase the risk of errors between these

structures and also increase data-entry requirements. In the future there will also be costs for removing any redundancy. It is therefore beneficial for countries to carefully consider each requirement, ideally in close consultation with business process experts and ICT, who can provide insight into the capabilities of the ICT tools which will be in place, and how that can change the requirements compared to the old CoAs and reporting structures.

Sub-Treasury codes

50. **Many countries have sub-treasury structures (regional / local treasury offices) which are processing centres outside the main central treasury office for regional based clients.** In the past it was important to create a processing centre map which was used to allocate spending units to specific processing centres and to analyze workloads. This was particularly important under manual processing or where the accounting software was not integrated across processing centres. Most modern FMIS now allow for many processing locations, and this is handled as a workflow in the FMIS. In this approach sub-treasuries would be identified in the organizational classification only as a spending unit of the MoF (or Treasury where it is separate from MoF), with no requirement for a separate additional segment in the UCoAs. Regional workflows would simply be directed to the sub-treasuries as an administrative unit, in the same manner as for all other workflow processes, where there are two or more parties involved in the process.

51. **In some countries the advent of modern FMIS has seen sub-treasuries no longer having a key role as processing centres.** Georgia eliminated sub-treasuries in 2010 while Moldova closed 36 of its 39 sub-treasuries in 2017[43]. Both changes occurred after the FMIS was implemented with workflows simply redirected within the FMIS to the new more centralized sub-treasury or the central treasury. It was also made possible because the originating transactions are now created by the MDA SUs directly in FMIS, eliminating the need for the regional treasury manual input required in the past.

Codes to Classify Types of Institutions

52. **Many countries have created substructures to group SUs, for example, preschools, primary schools, dental clinics and other units that deliver the same services and activities.** It is sensible to create such groupings to allow specific reports and analysis to be easily undertaken within the UCoAs. However, as the UCoAs segments have been expanded in many countries, it is also sensible to ensure this type of grouping is done just once across the various segments. It is likely for example, that while SUs are classified as part of the organizational structure, even where these are not grouped under a specific department or division in the same segment, sub-structures in other segments such as sub-programs or sub-functions may provide this reporting capability. Thus,

[43] In both Georgia and Moldova, the automation of processes resulted in MDAs directly keying transactions into FMIS through web applications which removed the need for sub-treasuries as processing centres. In Georgia's case staff were redeployed to the MDAs. In Moldova staff numbers were reduced as part of public sector wide reform where the numbers of officials were reduced and the savings in salaries used to make public sector employment more competitive with the private sector. The key message here is that while there may be a need for a regional MoF/Treasury presence in the future, this role is not for transaction processing as modern systems should eliminate that requirement

each country should review all the segments and the relationships between them before creating explicit groupings that can already be met through simple mapping tables.

Is there a need for a specific reporting segment for financial reporting?

53. **Financial reporting is extremely important and the requirements of all major government reports including financial reports should influence the UCoAs structural design.** For example, the economic segment should allow reporting of cash separately from non-cash transactions (cashflow statement in IPSAS[44]) and at the same time each accounting concept: revenues, expenses, assets, liabilities, and net assets must be fundamental to the design of the economic segment. However, this is very different from designing a specific segment to support the requirements for any single report which has occurred in some countries. A typical government will require literally thousands of reports. Reports are an output from the FMIS (or third party software utilized for report generation) based on the data captured by the UCoAs. Each report should be derived from the core UCoAs structure and these requirements should have been taken into account when designing the UCoAs. In this case financial reporting in accordance with national accounting standards or IPSAS is no different from any other report, which should influence the design of the UCoAs and be derived from it through mapping tables (sometimes referred to as roll-up tables). In summary, no report requires an explicit segment to be created in the UCoAs but should be derived from the UCoAs structure, as key reports should have been considered when designing the UCoAs in the first instance.

54. **All major reports should be included in a master reporting template which the Treasury or Government Accountant controls.** This would map each detailed account to the specific report's required. As new accounts are added, or amendments are made to the accounts, the template must be updated. This mapping table provides clear instructions based on the different reporting requirements to ICT and ensures changes are submitted in a formal way. Ideally, all major repetitive reports should be developed as formal outputs from FMIS, available to key users as menu options.

Classification for Counterparty Reporting

55. **It is often useful to capture information on not just which entity spends money but to capture details on the recipient of the money too.** This is often referred to as the counterparty. To achieve this some countries create an explicit segment or subsegment where the recipient is identified. This may be a unique code, for example a Tax Identification Number (TIN) or a higher level summary of recipients by sector or sub-sector. An alternative option would be to use pre-existing structures in FMIS such as the vendor database. Ideally all payments should be made from FMIS only to defined recipients included in a "controlled" vendor (payment recipient) database. Recipients could be both external and internal to government. This ensures additional controls over payments and the database can be structured to allow detailed counterparty reporting.

[44] For budget reporting and appropriation controls, the cashflow statement must be derived directly from the UCoAs, not indirectly as often occurs in the private sector. In most cases it is important in government to see exactly which accounts resulted in final spending and for this to be reported explicitly and directly in financial reports. This is described more completely in Chapter 6

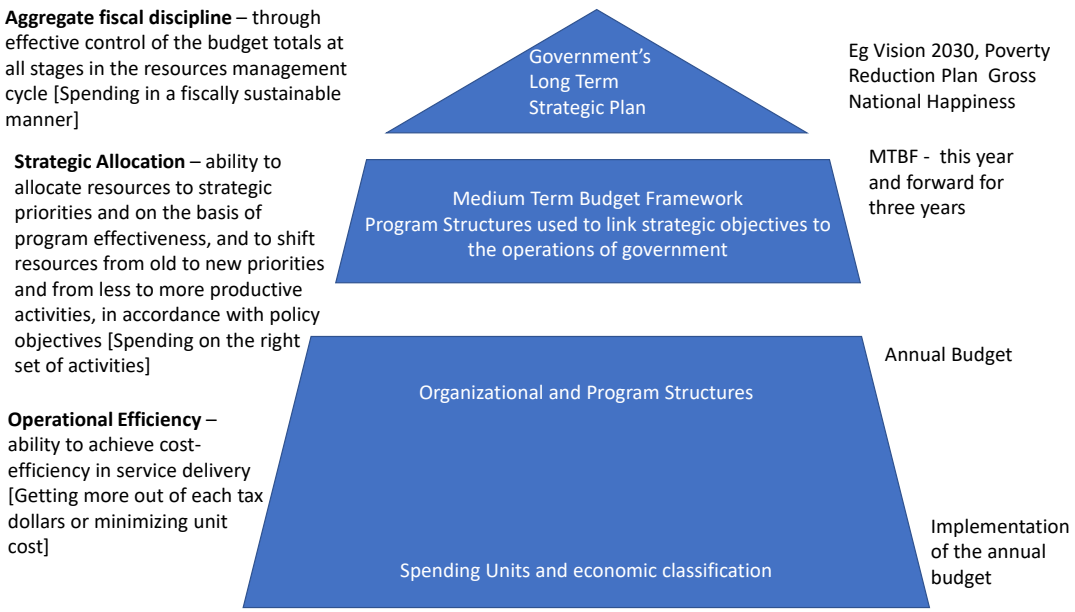
Moldova has developed a useful alternative approach using the banking system - The Treasury in Moldova is a direct party to the bank payment system. It has utilized banking system codes to allow unique identification of both payers and payees. This is an innovative way to access useful data for analysis of both counterparties and sectoral financial flows. Thus, countries should consider whether alternative options exist before developing an explicit counterparty segment in the UCoAs.

Integrating Strategic Planning and the Budget through the CoAs

56. **Every country has a range of strategic planning processes which are important and need to be linked into the PFM system.** Some will be defined by an incoming government plan that targets particular achievements for the future, such as a Poverty Reduction Strategy. In other cases, specific sector strategies will be developed often as part of a regular exercise in the medium term budget framework. Ultimately if these strategic plans are to be monitored and assessed, reports against the plans must be produced from the existing UCoAs.

57. **In general it should not be necessary to create an explicit segment in the UCoAs to achieve this, instead mapping tables can be developed from existing segments.** For example, if a government has a program segment, the programs or subordinate structures should be mapped to the strategic plan. On some occasions there may be some modifications required to both the classification in the strategy process and the UCoAs to ensure data and reporting integrity. Countries that have created results based segments such as programs, are probably well placed to produce reports as shown in Figure 15. Ultimately programs, outputs and outcomes must build the explicit bridge between strategic plans such as country development strategies, the government budget and reporting against the budget. This link must be supported in the UCoAs if the strategic processes are to have any real measurable influence over budget allocations and spending decisions.

Figure 15- Linkage Between Strategic Planning and the Budget through the UCoAs



Cross Cutting Reporting Issues

58. **For governments, and often for external funding agencies such as DPs, specific reports are required which are not always predefined or readily available.** Therefore, the question each government must ask is how important these reports are, and whether they can be mapped from the existing UCoAs segments? (or linked to other data in government systems).

59. **As an example, a country that has a seven segment UCoAs could identify poverty reduction expenditures or gender[45] based spending by developing mapping tables to specific elements of the organizational segments (education, health and social protection would be included whereas defence and financing sources might be excluded).** The mapping could be further refined by using other segments, for example, economic codes focused on entertainment, etc. might also be eliminated. Thus, explicit decisions would be taken across each segment of the UCoAs to determine whether each code is included or excluded. Much can be achieved in this way and while the mapping may not be perfect, it will often be accurate enough for decision making.

60. **Where the existing classifications do not capture the required information, an additional classifier maybe required.** An example of this can be seen with demand for reports on natural disaster expenditures. Most spending that results from natural disasters is already reflected in existing classifiers.[46] For example, when a school is rebuilt it is capital works for the specific school in the Ministry of Education, the Primary Education Program and the subfunction for Primary Education. However, it is important to be able to separately report the cost to government of a specific catastrophic event, such as a volcanic eruption, earthquake or hurricane from other spending. For natural disasters an option would be to use the existing classification and concentrate it around the dates immediately after the event. This would work well for short term spending such as disaster relief, but would be less effective for investment spending which may span many years, and which typically is more significant than the shorter term spending.

61. **A similar challenge has recently evolved for many countries due to the COVID pandemic.** During a PEMPAL event in early in 2020 a number of countries provided examples of how they had approached classification of COVID related revenues and expenditures and these are provided in Box 8 below. All of the options in Box 8 support the need for additional reporting and control over funds, particularly where they are provided externally. In each case it was also a rapid response to provide supplementary reporting capacity during a crisis which is commendable.

[45] Gender budgeting has a strong link to social inclusion and therefore poverty reduction. For more on this refer tohttps://en.wikipedia.org/wiki/Gender_budgeting

[46] For many countries, risked based contingency planning and reporting for natural disasters has become very important, particularly given issues with climate change. For more on this refer to https://treasury.worldbank.org/en/about/unit/treasury/ibrd-financial-products/disaster-risk-management

Box 8 - Country Approaches to Capturing COVID-19 Related Information

During a TCOP Video Conference in April 2020, a number of countries provided information on how they were responding to the COVID Pandemic reporting and control requirements.[47]

Albania – has taken a multifaceted approach by amending a number of segments in the UCoAs. It added additional economic items, for specific expenditure categories for social benefit transfers. Codes 6062300 and 6062301 are two packages of benefits for transfers to employees of small businesses during the COVID emergency period. At least one special project has also been set up for this including for grants received from DPs which are also recorded in a COVID related revenue classification for grants. Payments are also deposited into a separate account allowing transactions to be separately monitored. These accounts are zero balanced in commercial banks forming part of the TSA. In addition COVID related transactions are identified in a free "description field" although this is not controlled regarding content and therefore may not be consistently utilized by SUs or the Treasury Department;

Moldova - utilizes the SOF segment to separately record expenditures and match them to the revenues where specific codes have also been allocated;

Croatia – created specific COVID related activities in the program segment to separately track spending and a separate SoF code has been set up for grants etc. received externally;

Kosovo – opened a separate bank account for COVID in the central Bank of Kosovo to capture specific DP related funds, however this operates as a sub-account of the TSA. They also created a specific COVID related project activity to be able to produce reports separately from other expenditures; and

Ukraine - utilizes a feature outside of the UCoAs which allows the payment purposes to be registered during the payment order process. They have a special payment order register in addition to the accounting module which is used to record different payment purposes with each allocated a specific and separate identifier. The Treasurer assigns the identifier for the payment, for example, a unique code for COVID related transactions. The identification label is included when the transactions are first entered into the system. This has the advantage of not impacting existing UCoA arrangements, however, it does mean that if payments had other unique features prior to COVID these are now lost as only one option is available for each transaction using this approach.

62. **One challenge with some of the country approaches is that the solutions are generally added to the existing coding structures and therefore used instead of these coding options (Ukraine being the exception).** This approach works particularly well for new policy and activities in government and to some extent this is exactly what has happened with the COVID pandemic. However, in some cases, COVID receipts and expenditure reporting is not separate and apart from other existing activities, but an additional and different reporting requirement. Thus where new policy or activities are implemented, for example a new social benefit payment is created to keep non-

[47] For the specific presentations and report on the event go to www.pempal.org/events/TCOP

government officials in work, then a new economic item is warranted. However, if new programs or activities, functions or organizational units are created where no new activity is undertaken, this may impact existing reporting structures. As an example, if as a result of COVID unemployment increases it will still be important to see the impact on government's programs and activities, although separately understanding the impact of COVID specifically will also be important. This can also be seen in relation to a natural disaster such as an earthquake. When rebuilding a school it will still be important to ensure spending is tracked in accordance with the normal functional, organizational and programmatic structures. Understanding and reporting that this rebuilding exercise is also related to a natural disaster is an additional reporting requirement. It is therefore important to carefully consider how this information should be captured without adversely impacting existing reporting requirements.

63. **One option would be to create a simple additional classifier in the UCoAs where officials decide on a case-by-case basis whether to include or exclude this spending.** It would rely on the user of the FMIS and UCoAs to decide whether a specific item being recorded is to be included for that natural event or not, with "0" normal spending and "1" disaster related spending. In Box 8 above the Ukranian example achieves a similar result as it occurs outside the existing UCoAs structure (although it may displace other payment types if this function was already in use). The classifier could also be temporary, extending only as long as reporting information is required. Thus, for the impact of natural events, users would be required to select specific identifiers which would create separate reports for analysis and reporting. This approach ensures that existing organizational, functional and program reporting remains the same but with the added ability to report a COVID/ non-COVID dimension. In practice it is likely that a combination of both a new cross cutting segment and additional elements in existing structures will be required and countries should test these options carefully before implementation, particularly in relation to any adverse impacts on existing reporting.

64. **These specific variations to the UCoAs have been very difficult to implement in the past but have become possible with improvements in FMIS and data-warehousing.** Today, it is possible to develop flexible classifiers to report specific requirements where those requirements are strategically important. Table 5 includes an additional classifier which is simply added to the UCoAs. The classifier could be defined each year or periodically as required. Thus, the classifier could be used by just those entities that require the additional reporting element, or by all of government as specified. DPs that require specific reports may also find this useful, although it will always be important to balance the importance of each additional report with the added burden it imposes. It may also be somewhat challenging to maintain integrity over the use of such segments, given that they may change overtime.

Table 5 - Segment Structure of a Good Practice CoA

Source of Funds	Organisation	Function	Project	Geographic	Economic	Program	Cross Cutting Issues
							XXX

	Where 1 denotes Earthquake X

Updating the UCoAs each year

65. A **government UCoAs reflects the reporting requirements each year and as such may need modification from one year to the next.** Ideally, the UCoAs structure should remain as stable as possible to minimize disruption and institutionalize the structures across government, however, it is inevitable that some changes will be required in most years. The budget reflects the policy priorities of a country which makes it prone to change from year to year. Whilst many of these changes may be additions to existing budget allocations not requiring changes to the UCoAs, some may require new organizational, program or other structural changes. As a result, the UCoAs must be scalable and able to change from one year to the next to accommodate these changes. TABLE 6 provides some examples of changes and the implications for the UCoAs.

Table 6 – Possible Changes to the UCoAs and Required Action

Change Required	Action Required	Examples
Add New codes	Determine where in the existing segment the codes are to be created. These code items will not have any history to map from earlier years	New program or organization unit which did not exist previously, for example the creation of a new Climate Change Unit
Expanding existing codes	Moving from one code to many codes. Thus, the historical data must be re-aligned to reflect the new structure unless the new codes reflect completely new policy which cannot be mapped	Creation of a breakdown in existing items, for example, splitting electricity payments to separately report renewable sources from fossil fuels. A new tax type such as first time implementation of a consumption tax would be an example of expansion which will have no historical data
Realigning/Amending Existing Codes	Determine the mapping of the old structure to the new structure including for historical data	Realignment of organizational structures in government such as moving a department to a new "parent". Realignment of program structures to a new ministry
Deleting Existing Codes	Moving from many to one. Determine how to map the historical data to close the old codes if required	Project ends. Government function closes. In this case the historical data may need to be reallocated to existing structures

66. **It is important for changes to the UCoAs to occur at the beginning of the year as in-year changes will create alignment and balancing issues.** It is therefore good discipline to commence a consultation process sometime before the end of the financial year to agree changes for the following year, and then determine the best approach for implementing the changes. It is also important to ensure the changes are tested before going live, to ensure that no alignment issues exist, particularly from last year's structure to the new year's structure. Some changes will also require a realignment of historical data to ensure compatibility between the old and new UCoAs.

67. **A formal UCoAs policy should be in place regarding changes ensuring adequate time is allocated to assure the integrity of the new structure.** It is not uncommon for stakeholders to make late decisions to change the UCoAs structure. A common example is the Budget Department issuing new organizational items or programs late in the year. In an FMIS environment this represents high risk. All stakeholders should be informed of the timetable and the process for changes to ensure all requirements can be tested and implemented before the new year.

Establishing a UCoAs Working Group

68. **It is important when undertaking significant reform such as redesign of the UCoAs to properly resource the activity**. Ideally key officials should be taken offline to concentrate on the process and ensure adequate time to consult with stakeholders along with external experts. Ideally consultation with other countries should be included, particularly those that have been through similar reforms and have similar governance structures. Many countries when redesigning the UCoAs do not adequately address the reporting needs of all stakeholders. A frequent issue is that the Ministry of Finance largely develops the structure in isolation from other stakeholders such as line ministries, and designs the UCoAs for its higher level budget management and reporting requirements, and not for management reporting and control in MDAs.

69. **Working groups should therefore include all stakeholders.** As a starting point the UCoAs Working Group should include: Central Budget, Treasury, Accounting, macro-fiscal and statistical agencies and departments, along with representatives from key line ministries and subnational governments. Where the capital budget is separate, for example, in a Ministry of Planning, then participation by this ministry is also key to ensure integration of both recurrent and capital spending in the UCoAs. This could be expanded where specific stakeholders have known reporting requirements, such as parliament or even citizen groups.

Box 9 – Key Tips for the General Principles in Unified Chart of Accounts Design

- Define each UCoAs segment hierarchically using "parent-child" relationships as this improves the usability of the overall structure
- Utilize unique registers in key positions in the UCoAs segments to improve the usefulness of the UCoAs. While this approach increases overall coding length, counter-intuitively, it will actually reduce the codes required for data input due to the one-to-one relationships which are established across the UCoAs

- Establish a UCoAs Working Group when undertaking major UCoAs redesign is critical. It is very important that participation extends beyond the Budget and Treasury functions to involve all major PFM stakeholders
- Define the appropriate structure in the UCoAs to reflect your country requirements including going beyond the seven recommended segments to include supplementary structures. However, these requirements should be carefully reviewed and based on a strong understanding of the capabilities that modern ICT can deliver
- Ensure strategic planning processes in government are effective by linking them into the budget process through the UCoAs design
- Consider whether a flexible crosscutting reporting capability is required in the new UCoAs structure to support evolving government reporting requirements
- Ensure changes from the old to new UCoAs occurs only at the beginning of the financial year to minimize disruption and to allow adequate preparation for implementation for the new year

4. Economic Segment

The Critical Segment of the UCoAs Structure

70. **The economic segment is the most important of all the segments in the UCoAs as it is the segment where all of the major reporting elements converge.** Without a properly structured and designed economic segment, supported by good quality accounting policies and instructions, most countries will not meet the reporting requirements for good governance. The economic segment provides the basis for financial reporting and the production of either cash, modified or full accrual financial statements[48]. It provides a classification for recording cash transactions and other flows and also for reporting stocks, that is, assets, liabilities and net assets or equity. It is also used by many countries for appropriation control and budget execution management[49]. It also provides the structure for economic, including macroeconomic, and statistical reporting and analysis.

71. **Ensuring accounting descriptions and structures in the economic segment are primarily limited to generally accepted accounting concepts can be key to good design of this segment.** Thus, if an account cannot be readily defined as an expense, revenue, asset, liability or equity[50], it should generally not be included in the economic segment. The economic nature of the accounts is largely synonymous with accounting itself. Further to this point, poor design of the economic segment generally breaches one or more of the seven principles (see Box 3) as demonstrated by the following real examples in Tables 8 and 9 below. In both of these examples the requirements for fund, programs and projects should have been met in other segments of the UCoAs. As a result the true economic nature of the transactions is hidden, as all transactions, no matter their economic nature (eg salaries or goods and services expenses or spending on assets) are coded against these accounts. In one country this type of coding anomaly led to the under-reporting of salaries expenses by 20%.

Table 7 - Fund Concepts in the Economic Segment

Code	Description
1411	Capital investments in non-commissioned fixed assets (general fund)
1412	Capital investments in non-commissioned fixed assets (special fund)
1413	Capital investments in non-commissioned fixed assets (state earmarked funds)
1414	Capital investments in improvements of financial lease units (general fund)

[48] Modified accrual accounting has no formal international definition and therefore can include reporting which is anywhere between pure cash and full accrual. There is however some consensus amongst practitioners that it refers to the inclusion of financial assets and liabilities in a partial balance sheet

[49] Even countries that have implemented full program (results) based budgeting and do not control appropriations economically still distinguish between capital and recurrent spending in a budget. This can be seen to be reflective of a high level economic classification in the budget

[50] While these are accrual concepts, the principles apply equally to cash accounting

1415	Capital investments in improvements of financial lease units (special fund)
1416	Capital investments in improvements of financial lease units (state earmarked funds)
1417	Capital investments in investment properties (general fund)
1418	Capital investments in investment properties (special fund)
1419	Capital investments in investment properties (state earmarked funds)

Table 8 – Non-Economic Concepts in the Economic Segment

Code	Description
0523310	Maternal & Child Health Programme
0523311	National Weight Reduction
0523312	National Mental Health Program
0523313	Laboratory Strengthening Project
0523314	National Blood Programme Project
0523315	Health Systems Strengthening
0523316	Public Health Strengthening

72. **One strategy for improving the economic segment is to shift non-economic reporting requirements to other segments of the UCoAs.** This is one reason why an FMIS and automation is key – creating two or more segments in the UCoAs pre-supposes a level of automation. If for example, the economic segment of the UCoAs currently includes fund descriptions, these could be removed, and separate fund reporting created through the use of the SoF segment. Taking the examples in Table 7 above the new structure could be something similar to the proposed codes in Table 9.

Table 9 – Table 7 Revised

Source of Funds Account	Source of Fund Description	Economic Account	Economic Description
01	*General Fund*	*1411*	Capital investments in non-commissioned fixed assets
02	*Special Fund*	*1412*	Capital investments in improvements of financial lease units
03	*State Earmarked Funds*	*1413*	Capital investments in investment properties

73. **In the above case, each SoF code can be used with each economic account, that is, the economic account 1411 would be used with each of the three funds, general, special and earmarked funds.** As can be seen this simplifies the detail included in the economic segment, removes the non-economic descriptions, and in turn, improves the usability of the UCoAs for reporting. If a report is required for the general fund, there is no need to map each economic account relating to the general fund - the report can be produced using the single code in the SoF segment. Similarly, if information is required by fund or for all funds for economic code 1411, a report is requested for the specific fund code along with the relevant economic accounts, or just for the code 1411, which would include all funds. A similar approach could be taken for Table 8, by utilizing the program and project segments.

74. **A number of TCOP countries, including Azerbaijan, Russia, and Moldova, have developed their economic segment consistently with generally accepted accounting concepts by using GFSM2014[51] as a template.** Figure 16 replicates the general structure of GFSM2014.

Figure 16– General Structure of GFSM2014

GFSM Class[52]	Suggested Classes[53]	Description
1	1	Revenues
2	2	Expenses
31	3	Non-Financial Assets
32	4	Financial Assets
33	5	Liabilities

75. **Although GFSM2014 does not include a class for equity/net assets, this is implied as it is the balancing item derived from the other classes.** As can be seen by the above classes, there is a strong correlation between GFSM2014 and generally accepted accounting concepts. The major difference is that assets are divided into two classes, non-financial and financial, rather than a single class (usually divided into current and non-current), recognizing the importance of separately reporting recurrent and capital (investment) spending for government. It is important to note that every government should ensure its economic segment can report both current and

[51] Some experts argue that countries that are primarily reporting on a cash basis should use the cash based GFSM86 structure in lieu of the accrual structure from GFSM2014, formerly GFSM2001. Unfortunately, the problem with GFSM86 is that it focuses only on inflows and outflows, which can hide the real economic nature of some transactions, making it difficult to produce properly classified reports for other requirements, such as fiscal reporting. In IPSAS 2 the cashflow statement is not structured just by flows but economically, that is, operating, investing and financing, because this emphasizes important analytical information for decision makers. Given that all countries report at least some accruals (as an example debt) and all are interested in tracking the fiscal balance, GFSM2014 is a more effective design template. In addition, just because GFSM2014 is utilized, it does not mean a country has to adopt full accrual. GFSM2014 also supports proper cashflow reporting

[52] The GFSM2014 numbering is included here but there is no suggestion that this approach would be sensible in the design of the numbers for the economic segment. Indeed, using both a single digit (revenues and expenses) and two digits (assets and liabilities) at the same time is not ideal. Most countries would choose to just create five separate single digit classes as per the second column in Figure 16.

[53] The suggested class numbering will be used in this paper given it is better structured for implementation in an FMIS

non-current as well as financial and non-financial assets.

76. **For many countries this structure (non-financial and financial in lieu of current and non-current) is preferred because it aligns better with the structure of a government budget.** It also provides for a fiscal balance report – the critical analytical report for macro-fiscal analysis and budget management and control; generally accords with the structure of an IPSAS cashflow statement[54], while still supporting modified accrual and accrual reporting as the structure also supports reports on the operating result and balance sheet; and is essential for effective debt and cash management. Following is a discussion of how the GFSM2014 approach is able to achieve each of these reports and outputs.

- **Budgeting[55]** – A government budget is developed, firstly, by estimating the revenues that will be collected, and, secondly, by estimating spending in two key areas – operational expenditures and capital (non-financial assets). The coverage of revenues over expenditures represents the operating result. Typically, countries try to ensure a surplus operating result (not borrowing for operational spending)[56]. The coverage of the revenues over operating and capital expenditures is usually defined as the fiscal balance. If a country has a fiscal balance surplus, it decides what it does with the surplus. It can increase its financial assets or reduce its liabilities, or a combination of both. If a deficit exists – revenues are smaller than the combined estimate of recurrent and capital expenditures – the budget should show how the deficit will be financed. The financing of the deficit will show how the gap in cash from government revenues will be sourced, either by reducing financial assets (e.g. spending cash surpluses from former years or through privatization receipts) or through borrowing (e.g. new borrowing).

Figure 17 - General Structure of a Good Practice Budget (assuming a deficit)

Revenues
Less
Operational Expenditures
Net Capital Expenditures[57]
Financing the Deficit
Reduction in Financial Assets
New Borrowing

- **Fiscal Management –** A fiscal balance, with the budget reflected above the line and the sources of financing below the line, is a universal structure which a good government UCoAs should support. Representing this explicitly in the overall structure at a high level of the UCoAs ensures

[54] There are some differences in classification between GFSM2014 and IPSAS 2, cashflow reporting, particularly in relation to the classification of some investing and financing transactions. However, these can be readily addressed when formulating the relevant reports and statements

[55] The assumption here is that the budget and fiscal balance are calculated based on cashflows

[56] Often referred to as the Golden Rule – governments should only borrow to invest

[57] For the purposes of a simplified presentation, spending on non-financial assets is presented net of any sales of non-financial assets, given that governments generally dispose of assets at the end of their useful life and thus receipts tend to be small relative to the acquisition costs

that all decision-makers have a stronger sense of the impact of new spending decisions on the fiscal position of government. The fiscal balance report is also the primary structure for medium-term fiscal frameworks, and can be used each day to assist in monitoring performance against the fiscal targets in the budget. Finally, the same format can be used in reports, such as a budget scorecard, to show decision-makers the impact on the fiscal position of any new policy, either within the annual budget process, or even during the year.

Figure 18 - General Structure of a Fiscal Balance Report [58][59]

Revenues	Coverage of own revenues over recurrent and capital spending
Operational Expenditures	
Operating Balance	
Net Capital Expenditures	
Fiscal balance	
Change in Financial Assets	Financing sources for the deficit or investment options for a surplus
Change in Liabilities	

Figure 19 - General Structure of a Budget Scorecard

Current Budget Balance	**New Budget Balance**
Revenues	**Revenues**
	New Revenue options
Operational Expenditures	**Recurrent Expenditures**
	New recurrent expenditure policy proposal
Capital Expenditures	**Capital Expenditures**
	New capital expenditure policy proposal
Fiscal Deficit/Target	*Adjusted Fiscal Deficit/Target*
Source of Financing of Deficit	**Source of Financing of Deficit**
	Proposed new sources of financing

[58] Refer to GFSM2014 for this structure. Above the line refers to those aspects of a government's budget that reflect operational and investment policy decisions, and the coverage of revenue collection over those policies. Below the line relates to the supplementary sources of financing, either through use of a government's own accumulated resources or by borrowing

[59] In the UK, for example, the budget and fiscal balance are defined above the line in accrual terms, while below-the-line is defined on a cash basis. This requires a balancing adjustment below the line to reconcile between the two elements

- **Cashflow Statement –** a cashflow statement under the cash basis IPSAS, accrual basis IPSAS (IPSAS Standard 2) or IFRS[60] are primarily the same[61]: operating cashflows, investing cashflows and financing cashflows[62].

Figure 20 - General Structure of a Cashflow Statement

Opening Cash Balance
Revenues
Less: Operational Expenditures
Operating Cashflows
Capital Expenditures
Less: **Cash Sales of Non-financial Assets**
Investing Cashflows
Net Cashflows from Financial Assets
Net Cashflows from Liabilities
Financing Cashflows
Closing Balance

- **Accrual reporting –** the structure of GFSM2014 also supports modified accrual or full accrual reporting, with the economic classes clearly related to the primary financial reports, the Statement of Financial Performance and the Statement of Financial Result[63] .

Figure 21 – Statement of Financial Performance (Operating Statement)

Revenues
Less: **Expenses**
Operating Balance

[60] International Financial Reporting Standards issued by the International Federation of Accountants (IFAC) for the private sector. IPSAS are also published by the IPSAS Board of IFAC

[61] The IPSAS Cash Basis Standard is not prescriptive in relation to the structure of the cashflow statement, although it does encourage adoption of this format as the benefits in governments adopting the IPSAS 2 and IFRS format are significant

[62] There are differences in the classification of cashflows, particularly for investing and financing cashflows, between GFSM and IPSAS. However, these can be readily addressed when formulating the relevant reports and statements

[63] As countries move towards full accrual disclosures the balance sheet becomes more comprehensive

Figure 22 – Statement of Financial Position (Balance Sheet)

Assets
Less Liabilities
Equity

77. **While the above analysis represents a simplified approach to the structures of all reports, hopefully, it is clear that the proposed GFSM2014 based economic structure is well aligned with all the key reports in government, including the budget, macro fiscal requirements and traditional reports under both cash and accrual accounting.** To meet the requirements for compliance with the full accrual IPSAS will also require supplementary coding in the economic segment. As an example, assets and liabilities must also be sub-classified according to current and non-current as well as by the classes already indicated for financial and non-financial assets.

78. **In addition, given the strong relationship between accounting and budgeting structures, for most countries this does not represent a radical change in structures.** As an example, Table 10 represents the existing and planned structures for Ukraine in 2013 for its UCoAs. This shows that while the mapping is not always one-to-one in each class for each structure, it was possible to map all the different structures to each other and GFSM2014. Going forward mapping of these equivalent structures in a country would move to the most detailed level which would highlight any specific anomalies. The goal would be to build a new integrated segment structure to meet all of these requirements.

Table 10 – Ukrainian mapping of accounting structures to GFSM2014[64]

CoAs Class	GFS 2001/14	Budget Spending Institutions – Account Class	Economic Classification- Classes	CoAs- Account Classes
Revenues	1	7		7
Expenses	2	8	2	8
Non-Financial Assets	31	1,2	31	1
Financial Assets	32	3		2,3,4
Liabilities	33	5,6		6
Equity		4		5
Off Balance				9

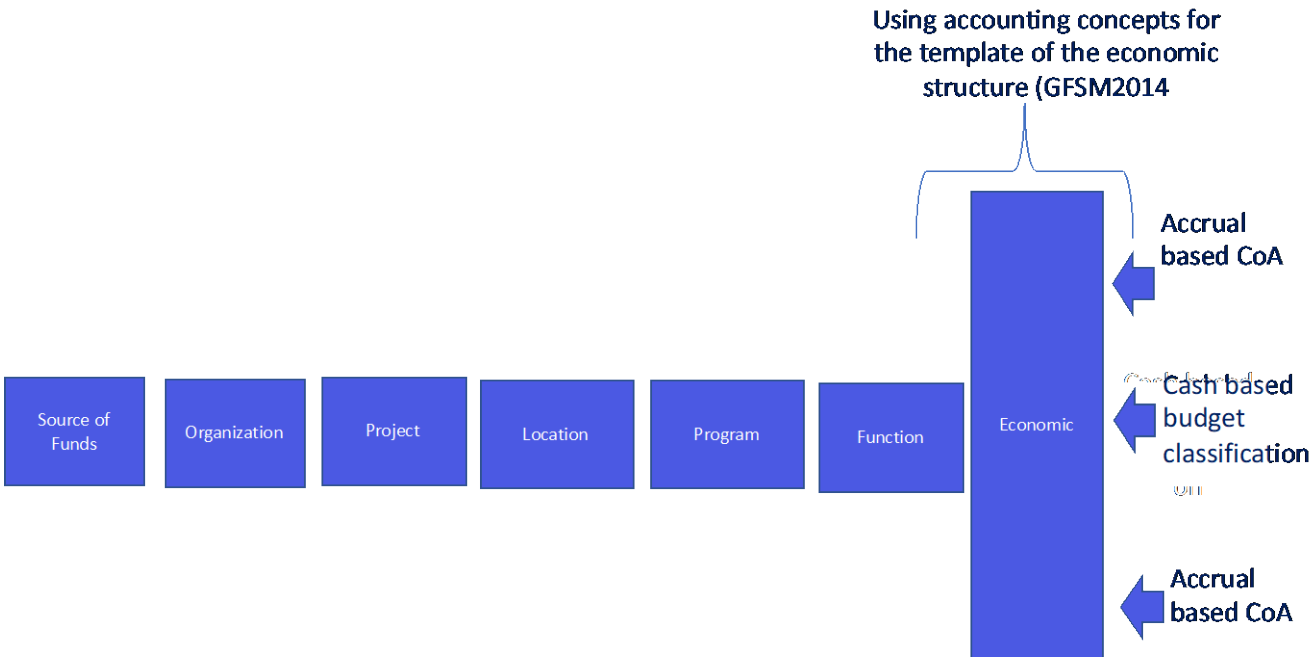
[64] Based on work with PSAWG in 2013 and 14. Ukraine does however continue to operate a separate economic segment for the budget classification from its CoAs

Developing an Integrated Economic Segment

79. **GFSM2014 also provides a useful template for integrating different UCoAs and the BC in countries.** In Moldova for example, the GFSM2014 general structure was used to map the six different CoAs and the BC structures. This was extremely useful in showing areas where the structures departed from each other and GFSM2014, and also where they converged. In general, the structures did converge, which was not the general perception of most government accountants at that time (hence why different structures were created in the first place).

80. **Figure 23 demonstrates how GFSM2014 can be used to create a single integrated CoAs and BC, even where a country manages its budget on a cash basis, while accounting in MDAs on a modified or full accrual basis.** It shows that a cash based BC is in fact a subcomponent of an accrual based UCoAs. Once the cash based budget reporting requirements are defined in the BC the full UCoAs can be develop by adding in the non-cash requirements.

Figure 23 – Integrating a Cash-based BC and Accrual CoAs using GFSM 2014



81. **Where a country is seeking to create a single integrated and unified economic segment for the BC and CoAs the following approach to integration could be a useful strategy:**

i. Develop a mapping table to determine where the CoAs and BC converge and depart using GFSM2014 as a template;

ii. Develop this mapping table at the lowest level required for consolidated reporting requirements, not necessarily at the lowest level of each of the different CoAs structures (although detailed mapping maybe required);

iii. Based on the areas of divergence, examine the underlying differences of each structure, and determine a solution. For example, the divergence may be due to one CoAs not having the same

level of detail as the other CoAs or one structure may include accounts for cost of goods sold because it is used by entities that sell goods and services;

iv. Develop a working group to agree specific actions in each case. Options could include:
    a. A change to the entities CoAs to capture information at a more detailed level,
    b. An agreement on how existing financial information would be broken down to assign approximate values for the level of detail required by the UCoAs, and
    c. An agreement that the breakdown would not occur, with information consolidated at a higher level, with an appropriate clarification in the notes to the consolidated accounts;

v. The focus should be on developing the UCoAs which represents the general reporting requirements for a country, with different reporting entities having the flexibility to include more detailed CoAs information for internal management and reporting.[65] The UCoAs must, however, be operating across all reporting entities;

vi. Ensure the UCoAs meets the requirements of both GFS/ESA and IPSAS reporting; and

vii. Examine, in the longer term, whether the UCoAs should become the minimum required reporting format (and thus the minimum requirement for the entity CoAs), for all other reporting entities. This could be achieved through specific legislation or by the MoF using its powers, under existing legislation, to require specific reporting information from such entities.

82. **It is also important to recognize that while GFSM2014 may be a useful template for this integration, it is not in itself a good design for an economic segment for a country.** GFSM2014 is a universal structure and includes accounts which do not apply in every country but are in use across all countries. As an example, it is unlikely that any one country would require every tax code reflected in GFSM (however, it may be that different taxes are applied by different levels of government for the same consolidated entity, so allowing for this requirement, or future changes or new taxes is also important in UCoAs design). In some cases, GFSM2014 is also too aggregated for many countries, for example Goods and Services in expenses in GFSM2014 is reflected as a single coding item (22). Countries that seek to mirror GFSM2014[66] exactly in the UCoAs may therefore create issues in the future, particularly in relation to budget management where flexibility is key from one year to the next[67]. Thus, GFSM2014 is recommended only as a general template and each country must and should develop its own economic segment to meet is own reporting requirements, particularly in relation to budget reporting and control. However, the economic segment should generally align with the GFSM2014 structure and include only generally accepted accounting concepts to ensure its integrity.

[65]However, it is possible for a single UCoAs to meet the majority of reporting requirements for all reporting entities. Thus, the different or unique accounts would be on an exceptions basis, and only be developed at a level below the UCoAs. See Figure 14. This same approach could be used for specific, more detailed requirements within any MDA or SU. In some countries, these additional accounts are developed through the provision of an additional level in the economic segment which each reporting entity is able to use for its own internal reporting purposes. Those entities that do not require this functionality simple zero fill the additional level

[66] The replacement of GFSM2001 with GFSM2014 highlights this issue - countries that have exactly mirror GFSM2001 in their existing CoAs may now need to redo the entire economic segment to accommodate the more detailed requirements in GFSM2014

[67] As an example, Azerbaijan has had a GFSM2001 based classification adopted by the Congress, which has caused it some issues in flexibility since approved

83. **Examining TCOP member country economic segments provides some useful tips in terms of design:**

- ***Ensuring a strong use of hierarchy in code design maximizes the utility of the structure for reporting and accounting.*** Box 10 (below) is an example of the Moldovan six-digit segment, where each level is designed for a specific reporting purpose.
- ***Use the GFSM structure as a guide not necessarily the specific GFSM codes.*** Unfortunately, GFSM is not consistent in its use of code length, which is usually a recommended requirement in modern accounting systems. Thus, 22 the lowest level for goods and services in GFSM is equivalent to 2611 and 2621 the lowest level for grants in the same structure. If these two accounts were used in FMIS and there was a six-digit economic segment in place they should both be in the format 2200XX and 2611XX to create a common coding length.
- ***Some GFSM economic codes are at a very high level.*** Detail should be provided as sub-divisions of the codes rather than as new separate codes. This will facilitate aggregation for reporting purposes.
- ***When designing any segment including the economic segment, ensure you leave gaps between coding to allow further codes to be added,*** without impacting the integrity of the existing structure;
- ***Even if a country is only reporting on a cash basis, leave gaps for the non-cash elements of GFSM2014, allowing for a future shift towards reporting on a modified accrual or full accrual basis.*** This could include recognizing some non-cash transactions earlier than full adoption of accrual (e.g. debt stock, grants in kind, depreciation, etc);
- ***Use descriptions which assist users of the accounts understand the economic nature of the account,*** for example if something is a tax ensure this is included somewhere in the description**;**
- ***It is generally useful to follow the same sequence in coding for the tax structure in a country segment as GFSM2014 uses.*** This would also include leaving gaps where existing types of tax are not currently utilized, in case these taxes are implemented in the future;
- ***Within organizational fees for revenue, there will be a great variety of codes for different MDAs****.* It is useful to create groups of similar codes, to create some structure in this section of the accounts, and also to eliminate duplicative or similar accounts. If for example a number of reporting entities collect small amounts of similar fees or services, group these as one account. Given that non-tax revenues tend to represent a relatively small component of total revenues, an exhaustive level of detail is generally of limited use, and may actually make selecting the correct account overly complicated if too many similarly described codes are available (this should however, be balanced with the utility of analysis for different types of organizational revenues);
- ***In goods and services within the expenses class (as with fees in revenues), create groupings of accounts to improve reporting and usability of the accounts.*** In many countries these groups may also be either included as budget appropriations or allotment control codes from the MoF. Table 11 (below) is an example of a hierarchy in goods and services;
- ***Ensure that different transfers are clearly separated as per GFSM****.* E.g. subsidies, grants, social benefits and other transfers;
- ***As far as possible define accounts classified as "Other Expenses" in GFSM within clear accounting descriptions****.* "Other" in GFSM2014 includes insurance expense, scholarships, and transfers to non- government organisations or which are not defined elsewhere. Most countries would want

to specify these in their domestic economic segment rather than include them under "other" in the country economic segment (but they would be mapped to the correct GFSM2014 code);

- ***In non-financial assets, ensure that the minimum structure is reflective of GFSM2014.*** For most countries it will be important to have further breakdowns in accounts to adequately report on capital spending and for control purposes in MDAs. The structure will in turn underpin the structure of the assets register in government;
- ***In financial assets, all government bank accounts that have cash balances (exclude zero balance accounts) should be replicated in this class.*** This ensures the ledger can be used to reconcile to bank accounts[68] (ideally automatically), and that general ledger reporting can be used for cash-flow management and forecasting purposes. In addition, separate bank accounts can be targeted for closure, or to become sub-ledger accounts within the TSA in the general ledger cashbook;
- ***Adequate detail should be included for managing debt stock and flows,*** including either regular reconciliation with the debt management system, or even better, some type of interface;
- ***Specific net asset (or equity) accounts will need to be included for closing the ledger each reporting period and to reflect the accumulated surplus/deficit,*** and for countries undertaking modified or full accrual, to make regular adjustments for issues such as revaluation, etc.
- ***In general, off-balance accounts should be limited to memoranda accounts to be reported in the notes to the financial statements.*** Examples could include registers for contingent assets and liabilities.

[68] In some countries the FMIS will have an independent structure for bank accounts, outside of the formal UCoAs. In such cases the full structure of all bank accounts may not be required

Box 10: Moldovan Structure of the Economic Segment – Using hierarchies to improve the structure and reporting capacity of the UCoAs

The economic classification is a core component of the Unified Chart of Accounts and is structured into 6 levels: type, category, section, item, sub-item, and element.

Each Level of the economic classification has its individual value (Figure 1) represented by a single character, leaving a code generated from a total of 6 characters for the most detailed division by economic classification.

Structure of the Economic Classification

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6

Type
Category
Section
Item
Sub-item
Element

For the purposes of these guidelines, the following definitions are used:

Type – grouping main economic transactions associated with the implementation of fiscal policy.

Category – grouping transactions according to the increase or decrease in value of the public sector assets and transactions in assets and liabilities.

Section – grouping economic items by generalizing the type of ownership, organizational form, the status of physical and legal persons, as well as by summarizing the frequency characterizing economic transactions, and the type of assets and liabilities.

Item – division of economic classification that summarizes sub-items according to certain general principles.

Sub-item - grouping items by the nature of economic transactions associated with an increase or decrease in the elements.

Element - a basic unit for undertaking budget spending in the economic aspect – the posting level of accounts to the general ledger.

Table 11 – An example of hierarchy in the economic segment[69]

22	***Use of goods and services***
221	Travel Costs
2211	Domestic Travel
221101	Domestic travel costs
221102	Domestic accommodation costs
2212	International Travel
221201	Foreign travel costs
221202	Foreign accommodation costs
221999	Other travel and accommodation costs
222	Contractors and Consultants
223	Supplies
2231	General Office Supplies
223101	Office supplies (paper, pens etc.)
223102	Printing & graphics material
223103	Freight and Postage
223104	Minor maintenance
223106	Meeting expenses
223199	Other office expenses
2232	Consumables and low value equipment
2234	Computer Consumables and costs
224	**Utilities**
225	*Training*
226	Services
2261	Transportation and Vehicle Costs
2262	Marketing and Advertising
2263	Rent and Minor Maintenance of Buildings and Equipment
2264	Insurance
229	Other Goods and Services NEC

[69] The table is an example only and the full structure for all codes is not reflected

Box 11 – Should GFSM2014 Numbers be Embedded in the Coding for an Economic Segment?

Some countries have chosen to embed the GFSM numbering explicitly in the number for its new economic segment in the CoAs. This results in a very lengthy account code which will have the following structure.

GGGGGGGGCCCCC where G represents the GFSM code and C the country specific requirements.

While the general structure of the GFSM system reflects generally accepted accounting concepts, e.g. revenues, expenses, assets and liabilities, at a detailed level it is seeking to ensure consistent statistical reporting across all countries. Almost no country will require every GFSM code (for example every type of tax), and every country requires more detail than GFSM in a number of key areas (for example goods and services). The code length of GFSM2014 also varies from two-digits up to eight-digits. Thus, to completely accommodate GFSM's most detailed structure requires at least eight-digits. If specific country requirements are needed beyond GFSM2014, a longer code will be required.

Integrating the GFSM number into the economic segment is seeking to explicitly use two different reporting templates in the one-segment. In fact, the same result can be achieved by only developing the country specific requirements and separately developing a mapping table for GFSM based reporting. This reduces the code length by eight-digits and makes the structure easier for users to understand.

How to Deal with the Different Reporting Requirements for IPSAS and GFSM2014 (along with broader reporting requirements)

84. **On some occasions different stakeholders (or external advisors) may express the view that the economic segment must be structured in a particular way to meet the needs of specific reporting requirements**. A common example of this is that individuals who have a private sector accounting bias indicate that the economic segment must be structured to report current and non-current assets and liabilities and that the GFSM2014 based structure of financial and non-financial assets is incompatible with this requirement. In fact, ideally the segment should be able to report both of these requirements, along with all other strategic reporting requirements of the government itself (domestic as a priority over international requirements). Appendix III which is an extract from the consolidated financial statements of the Federal Government of Australia shows a country that has chosen a fiscal based structure in lieu of the traditional private sector current / non-current structure. Australia can provide information based on a current and non-current structure and also reports the underlying cash and the accrual fiscal balance. While countries may not choose to present all of this in their financial statements (few do) all of these reporting capabilities will be required for analytical purposes for government and stakeholders.

85. **Even in IPSAS (and IFRS) the cashflow statement is structured largely in accordance with a GFSM2014 structure (operating revenues and expenses, investing which is primarily non-**

financial assets, and financing which includes most financial assets and all liabilities)[70]. Thus, the contention that a structure aligned to GFSM2014 is incompatible with IPSAS is very misleading, and fails to understand the importance of integration of all major reporting requirements into a UCoAs. Ensuring common data structures across the PFM system including the FMIS is an objective in many countries today. Ultimately, the reason for developing a multi-purpose UCoAs is to support a range of reporting requirements for different stakeholders in, and external to government. Thus, no single reporting requirement should exclusively drive the development of the economic segment.

86. **This paper has argued that a well-designed government budget classification and therefore the economic segment should be primarily structured for fiscal reporting, and that countries could consider this structure in developing the classes in the economic segment in the UCoAs.** This is generally aligned with a GFSM2014 structure, which splits assets into financial and non-financial. Within the sub-structures the requirements for reporting current and non-current assets must also be met, either explicitly or through a mapping table. Conversely if a country decides that a more traditional accounting structure should define the classes according to current and non-current, then it will be important to ensure that the detailed accounts also allow reporting in accordance with financial and non-financial assets, either explicitly or through mapping tables. Looking internationally even OECD countries vary in their preferences. As an example, Australia and Canada use the budget and fiscal reporting as the primary focus for the structure (financial and non-financial), whereas the United Kingdom and New Zealand take the more traditional accountants view (current and non-current). The final decision for each country should be driven by its own primary management reporting requirements along with its external reporting requirements.

87. **The same principle applies to all other major reporting requirements. There will always be a need for different elements in the detailed accounts to be grouped and reported differently for different stakeholder requirements.** The most detailed components of the accounts will be the same, and should be designed to ensure all major reporting requirements can be met. How this detailed accounting information is aggregated at intermediate levels and by classes for reporting will vary from country to country.

88. **A further example of this is how non-financial assets (GFSM2014) are classified in IPSAS. Property, Plant and Equipment (IPSAS 17), often referred to as fixed assets, are not the only components of non-financial assets (NFA).** NFA also include inventories (which is a current asset) and intangible assets, which are generally non-current. Ultimately the most important focus should be on ensuring the comprehensiveness of the segment, and to ensure all of the major reporting requirements can be derived from the segment. While IPSAS and GFSM2014 are important design considerations[71], there are other domestic design considerations too, including

[70] Even the Cash Basis IPSAS requires the three elements of operating, investing and financing cashflows to be disclosed despite the mandatory requirements allowing a structure based on a simpler presentation of cash receipts and payments

[71] The PULSAR publication Benchmarking Guide: Integrating Public Sector Accounting and Government Financial Statistics provides useful guidance on areas of divergence between GFSM2014 and IPSAS as does the annexes to GFSM2014 itself

the budget and macro-fiscal reporting. If for example, the budget is structured differently to GFSM2014 (although this would not be a recommended practice given its sensible and accepted links to a good quality macro-fiscal reporting framework), then the economic segment must provide reporting against that structure too – indeed the budget structure must have primacy in general as it is the legislative decision-making structure[72] and is also a core reporting requirement for IPSAS as well.

89. **There will of course be some fundamental differences at a policy level between recognition of certain detailed elements in the accounts.** As an example, IPSAS allows either fair value or cost to be used for valuation purposes[73] while in contrast GFSM2014 requires market value (the GFSM2014 concept of market value largely equates to the IPSAS concept of fair value but it is not identical). Depreciation and amortization under accounting also differ somewhat from the concept of consumption of fixed capital which is in GFSM2014. In such cases each country must decide the most appropriate policy and treatment in its circumstances and apply this. This financial information would flow directly into certain reports but be adjusted for the reporting elements which require different treatment or policy. While these compatibility issues exist, in general most major reporting requirements converge or are largely compatible. Indeed statisticians have significant experience dealing with incomplete data and have developed techniques to approximate or estimate those unreliable or missing elements for reporting. Thus, an accounting system and segment which reliably reports stocks, flows and other changes in stocks, will also allow statisticians to estimate consumption of fixed capital in a similar way to how depreciation and amortization are calculated at the end of each accounting period. The key message is to focus on the convergence rather than the differences when designing an integrated economic segment.

How to control and report a cash-based budget in an accrual accounting environment

90. **One of the major reasons given for separate CoAs and BC is the use of different methods of accounting.** The most frequent difference is accounting for the budget on a cash basis, separately from MDA accounting, which is usually undertaken either on a modified or full accrual basis. This is indeed a challenge, but many OECD countries have never had different structures and have the same dual accounting requirements. So how is it that they have managed to always meet both reporting and management requirements for cash appropriation control and accrual reporting? The answer is to recognize that the economic nature of the transactions does not change from cash to accrual accounting, rather it is the timing for recognizing the transactions which changes.

91. **Figure 23 shows the key to supporting cash budget control and reporting within an overall accrual accounting framework is to recognize that the cash flows are a component of the**

[72] Indeed many countries persist with a budget structure that focusses only on cashflows, eg receipts less expenditures. This is discussed earlier in relation to GFSM86 which was structured in this way

[73] While IPSAS does allow both methods countries would normally need to consider mandating a single method, otherwise it maybe confronted with issues in consolidation of the different controlled entities

accruals, not separate from accrual accounting. A number of TCOP member countries have also recognized this difference and have designed their UCoAs to support cash and accrual reporting simultaneously. The big challenge is generally in the asset and liability accounts, largely because of the need to recognize that the cash flows only occur within a year, that is, the balance or cashflows for the following year starts from zero again, while the stocks of assets and liabilities carry forward from one year to the next, that is, they are cumulative with last year's balance adjusted for this year's transactions and other changes.

92. **Countries have done this in different but similar ways - the first thing is to ensure that you can easily separate cash and accrual transactions for separate reporting.** Russia for example, developed a classification in at least 2006 which used subcodes to distinguish between different types of transaction, and its approach was modelled by other TCOP countries. In addition, GFSM2014 also suggests countries separate stocks from flows, and also separate cash and non-cash flows.

93. **The GFSM2014 economic framework, distinguishes between stocks, flows and other economic flows.** Table 12 is the framework used by GFSM2014. There are actually two types of other economic flows, holding gains and losses, for example through revaluation of certain assets and liabilities (common examples would be for capital gains in assets such as buildings, and revaluation and changes due to exchange rate variations, debt revaluation due to the differences between market and nominal/face value and revaluation of index linked debt), and other changes in the value of assets (for example, first time recognition of an asset).

94. **In GFSM2014 to calculate the closing balance of a specific non-financial asset you need the following:**
    - Opening Balance
    - Add acquisition of new assets
    - Less disposal of assets
    - Less consumption of fixed capital (equivalent of depreciation)
    - Adjust for other economic changes such as revaluation
    - Gives the closing balance

Table 12 – GFSM approach to Accounting for cash and accrual

Opening Balance	Acquisition	Sale	Depreciation /Impairment	Holding Gains and Losses	Other changes in the Value of Assets	Closing Balance
61121	**3**1121.1	31121.2	31121.3	41121	51121	61121

95. **Table 12 provides an example for the machinery equipment account code 31121 in GFSM2014.** While the GFSM framework does not explicitly breakdown 31121 into these three elements the breakdown is required. Thus, in this case spending on new machinery is limited to one code 31121.1. The sale of machinery equipment no longer required is also limited to a single code

31121.2.[74] Thus cashflows can only occur against 31121 and explicitly 31121.1 and 31121.2. The subaccount 31121.3 is used for all other non-cash transactions, such as depreciation. These cashflows do however, also affect the holding value (stock) of machinery, 61121. This approach creates the relationship between cashflows and accruals while at the same time maintaining "separate" cash sub-accounts[75]. Each country must decide whether it chooses to replicate the approach taken above, or a variation of this, or simply rely on the double entry or contra account to indicate the differences. For example, the segment could have the following structure:

- 3 for acquisition
- 4 for disposal
- 5 for depreciation
- 6 for other changes
- 7 for opening and closing

The above approach is reflected in Table 13. Similarly, the last digit of the account code could be used in lieu of the first digit.

Table 13 – Using the GFSM approach with different classes of accounts

Opening Balance	Acquisition	Sale	Depreciation	Other changes in Stocks	Closing Balance
71121	31121	41121	51121	61121	71121

96. **In general accounting practice, the mechanism by which these different transactions are recorded is similar, but in this case the focus is on the contra or double entry account.** Table 14 shows how these transactions would be recorded in general accounting.

Table 14 – General Accounting and the use of Contra Accounts

Type of Transaction	Machinery Account	Contra Account
Opening Balance	Debit Balance	Equity
Acquisition of new machinery	Debit to Account	Credit to Bank or Accounts payable
Sale	Credit to Account	Debit to Bank or Accounts Receivable
Depreciation	Credit to Accumulated Depreciation	Debit to Depreciation Expense
Revaluation of the Machinery Stock	Debit to Account	Credit to Revaluation accounts in equity
Impairment	Credit to Account	Debit to Impairment Expense
Other Changes in Stocks	Credit or Debit to Account	Credit or Debit to relevant accounts in equity

[74] The breakdown is clear from the double entries and whether the primary account is a debit or credit. Purchase of machinery will be a debit and the double entry will always be payables/cash while sale of machinery will be a credit with the double entry receivables/cash. Depreciation expense will be a debit and the double entry will be accumulated depreciation

[75] Some countries will choose to further distinguish between cash and non-cash acquisitions and sales. This is not completely required as the double entry again shows this, with cash always being the double entry for cash sales and acquisitions while payables/receivables reflect the timing difference in cash transactions.

Closing Balance	Debit Balance	Equity

97. **The traditional approach to accounting for many PEMPAL countries pre-transition had a further variation to the above approach, where different accounting entries occurred at different stages of the payment cycle and each was separately recognized in the CoAs.** As an example, central approval to spend may be recorded as a stage along with the commitment of the funds. The cashflow was recognized at the time Treasury became involved at the end of the payment cycle[76] in both the Treasury and MDA accounts while the earlier stages of the payment cycle were reflected as accounting entries only in the MDA accounts. In this approach the accounting shows clearly the stages at which each transaction is at by using a series of contra accounts. While this is a very useful conceptual system, it is also somewhat burdensome and largely redundant for modern accounting purposes. The biggest challenge with this approach is that it did not really operate as a single integrated accounting system, with line ministry accounting and treasury accounting being seen as separate and apart from each other. None-the-less the contra-account approach could be used in a similar way to the proposed subaccounts with a different double entry for each required stage/category.

Is Full Integration of the BC and CoAs Achievable?

98. **Each of the above approaches seeks to integrate cash based budgetary accounting and (modified) accrual accounting into a single economic segment.** However, in reality few countries have taken steps to fully integrate the BC and CoA structures, even though these issues were discussed at length during PEMPAL meetings and the timing coincided with a number of countries reforming their CoAs. Moldova is the only example of a country that has fully integrated its (six) CoAs and BC. An extract from the Moldovan economic segment is shown in Table 15 which shows the eight classes in the new Moldovan UCoAs economic segment. The only classes which do not have a direct alignment to accounting concepts are Class 6, for fund transfers to and from accounts and Class 8, off-balance accounts, which are outside the budget and accounting balance (contingent liabilities or off balance registers would be an example). Class 6 reflects transactions entirely within the general ledger for treasury management and does not impact the accounting or cash balances. As Class 6 is separate from the other six economic classes it does not impact the integrity of the accounting balance.

Table 15 – Moldovan Structure for its UCoAs

Class	Description
1	Revenue
2	Expenses
3	Nonfinancial Assets
4	Financial Assets
5	Liabilities
6	Transfers Between Accounting Entities

[76] Even the Treasury may have more than one recognition stage to reflect the timing difference between payment release and drawdown from the bank, for example with cheques

7	Result
8	Extrabudgetary Accounts

99. **Class 8 in Table 15 represents a requirement in all governments for "off-balance" accounts which are needed to record certain transactions for reporting and control (for example for inclusion in the notes to the financial statements).** The most common example for this requirement is contingent liabilities which are not part of either the accounting balance or the budgetary balance but which need to be reported and monitored given the fiscal risks.

100. **Table 16 shows the detail of how Moldova manages the different stocks and flows in its asset and liability accounts.** This approach expands on the GFSM use of subaccounts (see Table 12) by creating a separate sub-code for each type of transaction and for other changes in stocks. While the approach does not distinguish between cash and non-cash, it will be possible to reconcile these items using the bank account (cashbook) to identify cash verses non-cash transactions.

Table 16 - Moldovan sub-account structure for balance sheet accounts

311 BUILDINGS
311110 Purchase of buildings
311120 Capital repairs of buildings
311130 Free entry of buildings
311140 Revaluation - increase in value
311190 Other increases in the value of buildings
311210 Construction of buildings
311220 Free transmissions of buildings
311230 Disposal of buildings
311240 impairment of buildings
311280 Buildings transferred to third parties (non-exchange)
311290 Other decreases in the value of buildings

101. **Moldova is, however, currently alone in PEMPAL with** its **approach to integration.** The PSA Working Group meeting in Moscow in late 2019 included presentations from nine countries on the status of their CoA and BC reform. A number of countries were still formulating their concept and remain sceptical that full integration is achievable[77]. This is understandable given the historical separation of the two structures in most PEMPAL countries, and the limitations of technology that existed in the past. Even in Moldova's case the concept of integration was discussed over a two-year period with significant resistance early in the discussions. In the case of Azerbaijan a decision has been taken not to integrate and to use mapping tables to link the cash based BC and CoA. An extract of mapping between the BC and CoAs from the 2020 decision by the Board of the Ministry of Finance (Decision Q-08) appears in Table 17 below.

[77] This included Belarus, Georgia and Tajikistan

Table 17- Examples of Mapping Between the Azerbaijan Budget Classification Economic Segment and the Chart of Accounts

Description	Economic Code[78]	CoA Code
Salary	211000	122-4
Payroll Contribution	212000	122-4
Domestic business Trips	222510	122-9
Foreign Business Trips	222520	122-9
Payment of Interest to Other Government Bodies	242200	122-9
Payment of Interest to non-public sector bodies	243000	122-9
Subsidies to State-Owned Enterprises	253000	122-6
Targeted State Social Assistance	272100	122-9
Child Benefits for low-income families	272200	122-9
Securities – Short Term	322110	131,132,134, 221,223
Securities – Long Term	322120	131,132,134,221,223

102. **In Azerbaijan the mapping relationship has already been integrated into accounting software[79] operating in some Ministries and SUs.** This allows both financial reports in accordance with the CoAs and treasury reports and payment transactions in accordance with the economic segment to be produced electronically from the software. However, it should be noted that to do this effectively the mapping in Table 17 must be further broken down to define one to one relationships to be defined between the accounts in both structures. This shows the challenge for SUs and MDAs where central agencies decide not to integrate different reporting requirements.

103. **In Croatia, the economic segment includes ten classes where cash based budgetary reporting for assets and liabilities is captured separately from the accrual information. (Table 18 below)[80].** In Croatia's case normal accrual accounting rules apply to the majority of the classes of the accounts, with the balance sheet derived from classes 0, 1 and 2, with net assets reflected in class 9. Classes 3 and 6 reflect both the accrual and cashflows for revenues and expenses. In practice these will be much the same with adjustments required for any changes in accounts payable or receivable from the beginning to the end of the accounting period. Classes 4, 5, 7 and

[78] The Economic Segment is designed based on GFSM2014. As a result although it is used for cash based budget reporting it can be adjusted for accrual in the future by adding codes for non-cash transactions. This requirement is already designed in the CoAs structure in column three as well

[79] FARABI is an accounting package operating in a number of SUs and the software has been enhanced to allow both financial reporting and to transmit electronic payment and commitment documents to the Treasury Portal

[80] A variation to this approach is presented in the recent PULSAR paper "A Good Practice Outline of the Multipurpose Chart of Accounts, World Bank 2019, where all budgetary cashflows are reported separately from the accruals

8 allow budgetary cashflows to be recorded separately from the stock accounts in classes 0, 1 and 2. This means that for all transactions in assets and liabilities the cashflow component of the accounting is recorded twice in the economic segment – once in the stock accounts and once in the cashflow accounts.

Table 18 – Croatian Classes in the Economic Segment of the CoA

Class Number	Class Title	Comments
0	Non-Financial Assets	Cash and Non-Cash transactions
1	Financial Assets	Cash and Non-Cash transactions
2	Liabilities	Cash and Non-Cash transactions
3	Operating Expenses	Cash and Non-Cash transactions
4	Expenditures for the acquisition of non-financial assets	Cashflows only
5	Expenditures on financial assets and repayment of loans	Cashflows only
6	Operating Revenues	Cash and Non-Cash transactions
7	Receipts for the sale of non-financial assets	Cashflows only
8	Receipts from financial assets and loans	Cashflows only
9	Net Assets	Cash and Non-Cash transactions

104. **Ukraine has also developed its own variation, where the CoA and BC are mapped but not integrated.** An extract of the Ukrainian structure can be seen in Table 19. It should be noted that there is no mapping for depreciation expense (final row in Table 19) as this has no corresponding account in a cash based budgetary classifier.

Table 19- Ukraine Structure of the Economic Segment

Expenses for exchange operations	
8011 (8021), 8111 (8121), " Expenses for payment of labor ", 8031 (8041), " Expenses for payment of labor "	2110 "Payment of Labor " 2280 " Research and development, certain measures for the implementation of state (regional) programs " - expenditure on payment labor of employees of higher educational institutions and scientific establishments
8012 (8022), 8112 (8122) " Deductions for Social Events" 8032 (8042) " Deductions for Social Events"	2120 " Accrual for payment of labor ," 2280 " Research and development , certain measures for the implementation of state (regional) programs " - charges on payroll working staff of higher education institutions and research institutions
8013 (8023), 8113 (8123) " Material costs " 8033 (8043) " Material costs "	2210 " items , materials , equipment and inventory " 2220 " Medicines and dressing materials " 2230 " Food " 2240 "Payment services (except utilities) ' 2260' expenditures and activities of special designation " 2270 "Payment of utility services and energy " in 2280 " Research and development , certain measures for the implementation of state (regional) programs " (except expenditure on payment labor , accruals for payroll

	labor and social maintenance staff of higher education institutions and research institutions , are compared with other sub-accounts)
8014 (8024), 8114 (8124) " Depreciation "	-

105. **Beyond PEMPAL further variants can be seen internationally.** In the Caribbean where most countries remain on modified cash or modified accrual systems[81], many countries developed a similar approach to Croatia, however in this case, the above-the-line accounts reflected budgetary cashflows, and below the line accounts the balance sheet.[82] This results in a more GFSM86 aligned structure for the budget classification component above the line (see Table 20), with all inflows appearing first, followed by all outflows. This approach is often conceptually easier for countries to understand and implement where the budget is structured as a simple inflow less outflow approach. Cash is the double entry for all of the above the line transactions. The challenge in the Caribbean is that a second set of double entries are required to change the below-the-line stock accounts (for example to reflect the acquisition or sale of non-financial assets), and these transactions are rarely posted. In addition, any transactions posted directly on below-the-line accounts will not appear as cashflows in the budget balance. This has the effect of misclassifying some expenses and revenues for reporting and control purposes.

Table 20 – Indicative Caribbean Approach to the Economic Segment

Class	Description	Comments
Above the Line		
11	Receipts	Revenues
12		Sale of Assets
13		Loans Received
21	Payments	Expenses
22		Acquisition of Assets
23		Loans Paid
Below the Line		
3	Financial Assets	Double entry for all above the line transactions to bank account and other changes in financial assets
4	Non-Financial Assets	Requires additional double entry to record changes in stock due to above the line transactions
5	Liabilities	Used largely to record loan servicing. May also include stocks
6	Equity	Net Assets
9	Off Budget Accounts	Excluded from the budget and accounting balance

[81] Cayman Islands is full accrual, with Bermuda and Barbados moving towards full accrual

[82] This is not the same concept as above and below the line for fiscal reporting although there are some similarities. In this case below the line is the stock of the entire balance sheet whereas in GFSM it is financial assets and liabilities only

106. **In Malaysia in the move to accrual and upgrading of the FMIS a decision was taken to operate two parallel segments, one for budgetary cashflows and one for full accrual.** Thus, all cash-based transactions are recorded twice once in each segment (albeit simultaneously), with non-cash transactions only recorded and impacting the full accrual segment. The challenge here is that the user must determine the account to be used in each segment. For budgetary cashflows these should be linked so that the correct codes are always selected in the accrual segment. The non-cash transactions would be executed as journal entries directly against the accrual segment.

107. **In Cambodia, the development of its UCoAs is well advanced despite the fact that it prepared cash basis financial statements only recently (2019).** While it is too soon to define exactly how it will utilize the full UCoAs, nonetheless it has been developed largely in-line with the approach taken by Moldova. Currently the cash-based BC is in use, and this is directly aligned with the UCoAs full accrual economic segment. The development is in accordance with Figure 23, where the cash accounts are a subset of the accrual accounts.

108. **While all the approaches explained are different, each records the accounting information separately for proper analysis.** In the GFSM and Moldovan examples the flows are more explicit, with separate sub-codes. In the case of Croatia, Ukraine and Malaysia cashflows are recorded twice, once for the budget and a second time for accrual based financial reporting. In standard accrual accounting, these different flows are not reflected in different subaccounts for the balance sheet accounts, but through the double-entry accounts. In the long run, under full accrual accounting, the single account is the usual model. While this paper endorses the Moldovan approach as preferred, all of the alternatives implemented by countries still maintain the integrity of the accounts. Each country must choose its approach as this will have a major impact on the overall UCoAs design.

109. **The important point to note is that cash based budgetary accounting requires the cashflows to be recorded and reported directly against the appropriation accounts.** Under accrual accounting, it is possible to report this indirectly by reconciling the changes in receivables and payables to derive the cashflow statement. While IPSAS also allows indirect reporting of the cashflow statement, this does not meet the more stringent and exact reporting required for budget reporting against cash appropriations. This challenge can be seen in the different way cash is recorded in the ledger under cash verses traditional accrual accounting which is shown in Figure 24. While the final result of debiting the non-financial vehicle account and crediting the bank financial asset account are the same, the cashflow under accrual is not recorded directly against the vehicle account, but indirectly through the payables double entry account. Countries must ensure that for cash based budgetary reporting and accounting, the cashflow is also recorded directly against the budgetary accounts. Each of the systems above provide a mechanism to achieve this.

Figure 24 – The Timing difference between Cash and Accrual

Cash Accounting – One double entry transaction

Vehicles	debit	10000
Bank	credit	10000

Accrual Accounting - Two double entry transactions

Vehicles	debit	10000
Accounts Payable	credit	10000
Accounts Payable	debit	10000
Bank	credit	10000

What are the Pros and Cons of Full and Partial Integration of the Economic Segment?

110. **There are practical reasons why each country has selected its approach to full or partial integration of the economic segment.** For many countries this is a significant change process, not least of which because users have been utilizing the traditional disconnected systems for many decades. In most cases this was also embedded in the curriculum of the tertiary education system, making it difficult to change a system which also has credibility academically. Another major impediment has been convincing different stakeholders why their approach should change for the benefit of better integration for the entire PFM system. Connected to this is also ownership. For example, the budget function may perceive any accounts in the classification which do not reflect budgetary flows as unnecessary and confusing. In the end while integration may optimize performance, a more pragmatic solution may be preferred, to appease the different stakeholders. In addition, it may be prudent to think of the change as evolutionary rather than revolutionary, looking to gradually move to full integration over a number of years[83].

111. **There are clear risks in maintaining different structures, including increased workloads and greater potential for errors and omissions.** This is particularly relevant at the lowest SU level where PFM skills may be limited. However, this can be mitigated through careful design and the effective use of ICT. Countries are seeking to achieve levels of integration by taking different paths to achieve similar results. There could also be different ways to define whether a countries

[83] Even in Australia, where accrual accounting is well advanced, their remains significant divergence in government. The Department of Finance and Administration prepares the budget and consolidated financial statements on a full accrual basis and publishes both the fiscal and underlying cash balance. The Treasury (effectively the Ministry of Economy) continues to only focus on the underlying cash balance in its reporting. Surprisingly the Australian Accounting Standards Board, while independent, is within the Treasury Department's administrative structure. The Treasury has received significant criticism in some quarters for what is viewed as simplistic and misleading cash based reporting

classification system is fully or partially integrated. However, this is not so critical if the BC/CoA can seamlessly address all major reporting requirements.

112. **Those countries that still largely undertake financial reporting and budget reporting on a cash or modified cash basis will not have experienced the same challenges as those that have already moved to accrual.** It is generally under accrual where the compatibility issues will become more apparent. This is particularly true for financial and statistical reporting, Despite the two frameworks converging, there remains differences at a detailed level which can present challenges for integration under accrual. Thus, moving to accrual is where the major challenges exist as this is where the complexity comes into play and where the cash-based budget, accrual based financial and accrual based statistical reporting frameworks diverge.

113. **Ultimately budgetary reporting should also not just focus on cash inflows and outflows but extend the analysis to show the changes in a government's net cash assets and therefore the cash balance-sheet of the government (cash-fiscal balance).** In effect the budget should show the impact of government's budget policy on the financial balance sheet (at least). This is why it is important that accounting and treasury officials work with colleagues from the budget department to build a shared understanding of the importance of classifying cashflows according to generally accepted accounting concepts and aligned with GFSM2014.

114. **There is an important opportunity for every country to ensure a more integrated ICT PFM framework underpinned by a UCoAs**. When investing in more integrated ICT solutions, countries need to look at the convergence of different reporting requirements rather than the differences as these are not really different requirements, but a reconfiguration of the transactions for different reporting[84].

115. **The improvement process can also take place over the medium term and accommodate specific government requirements.** As an example, while Azerbaijan has developed a separate economic segment in the BC based on a GFSM2014 structure when implementing its FMIS, it (at the time of redevelopment) also wanted to maintain separate budgetary control and reporting over capital repairs of non-financial assets, as distinct from acquisition or the building of non-financial assets. This is a common requirement in budgeting for many countries. To achieve this, these expenditures were coded to other expenses in the economic segment, with mapping to the correct GFSM2014 economic code. If Azerbaijan needs to determine the total value of cash outflows for non-financial assets it simply adds the flows from the relevant capital repair expense

[84] As an example, you will always need a separate classifier for intangibles – this is required under both IPSAS and GFS. However, the fact that it is included within Non-Financial Assets (NFA) in GFS will not be an issue for financial reporting. NFA includes Property, Plant and Equipment (PPE) and Intangibles, and also other assets categories such as valuables, inventory, sub-soil assets, etc. While the bulk of NFA will be PPE it is not exactly the same grouping. It is merely a different aggregation of the same detailed accounts. Both PPE and NFA should be reportable in a well-structured UCoAs. There is a similar misunderstanding regarding current/non-current assets verses NFA and Financial Assets. Current/non-current are the typical classes required in private sector accounting whereas a NFA/FA split is more relevant for budget reporting (capital budget above the line and financing sources below) and the statistical framework. IFRS and IPSAS also require reporting by operating, investing and financing cashflows. All of these requirements for reporting should and can be supported in a well-designed UCoAs

accounts to the flows for the acquisitions and building of non-financial asset accounts. The same approach is required to determine the changes in asset balances during the year. However, to ensure the integrity of these balances ideally Azerbaijan would also process a second double entry to transfer the expense item to NFAs (this is the same approach required in the Caribbean example provided earlier). In the future it should also be relatively simple for Azerbaijan to combine these codes into a single set of economic items, as per the approach in Table 21 below (simply by removing or deactivating the flow accounts for capital repairs).

Table 21- Separating Cash and other flows in Non-Financial Assets

311	Buildings
3111	Increase in the value of buildings
311110	Purchase of buildings
311120	Repairs of buildings
311130	Free Transfer of buildings
311140	Revaluation of buildings - increase
311190	Other increases in the value of buildings
3112	Reduction in the value of buildings
311220	Free transfer of buildings
311230	Disposal of buildings
311240	Revaluation of buildings - reducing the amount
311280	Buildings transmitted to third parties
311290	Further reduction in the value of buildings

116. **For every country there will always be an opportunity to create a fully or partially integrated UCoAs and this paper recommends and encouraged all countries to do this.** However, this is not the entire challenge. The UCoAs alone does not assure compliance with IPSAS, macro-fiscal reporting, budgetary reporting or statistical reporting including GFSM2014. Countries still need to have extensive policies underlying this and there will be some natural differences between financial, statistical and other reporting requirements. It is important to take a pragmatic approach and focus on the structure that best meets the decision-making needs of the government, and then identify how to derive the other financial information requirements through mapping tables.

Box 12 - Tips for Developing an Economic Segment

- Ensure the economic segment is properly designed as it is the most important structure in the UCoAs as it is where financial, budgetary, statistical and macro-fiscal reporting converge. Proper design to meet all of these major reporting requirements is therefore critical
- Ensure the economic segment only includes generally accepted accounting concepts: revenues, expenses, assets, liabilities and equity/net assets. All other requirements should be met in other segments
- Utilize the general structure of GFSM2014 as a template for developing the structure of the economic segment, but this should be adjusted for specific country requirements
- Ensure the structure of the economic segment meets both fiscal and accounting requirements. There is a debate internationally regarding whether assets should be structured according to financial/non-financial or current/non-current. Government budgetary operations suggest the former maybe more useful, however, both must be supported in reporting

- Develop a single economic segment to meet the different reporting requirements in government including externally for GFSM2014 and IPSAS. Countries need to be pragmatic about how these are met. The differences do not mean different economic segments are required
- Consider whether the development of a single fully integrated economic segment that supports all reporting requirements should be an evolutionary rather than revolutionary process, given the challenges in reaching consensus across stakeholders. Partial integration may be more prudent for many countries when seeking to address conceptual differences and views
- Ensure ICT is properly utilized to address any issues arising from any decision to partially integrate reporting requirements. Partial integration does pose risks of increased errors or omissions and may impose additional reconciliation requirements

5. Developing the Other Six Segments

Developing a Source of Fund Segment

What is a Source of Funds Segment?

117. **A SoF segment provides the capability to control specific funds and sources of financing in the general ledger of an FMIS separately from other funds, to allow segregation of controls over receipts and spending, and for accounting and reporting.** In a modern FMIS and PFM system, the SoF segment also provides the capacity to consolidate cash balances in a Treasury Single Account (TSA), without losing the separation of funds required under laws or through agreements, for example with a DP.

118. **In government there has always been a need to ensure separation of different sources of financing and to ensure that spending of specific sources can be controlled and reported on.** A very common requirement is where a government controls funds but holds those funds in trust on behalf of the legal owner. These types of funds are sometimes referred to as trust money or deposit funds. This is just one example of the many funds that governments own or control. Prior to FMIS and advances in CoAs design, these funds were held in different bank accounts and controlled by different officials in separate ledgers. The accounting and the accounts, including ledger and bank accounts, were generally maintained separately to assure that these funds were not mixed with other government sources.

119. **Such arrangements while assuring the separation of funds for control and accounting, also placed additional organizational burdens on government and most importantly, resulted in sub-optimal cash management arrangements.** Thus, the SoF segment provides a useful mechanism to manage government's cash in one place using one system, without compromising other requirements for control and separation of those funds. Examples of typical sources of financing and funds established in government for control and separation include:

- **Government revenues from taxes and charging for goods and services** – this is typically the main source of financing in any government. Most countries require revenues to be collected to a single account as this represents the main sources of financing for budget appropriations. Many countries will have a legislative requirement for a general or consolidated fund in the laws or even in the Constitution. As an example, Section 81 of the Australian Constitution states:

" All revenues or moneys raised or received by the Executive Government of the Commonwealth shall form one Consolidated Revenue Fund to be appropriated for the

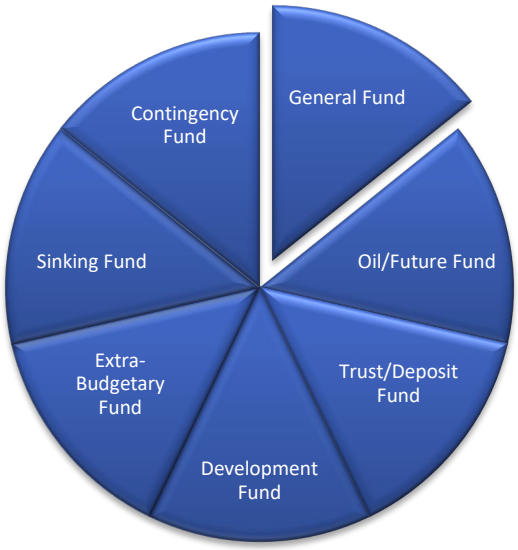
purposes of the Commonwealth in the manner and subject to the charges and liabilities imposed by this…"[85].

- **Ministry own source revenues** – in general it is useful to see these also as government revenues (In Australia they must also be paid into the consolidated fund) where the budget entity has been authorized to retain the revenues directly to provide incentives for optimal collection levels and efficiency. The fact that the budget entity uses general government's assets and other resources to generate these revenues is a strong argument for transfer to the consolidated/general fund;
- **Major one-off sales of government equity or infrastructure (privatization)** – these may be paid into the consolidated fund or maybe earmarked for specific purposes such as investment or future funds;
- **Trust/Deposit Money** - money controlled by government but not owned by government. There are many examples of types of trust money including: money held by government as a formal trustee, money held temporarily by government pending completion of contractual obligations, unidentified money or unclaimed money;
- **DP Grants and Loans** – external sources of financing by bilateral and multilateral donors. DPs frequently impose very specific requirements upon government which has made integration challenging in the past, however modern UCoAs structures and FMIS capabilities now provide the capability to consolidate these without losing the segregation required by DPs;
- **Extra Budgetary Funds** – typical examples include social funds and health funds. There is no limit on how many of these funds might exist. Some countries also establish funds for specific purposes such as Road and Agricultural Funds. Typically, these funds are allocated specific revenue sources, for example road taxes, to provide a funding source. Whilst they may be defined as outside the budgetary scope (perhaps outside the direct control of MoF), they remain part of general government;
- **Future Funds** – countries may establish mechanisms to quarantine certain revenues, such as from oil, to ensure these funds are not completely spent as collected, and are used in the medium to long term;
- **Sinking, Reserve or Disaster Funds** – in general these funds are created to service expected large future outflows. Funds are set aside each year or periodically, to build up cash for when the funds are required in the future. There will be certain contingency funds established each year for in-year decisions, and others established with a medium to long term view for events such as natural disasters or major asset replacements; and
- **Sale of operational assets** – these are sales which are part of normal operations, such as sale of non-financial assets which are at the end of their useful life for government. They are usually also treated as government receipts to be paid into the consolidated fund account but may also be set aside to fund the replacement of the assets. Some countries also set up these funds as a mechanism to make regular contributions to spread the burden of major asset replacements across several years.

[85] Most anglophile countries which have systems that evolved from Britain also have a legislative equivalent of Section 81 in Australia. The original concept evolved from the desire for a separate physical Treasury with specific controls separate from the Monarch's direct control

120. **When developing a SoF segment consideration should be given to the legislative, operational and accounting requirements for the separation of specific funds, along with the need for user defined reports, particularly by DPs.** Where the Constitution or other legislation imposes certain statutory requirements, these should be reflected in the segment structure. In most countries it is still possible, both from a legal and accounting perspective, to consolidate cash in a TSA without compromising the legislative requirements for separation of funds. Figure 25 is an example of one country's legislative fund structure.

Figure 25– Possible Source of Funds Structure



Developing a Source of Fund segment

121. **IPSAS [86] require a country to disclose all of the cash held/controlled in the cashflow statement.** Developing a SoF segment should consider these requirements too. In this case IPSAS also requires disclosures in the notes of any cash which is not available for use or subject to external restrictions[87], for example, where a DP requires the funds to be spent on a specific project or where money is held in trust. Thus, the SoF segment also provides a useful mechanism to readily report all funds and to break them down into general funds and special purpose funds.

Movements between Funds

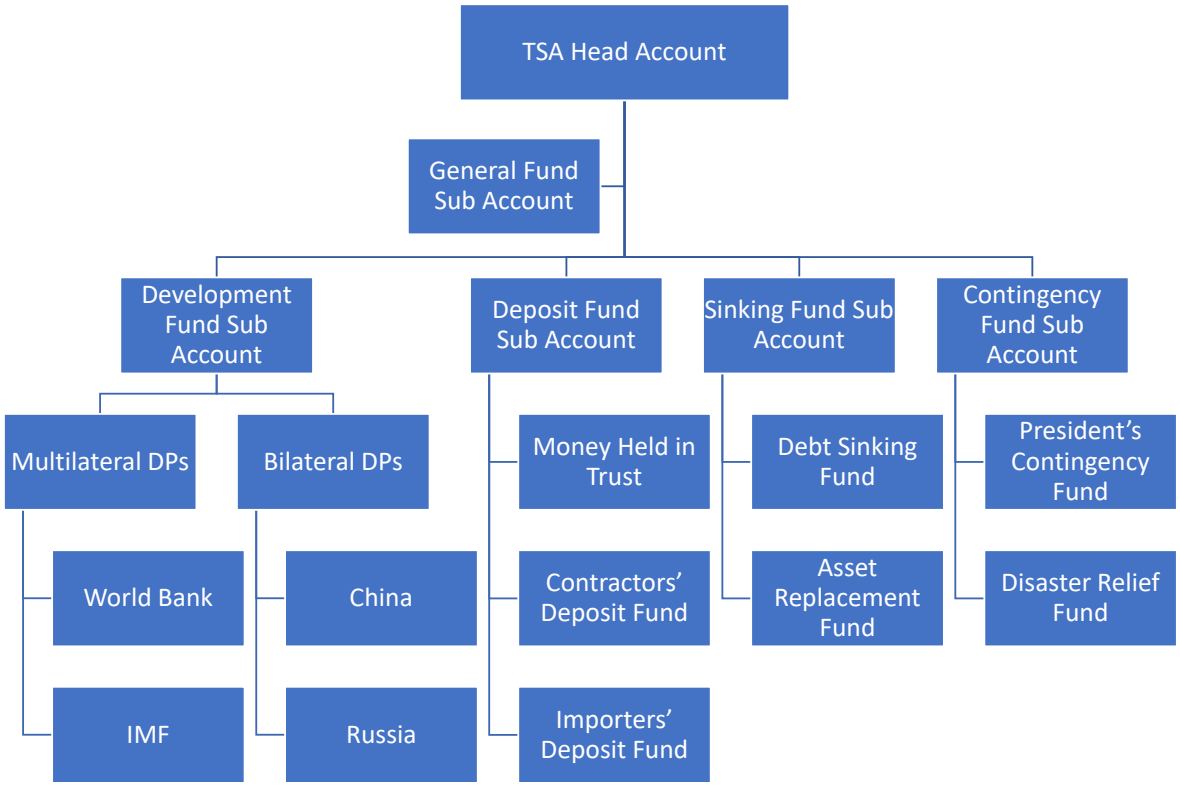
122. **Cash movement between different funds does not change a government's cash balances, it merely shifts financial assets from one fund to the other fund.** This is an important concept. Many countries that maintain separate bank accounts for these funds, and separately account for the funds, will record payments and receipts to recognize these movements. These transactions must be eliminated on consolidation. Thus, optimizing the TSA structure in the general ledger using the SoF segment allows these transfers to be recorded within the FMIS and general ledger as internal

[86] Cash and accrual basis IPSAS

[87] IPSAS Cash Basis paragraph 1.4.9

transactions. Figure 26 shows a possible hierarchical structure of the TSA head account along with sub-accounts for all bank accounts. These can be real bank accounts or virtual, depending on the country requirements. The key is to ensure the accounts are grouped under the single TSA head account, allowing easy verification of cash balances at all times, and consolidation for the purposes of management, for example, for overnight investment. Today, with advanced banking practices many countries require the (sub) accounts to be zero balance accounts, where balances are consolidated or swept to the TSA each day. Countries may still choice to mirror these structures in the CoA for control and management, however, in practice this requirement is redundant as the zero balance accounts are pass-through accounts only and do not hold overnight balances.

Figure 26 – Example TSA Structure in UCoAs



DPs and the Source of Fund segment

123. **While DPs have committed to using government systems, many remain concerned that earmarked resources provided to government through loans and grants may be "mixed" with other funds, diluting controls over their resources, or worse, the funds being spent in areas other than what was agreed at the time of the funding.** As a result, many donors require specific units, frequently referred to as Project Implementation Units (PIUs) to be created in MDAs to manage the project resources. This also often results in third party software being installed and the transactions managed and executed apart from the government's main system and bank account.

124. **The SoF segment provides a mechanism for integration of these separate arrangements by creating the facility to establish separate accounts and controls within the UCoAs and in the FMIS general ledger.** As each DP provides funding a unique project can be established linked to

the DP. Thus, if the World Bank provides a grant for implementing a project to refurbish primary schools, this can be controlled by creating a separate and unique project code which will be allocated to the Ministry of Education as per Table 21. Where the DP requires a separate bank account this can also be established in the ledger, by selecting the financial asset account related to that bank account. However, the ledger already creates separation of the funds even within a TSA, preventing funds being mixed with general government resources, through the use of the SoF and project segments. This mechanism also allows multiple sources of financing against a single project. As an example, the final row in Table 22 shows an additional contribution by the government paying the salaries for the project. The UCoAs and FMIS restricts access to these funds in a similar way to how the Organizational Segment is used to separate the Ministry of Education's appropriations from the Ministry of Defence. Different UCoAs codes are used for control and the FMIS sets up these restrictions by limiting access for these codes to specific users. Thus, the controls are defined in the UCoAs and within the horizontal and vertical security protocols within FMIS. Designing the UCoAs should therefore also consider the levels and segments under which certain access and controls should be placed.

Table 22 – Relationship of Source of Funds, Project and Financial Assets accounts and Bank Accounts

Segments	**Source of Fund Segment**	**Organizational Segment**	**Project Segment**	**Economic Segment**		**Amount**
Transaction				Debit	Credit	
Receipt of donor funds	Grant/World Bank	Ministry of Education – primary Education Division	Refurbishment of Primary Schools	Bank	Grant Revenue	5,000,000
Budget Allocation	Grant/World Bank	Ministry of Education – primary Education Division	Refurbishment of Primary Schools	Non-Financial Assets/ Buildings/ Schools	Appropriation Control Account	3,000,000
Spending	Grant/World Bank	Ministry of Education – primary Education Division	Refurbishment of Primary Schools	Non-Financial Assets/ Buildings/ Schools	Bank	500,000
Spending of government contribution	Consolidated Fund	Ministry of Education – primary Education Division	Refurbishment of Primary Schools	Salaries	Bank	50,000

Relationship between Source of Funds Segment and Project Segment

125. **As Table 22 highlights, there is an important relationship between the SoF and project segments.** Every country creates special budget allocations for activities that have a finite life. This could be for building infrastructure such as roads or dams, a special one-off event such as

holding a regional sporting or other event, or to finance specific activities such as increasing disease awareness or coverage of vaccinations for "at risk" members of society. The financing for these activities may be from government resources such as taxes, or other funds such as an Oil Fund, or from external sources such as DPs. Frequently projects involve multiple sources of financings.

126. **Ultimately integrating all sources and all activities into a single integrated budget is recommended practice.**[88] Using the SoF and project segment together will enable projects and the development/investment budgets to be integrated with the recurrent budget. These two segments provide a structural way to achieve this even when a country has a dual budget process. Importantly, it should be noted in Table 22 that the original grant was for a greater amount than was appropriated in the first year. This shows two features. Firstly, it shows that the appropriation controls for DP finances can operate the same way as general government appropriations. The funds can only be spent by the budget entity approved to spend the funds. In addition, where funds are to be spent across financial years, access to the balances is restricted by the ceiling of the appropriation – these funds remain in the government's TSA and cannot be spent for any other purpose until further spending authority is released – the residual funds for future years are "quarantined" even though the cash balances are in the TSA.

127. **An indicative structure for a SoF segment is provided in Figure 27 below. A more comprehensive structure can also be found at Appendix IV.** This structure uses numeric codes to build different reporting capabilities. For example, all codes rollup to the Consolidated Fund, allowing the full value of all funds to be reported at this level. Other features of this structure are detailed below.

- The Consolidated Fund is frequently defined in legislation. In this case it includes general revenues of government and DP revenues. In some countries DP revenues will be seen as outside the consolidated fund. This can be achieved by creating a new separate level two account;
- A unique sub-register is created for each bilateral and multilateral DP. Thus, if a DP provides grants and loans it allows reports to be produced for the DP as a whole or separated into its different grants and loans – each grant and loan is linked to project codes effectively quarantining each grant and loan from all other sources of funds, including other funds from the same DP;
- Other funds can include: statutory funds required under specific legislation; money held by government but not owned by government, frequently termed trust or deposit money; future funds to set aside certain receipts from specific sales etc. for future spending, contingency funds for urgent or unforeseen requirements and funds established to receive fees for providing guarantees. Many countries are now contributing annual amounts to be set aside in a disaster fund given the increased frequency of natural disasters. Effectively a fund can be set up for any purpose to separately control specific resources from all other resources, for example, because external parties require it, or because it is a feature of a countries budget or legal framework; and

[88] For more on this please refer to:
http://www1.worldbank.org/publicsector/pe/StrengthenedApproach/CapitalRecurrentIntegration.pdf

- This example also includes in-kind contributions, for example the transfer of assets, technical assistance or food items. Not every country will receive such assistance or even have the capacity to account for it. Including this, however, allows reports to be produced and it clearly separates cash received from these sources from non-cash receipts, such as food.

Figure 27 – Typical Structure for a Source of Fund Segment

1	Consolidation of all Funds
11	Consolidation Fund Account
111	Consolidation Fund Account
112	DP Resources
1121	Grants
112101	Australia
112102	New Zealand
112103	China
112104	Japan
112105	Azerbaijan
112106	Turkey
112107	India
112121	IMF
112122	World Bank
112123	ADB
1122	Loans
112201	Australia
112202	New Zealand
112203	China
112204	Japan
112205	Azerbaijan
112206	Turkey
112207	India
112221	IMF
112222	World Bank
112223	ADB
113	Other Funds
13	Disaster Risk Financing Fund
14	Contingency Fund
15	Stabilizing Fund
16	Trust Funds
17	In-kind Contributions
170001	Australia
…….	…….
170023	ADB

Box 13 - Tips in developing a SoF Segment

- Design the SoF segment to provide the capability to control all specific funds and sources of financing in the general ledger separately from other funds, and to allow segregation of controls over receipts and spending, and for accounting and reporting
- Ensure all legislative fund requirements are met in the SoF segment design. There has always been a need to ensure separation of different sources of financing and to ensure that spending of specific sources can be controlled and reported on. This segment can therefore support segregation required under law by the budget, or externally, for example, by DPs
- Consider whether the cash holdings of government can be further consolidated in a TSA once the SoF segment is comprehensively defined in the GL
- Redesign all internal government transactions to be undertaken as journal entries eliminating many unnecessary intra-governmental transactions
- Create a register of bilateral and multilateral DPs to allow reporting of DP financing including the capital budget, completely within the FMIS. This also assists to better integrate the recurrent and capital budgets. To achieve this the SoF segment is utilized together with the project segment to create separation in the GL. This approach also allows each project to have multiple sources of financing, which is a common governmental requirement

Developing an Organizational Segment

128. **An organizational segment seeks to capture the organizational structures used in government to allocate and control the budget.** This would include first level budget entities such as ministries, departments and agencies along with any subordinate structures required for budget appropriations, budget allocations or to track spending at detailed levels, such as to SUs or costs centres. Even where a country has implemented program budgeting, the legislative authority to spend money usually continues to be first extended through MDA structures, for example to the Ministry of Agriculture in the first instance.

129. **The requirements in the MoF and for parliamentary reporting are typically at a very high level.** In some cases, this will stop at first level budget entities such as the MDA. However, many countries appropriate to lower level budget entities which are subordinate to MDAs, for example, a specific hospital under the Ministry of Health. The minimum level of detail required for the MoF is therefore the level to which the budget is appropriated by Parliament or its equivalent.

130. **Where the MoF has the authority and responsibility to sub-allocate organizational appropriations[89] then the organizational classification must also extend to this level of detail too.** MDAs will typically also want to sub-allocate the budget appropriations to lower levels. This

[89] Traditionally the ROSPICE, or allocation process, was used in many transition countries to control budget execution centrally. It was very much an extension of control by the MoF over spending below the appropriation levels issued under law. It often sub-allocated appropriations to levels below MDAS and within the year, quarterly or even monthly. It is reasonable to suggest that this is inconsistent with the concept of decentralized control which is favoured today. ROSPICE is sometimes also misrepresented as a cash forecast for SUs. In reality in most countries it is or was a cash plan with control over spending being the primary focus

will be particularly true in larger economies. This may be undertaken at one time, by the first level budget entity, or in other cases may go through a series of "nested" sub-allocations. It is useful to capture each of these levels formally within the organizational segment, although in general the MoF should not be seeking to control budgets below the appropriation level.

Box 14 - Hierarchies in the Organizational Segment

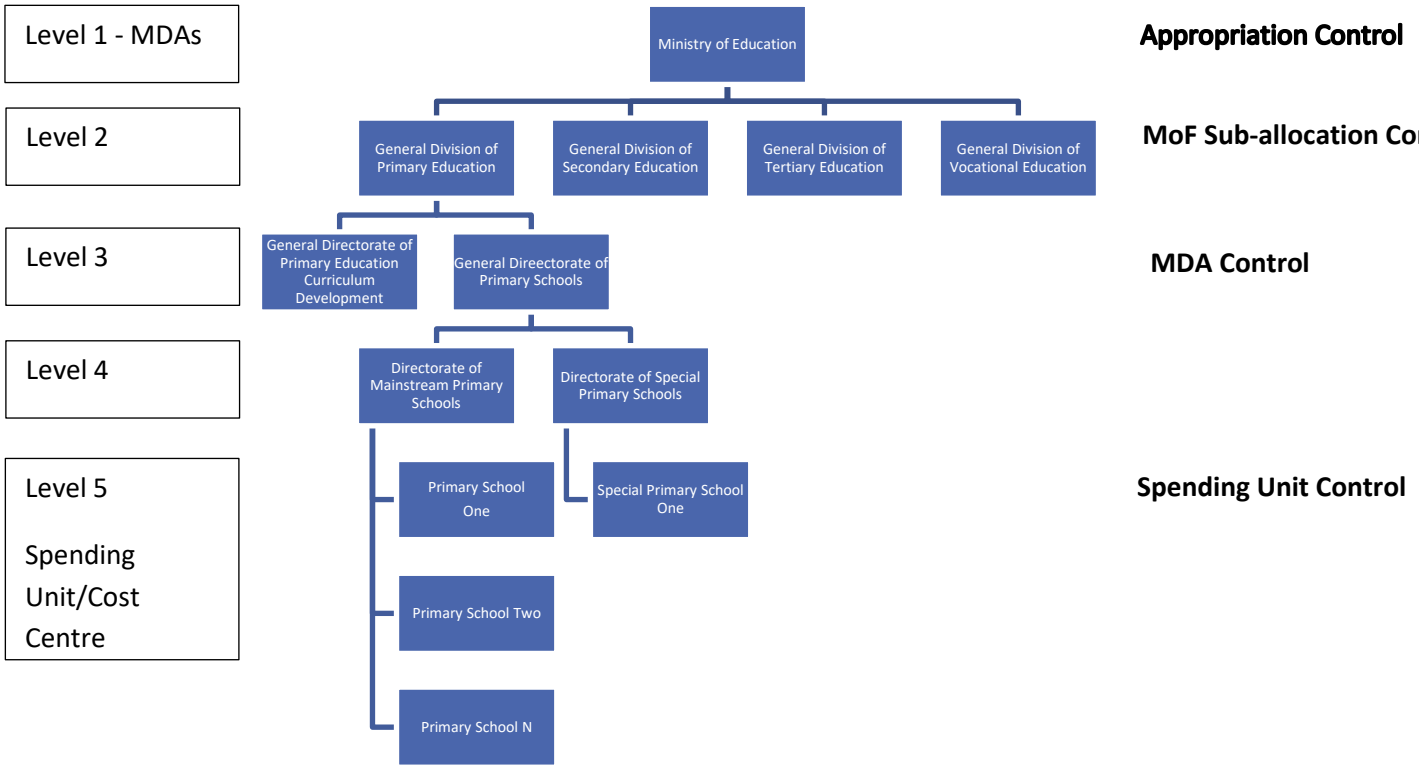
The budget can be appropriated in a number of different ways and after appropriations have been approved by Parliament (or its equivalent), there may be other sub-allocation processes, from the MoF, from line ministries or from lower levels of government. As an example the appropriations may allocate funds to line ministries and other first level budget entities and/or to subnational governments and these first level budget entities may in turn issue sub-allocations to their subordinate institutions, or second level budget entities. This process may continue to a third, fourth or even fifth level.

It is therefore also quite common for the appropriated budget to go through a series of sub-allocation processes, in some cases right down to SUs. This may also occur in a number of ways. For example, allocations can be approved by the MoF, subject to the submission of cash plans which reflect a sub-allocation of the appropriations. The same process may also be repeated at each sub-national level, with the second level of government repeating this to the third level and so on. For example, the DoF at the Tier two level approves the cash plans for its MDAs and the local governments. There may be many different variations to these arrangements as well.

A common feature of the arrangements is that it involves hierarchies which can be defined in the organizational structure of the UCoAs, and the transfer of funds and legal authority to spend between different levels of that hierarchy and within government can be performed entirely within the FMIS if properly designed. This also provides an opportunity for countries to consider business process improvements, particularly where traditional "nested arrangements" create long delays as funds cascade down from the consolidated budget to each lower level of government.

131. **Countries that have a single centralized FMIS which is used in MDAs will need the organizational segment to not just cover appropriation and sub-allocation level reporting, but also allow the capture of more detailed reports, perhaps right down to SUs, for example, a primary school or health clinic.** These detailed subordinate structures can be set up formally in the organizational segment, or the MoF may allocate sub-segments and digits underneath the budget appropriation level to be used at the discretion of the MDAs. Figure 28 provides a simple five-level example of how an organizational segment could be structured.

Figure 28 – Example of a Five Level Hierarchical Organizational Structure and Budgetary Controls



132. **As Figure 28 shows, it is possible and sensible for an integrated Organizational Segment to be developed that supports top down controls from Parliament, MoF controls, and then also supports management controls for the MDAs and the subordinate structures such as SUs.** It is therefore important when developing the organizational segment to ensure the requirements for the MDAs are also supported. This may not be so critical where the MoF is not providing an FMIS that supports the MDAs reporting requirements, however, where the FMIS is to also be used by MDAs for reporting and budgetary controls, their control and reporting requirements must also be integrated and supported in the Organizational Segment.

What happens in organizational structures which are less complex?

133. **The number of levels required in the organizational structure is dependent on the control and reporting levels required in the most complex MDAs.** Five levels are likely to be sufficient detail for most MDA requirements, however, if more are required then it is possible and sensible to add further levels. This does not impose five or more levels on all MDAs. In fact, each MDA will only utilize the organizational segment to the level of detail required in that MDA. As an example, if an MDA such as the Constitutional Court, only requires a one level structure, then it will be an MDA and a spending unit simultaneously. Each level will still be set up in the organizational segment but in this case, the description Constitutional Court will be repeated across all five-levels. Thus, the report produced at each of the five-levels will be identical, and the Court will not utilize the other levels of reporting which are not required.

134. **The same principle applies where an MDA requires two, three or four levels.** The MDA defines the levels down to the lowest level of detail required, and then repeats the lowest required level down to the 5th level (or more if there are more than five levels).

Benefits of a Detailed Organizational Classification

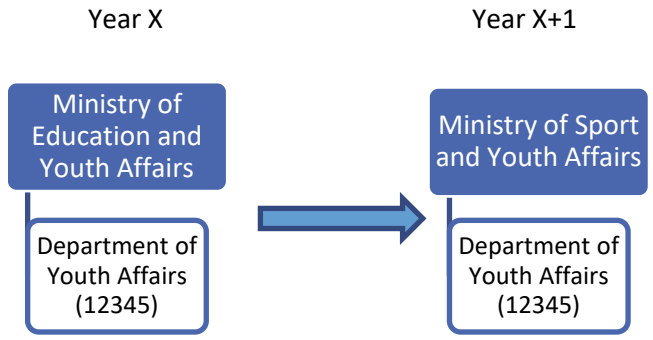
135. **In the past, highly detailed organizational classifications were discouraged, because of the workload implications, system limitations and the high cost of data storage.** Today, the capacity of modern ICT systems and a reduction in data storage costs enable governments to capture significantly more detailed information than was possible in the past. This is something that should be carefully considered as the benefits of capturing information at the SU/cost centre level can be significant. The SUs will have access to "active" budget execution information to manage their budgets and to plan during the year. For the MDAs, it ensures detailed information is available regarding the spending and needs for all of those units they control. This ensures that information is readily available to build "bottom-up" budgets in future years and to analyze past spending patterns to benchmark similar units against each other, and to manage and monitor expenditure from a policy perspective. It also facilitates in-year monitoring to take place regarding these units[90], which maybe particularly useful where authority over day-to-day management has been devolved to those spending units. Finally, the MoF will have access to detailed sector information when MDAs submit budget requests or new policy proposals. In addition, if a sector expenditure review is required, this can be supported with this detailed information too. As an example, it is not possible to properly undertake a sector-wide review of education without understanding spending at the level of schools. This level of information while not needed in MoF for day-to-day monitoring, will be useful for strategic analyzis and also to ensure the integrity for consolidated reporting.

Unique Spending Unit/Cost Centre Code

136. **As mentioned in Chapter 3, it is often beneficial to create unique registers within a segment.** There are two major areas where this may be useful in the Organizational Segment. Firstly, ministerial structures change frequently, based on politically driven machinery of government changes. At the same time there is frequently a very stable second or third level budget entity, at the department level. These departments hardly ever change other than for the creation of new departments. Department structures simply move from the old "parent" ministry to the new "parent" ministry. For example, in one year the Department of Youth Affairs is a "child" to the Ministry of Education and Youth Affairs. In the following year it is a "child" to the Ministry of Sport and Youth Affairs. Creating a unique department sub-segment allows the budget of the department to be seamlessly transferred from the old to the new "parent" ministry. Its budgetary history will also shift to be aligned within the new "parent", to allow comparison across different years, despite the machinery of government changes.

[90] This can be a useful tool for the higher levels of management within the MDAs, internal audit, and for central agencies such as Treasury and MoF. Even the Supreme Audit function could be given access for it to conduct in-year review work.

Figure 29 – Moving Departments from one "parent" to another



137. **The second area where this is highly useful is for the SU/cost centre.** Figure 8 highlights that a primary school has many one-to-one relationships with other segments and sub-segments in the UCoAs. Thus, once we define the unique spending unit, all of the one-to-one relationships can be mapped in the FMIS and allocated automatically when the SU code is used. This therefore reduces the data entry required to record the full UCoAs in FMIS each time. This is the creation of the "Short Code" highlighted in Figure 8, where the unique SU code identifies not just the "parent" ministry but many other one-to-one segment elements in the UCoAs.

138. **Even where the MDA operates its own FMIS or accounting system, designing the organizational segment down to SUs and ensuring data integrity between the structures will allow data to be captured just once and passed to the different levels of government that require information**. Frequently SUs are submitting the same information to different stakeholders within government. As an example, it is not uncommon for SUs to have to submit budget execution reports to the Treasury, the Budget Department and to "parent" ministries. In many cases the information is submitted in slightly different formats and perhaps at different intervals (monthly verses quarterly). However, if a hierarchy was established and this was linked to the FMIS or a well-designed data warehouse, all stakeholders could be given access to the reports in their required format, with the spending units only having to submit the information once. The efficiency gains are obvious particularly for the SUs, with improvements also likely in terms of timeliness and reliability.

Is there a need to Create a Separate Budget Allocation Segment from the Organizational Segment?

139. **Some countries have two or more structures in the UCoAs operating simultaneously to support organizational management, budget execution and budget appropriations and allocations.** Often the reason why different structures are in place is because different functional entities in government designed these separately. Redesigning the UCoAs provides an opportunity to better integrate the design requirements of each functional entity in government and consider whether a single integrated segment may suffice. In most commercial off-the-shelve (COTS) FMIS products, budget appropriation and allocations operate in a separate "funds control" module within FMIS, which overlays across the UCoAs structure to control spending against the appropriations and allocations. These budgetary controls do not require their own separate segment structure[91]. Indeed the budgetary controls must be assigned to different levels in each

[91] It is also recommended that countries follow this approach where systems are purpose built for or by the government

UCoAs segment to ensure spending is controlled against the correct authorized entities and for the required spending controls. Where stakeholders require unique reports to analyze and monitor the budget allocations and/or execution, these requirements should either be built into the organizational segment structural design or a report designed for the user based on the structure.

Mapping to Program and Functional Segments

140. **It is important to ensure the relationships between the organizational, program, and functional segments are clear.** To undertake this effectively it is useful to map from the lowest level of the organizational segment as this is likely to ensure that one-to-one relationships exist with higher levels in the program and functional segment. This mapping table can then be used to ensure integrity of reporting across the three segments. It should also ensure that only the organizational segment at the lowest level needs to be explicitly coded, with programs and functional coding and reporting derived from this segment. This is again a feature of the relationships defined in Figure 8.

Box 15 - Tips for Developing the Organizational Segment

- Consider implementing a detailed organizational segment from MDAs down to SUs, as this will provide considerable information for all stakeholders and ensures that budget allocations can be directly linked to final spending decisions. It will also improve the reliability and timeliness of reporting by SUs, and reduce their workloads in preparing reports for different stakeholders
- Consult with all users of the FMIS to ensure the individual reporting requirements of each MDA are fulfilled – this will improve the usefulness of the UCoAs and FMIS for management reporting in MDAs, perhaps reducing the need for specific systems in those MDAs
- Consider how existing budget appropriation and allocation processes work and determine whether these can be improved through a more integrated organizational segment
- Consider developing a “short code” in the UCoAs based around the “one-to-one” relationship between the SU code and other segments in the UCoAs (Figure 8). This will reduce the burden on users to key these additional classifications into FMIS when transactions occur

Developing a Project Segment

141. **In addition to operational spending, governments typically have specific spending where there is a requirement to "ring fence" a portion of the budget.** The project segment allows each of these specific spending requirements to be separately allocated and controlled. Projects are generally not permanent or long term, instead representing discrete short to medium term spending requirements. Projects may be capital in nature, such as building a road or a school, recurrent, such as a health awareness campaign to mitigate risks associated with mosquito borne viruses, or can be a combination of capital and recurrent spending, such as the building of a Youth Centre and recruitment of skilled staff for operating the centre and their ongoing employment. Projects are typically also strongly aligned with a country's capital or investment budget.

Project Codes

142. **It is generally advisable to create unique project codes.** The code length will therefore depend on the total number of projects operating in a country, ideally not just in FMIS, to ensure all projects supported by government can be monitored. A five character numeric code will allow 99,999 projects at one time with a four-character alpha-numeric code (assumes 36 characters in each position) exceeding 1.6 million possible projects. Given that projects may span more than one budgetary year, the code length should be determined based on covering the total number of projects across a reasonable timeframe. Thus, if a country typically had 10,000 new projects each year, it would take 10 years to reach 99,999. At that time, it may be reasonable to restart from 00001 for the next available project. The Ministry of Investment and Planning in one country indicated it wanted projects to be unique for life to allow easy identification for long term planning and review. In this case a numeric project code may need to extend to 7 or even 8 digits. The project code should represent a unique identifier for all information regarding the project across government. This will allow different systems to be used to gather information regarding the project in addition to FMIS, for example, a project management system in the Ministry of Public Works or Ministry of Planning.

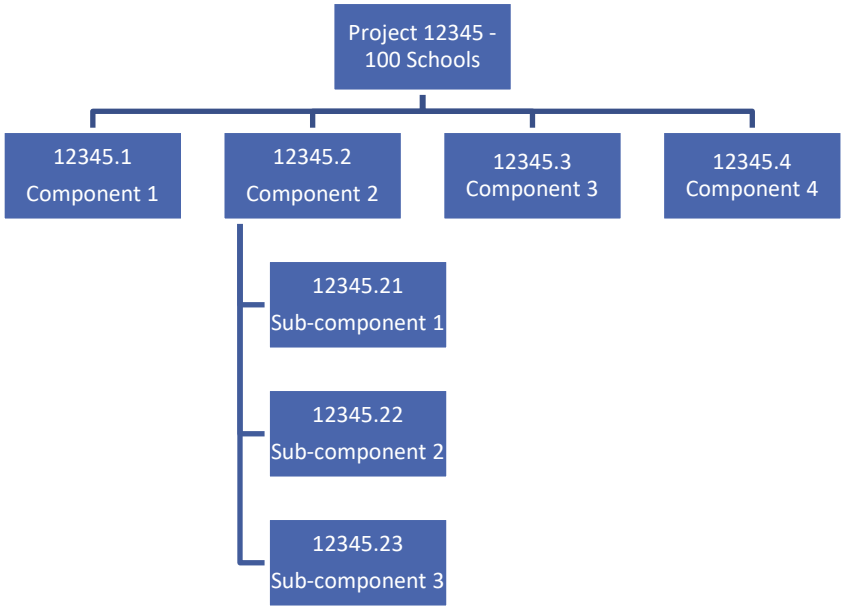
143. **This will be particularly important where country PFM systems are not interoperable.** If for example project management, monitoring and reporting occurs in one system, whereas budget execution occurs in FMIS, different coding structures will make it challenging to compare and share data across the two systems. Unfortunately, this is a common scenario, often made more challenging because each project has its own PIU and uses separate bank accounts and accounting software. A unique project code can help improve the sharing of data and also facilitate the process of better integrating DP and capital budget financing into the FMIS.

Project Components

144. **Some projects may be very large or complex and in such cases it may be important to allow project budgets to be sub-allocated into components and even sub-components.** This can be seen in Figure 30 where the project has four budgetary components, and component 2 has three sub-components. This means that budgets can be sub-allocated and reported to a considerable level of detail, which is a common requirement, and one of the reasons why PIUs are set up outside of the general government expenditure management processes. Allowing project specific budget

sub-elements should satisfy most DPs that the UCoAs and FMIS can support their reporting requirements.

Figure 30 – Budget Component and Subcomponent Reporting in Projects.



Box 16 - DP Specific Reporting Requirements

DPs frequently request unique reporting structures for their projects. The above approach provides for this and allows projects to be structured to allow components and sub-components. This provides considerable flexibility. Even with just two-digits, it is possible to have 10 components each with 10 subcomponents.

On occasions a request will be made by a DP for a variation to existing economic and functional reporting. If the government UCoAs largely accords with GFSM2014 including CoFoG these types of requests should be met using the component/subcomponent capacity. There should not be a need for a DP to request economic or functional codes and reports different to those defined internationally as accepted requirements.

When such requests are made either by a DP or line ministry, the first step should be to provide them with guidance on the UCoAs design and capabilities. On occasions these requests will be made without a detailed understanding of the existing capacity of the UCoAs. On other occasions the demand is made to justify a separate system and PIU.

To improve integration of external financing in 2004, Kosovo (at that time it was highly dependent on external financing) developed a policy document regarding project financing for integration into its FMIS, TSA and under the general management of the Treasury. This policy document was widely circulated including to DPs to ensure consensus regarding the use, capacity and integrity of the UCoAs.

Multiple Sources of Financing for Projects

145. **One important requirement for some projects is the need to consolidate and also separately report and control more than one source of financing.** For developing countries, it is very common for DPs to partially fund projects. In many cases DPs require a country to co-finance their investments, often 10% of the total amount of the project, with the DP funding 90% (the 10% maybe actual financing or in-kind contributions - both options can be accommodated with this proposed approach). To achieve this the project code is used together with the SoF segment. This can be seen in Table 23 below. In this example, the WB provides 90,000,000 in grant funding and the government provides a 10% contribution. The project therefore has a total budget allocation in the current year of 100,000,000. The first payment to be made is 20,000,000 acquiring ICT infrastructure which is recorded as capital spending in the accounts. This debits the project for the amount, reducing the available allocation to 80,000,000 and WB residual funds to 70,000,000. The government contribution is for staffing of the project and this is charged monthly to the project at 500,000 a month. Thus, after the first month's salary payment the available funds reduces to 79,500,000 for the total project, and 9,500,000 for the government's contribution. These calculations can be seen in Table 24 below.

Table 23 – Project with Multiple Sources of Financing

Project – Installing Internet Infrastructure at 100 Primary. Schools					
Transaction	**Source of Funds**	**Ministry**	**Project**	**Economic**	**Amount**
Initial Financing	World Bank	Education	12345 -100 Schools	Grant	90,000,000
Budget Allocation	World Bank	Education	12345 -100 Schools	Capital	90,000,000
Budget Allocation	General Fund	Education	12345 - 100Schools	Capital	10,000,000
Acquisition of Infrastructure	World Bank	Education	12345 -100 Schools	Non-Financial Assets - ICT	20,000,000
Salary Expenditure	General Fund	Education	12345 -100 Schools	Salaries	500,000
Non-project Expenditure	General Fund	Education	00000	Travel	100,000

Table 24- Report on Project Spending Against Funding

Project 12345-100 Schools	**WB**	**General Fund**	**Balance of Project l**
Funding	90,000,000	10,000,000	100,000,000
Capital Acquisition	20,000,000		80,000,000
Salaries		500,000	79,500,000
Fund end of Month Balances	70,000,000	9,500,000	79,500,000

146. **Utilizing the UCoAs in this way means that a report can be produced for the project as a whole, for each source of funding, or for both dimensions simultaneously.** Using the SoF and project segments can therefore integrate DP financing into the FMIS general ledger and all reports required by the DP provided from the FMIS. When the UCoAs and general ledger are setup properly, this ensures all the required separation of DP funds from other funds is achieved in the GL. This separation is akin to how the GL separates and controls the budget appropriations of one ministry from another ministry. Ultimately and ideally, DPs will choose to allow their funds to be included in the government TSA, given the separate control possible in the GL. Notwithstanding this, it continues to also be possible for the actual funds to be held in different bank accounts too, although this is neither recommended nor required. At a meeting of DPs and countries in Accra most DPs agreed to give priority to the use of country systems where possible. This would include cash management and banking arrangements such as holding funds in a government's TSA. In many cases DPs are not confident that their funds will be ""quarantined"" from other spending priorities. The above example shows that the separation and control of these funds is possible if the UCoAs and GL are utilized properly.

Non-Project Expenditures

147. **In Table 23, an additional line has been added to show how project and non-project spending can be differentiated in the UCoAs.** For non-project spending the project code used is 00000[92], which is set up in the project segment for all spending other than project spending. This code would automatically be populated in FMIS, so that most general budget spending is coded in this way – that is, it is automatically recognized as not project related[93]. Where a project specific code is required the default code would be changed to the correct project code.

Box 17 - Tips for Developing the Project Segment

- Establish a unique code for each individual project
- Consider whether components and even sub-components should be developed in the project segment to fulfil any specific project budgetary reporting required in government or for DPs
- Coach MDAs and DPs on how to use the UCoAs properly for reporting. It may be useful to develop an "external financing" policy which would be widely circulated including to DPs
- Develop the project segment closely with the SoF Segment too ensure all the sources of financing are covered. Using the Project and SoF Segment allows DP funds to be "quarantined" even within the TSA of a government, ensuring integrity over the original allocation of those funds

[92] 00000 is used as an example only- any default code could be used, for example, XXXXX

[93] When using the UCoAs in the GL every segment must be populated, even where the segment may not directly relate to the type of transaction being recorded. Thus, in the project code a default code is set up to record the fact that this is not project related expenditure

Developing a Functional Segment – balancing country and international requirements

What is a Functional Segment?

148. **The functions of government provide a sector and sub-sector view of government and assures consistency in the classification of functions and activities irrespective of how the government of the day decides to allocate ministerial responsibility.** As an example, hospitals, which are part of the health sector, and primary health care, may also be allocated to different MDAs by a government, for example, the President's Administration. Thus, the functional classification provides a mechanism to unpack the unique features of government portfolio decisions to allow a more coherent view of spending by sector and sub-sector.

149. **Internationally, the UN developed a classification[94] titled the Classifications of the Functions of Government (CoFoG) which is generally accepted as a useful template for a government functional segment.** Most countries provide statistics to the IMF and reports to other DPs based on CoFoG. Thus at a minimum, each government should be able to derive a CoFoG based report from its UCoAs. The ten functions of government in CoFoG are shown in Table 25. Appendix V provides the full three-level CoFoG classification modified to reflect country specific examples of useful and consistent variations to the CoFoG structure.

Table 25 – The Ten CoFoG Functions

01	General Government
02	Defense and Security
03	Police and Courts
04	Economic
05	Environmental Protection
06	Housing and Community
07	Health
08	Culture and Sport
09	Education
10	Social Protection

150. **It is also important to note that CoFoG in GFSM2014 is only used to capture information on outlays.[95]** This need not be the only focus for use of the segment in the UCoAs for each country. For example, it may also be useful to report revenues functionally, and to include budgetary sources of financing, such as debt servicing. How a country chooses to use its functional segment can be informed by the way CoFoG is utilized in GFSM2014 but it need not limit its application in any given country.

[94] For more on CoFoG please refer to the IMF's GFSM2014 manual, https://www.imf.org/external/Pubs/FT/GFS/Manual/2014/gfsfinal.pdf

[95] Outlays are defined in GFSM2014 as expense plus net investment in non-financial assets. Thus, outlays are above the line and exclude budget financing

Adopting or Adapting CoFoG?

151. **Some countries, particularly those with high levels of DP grants and loans, may choose to just use CoFoG as published and apply it directly as the Functional Segment in the UCoAs.** However, in many countries, the structure of CoFoG is modified to provide greater emphasis on key CoFoG sub-sectors for government's own reporting. The most common area of departure from a pure CoFoG structure is in Function 4 – Economic. Where a country has specific important CoFoG economic subsectors, it may choose to separate the CoFoG function into two or more country specific functions. This will not cause any issues for CoFoG based reporting as these functions can just be aggregated for CoFoG reporting. Table 26 provides an example of how this could work in a country where agriculture and tourism are considered important economic sectors.

Table 26 – A Country Specific Sector Presentation

Sector Number	Country Sectors	CoFoG Number	CoFoG Function
01	General Government	01	General Government
02	Defense and Security	02	Defense and Security
03	Police and Courts	03	Police and Courts
04	Agriculture	04	Economic
05	Tourism		
06	Other Economic		
07	Environmental Protection	05	Environmental Protection
08	Housing and Community	06	Housing and Community
09	Health	07	Health
10	Culture and Sport	08	Culture and Sport
11	Education	09	Education
12	Social Protection	10	Social Protection

152. **As Table 26 shows there is a clear relationship between the country sector segment and CoFoG, which can easily be mapped and reports for CoFoG produced from the country structure.** Unfortunately, some countries undermine this clear relationship, creating their own hybrid sectors which result in alignment issues when mapping to CoFoG. In these cases, it will be important to ensure that mapping can still provide a link between the two structures – thus the mapping may need to occur at the sub-sector level, or even at the SU level in the organizational segment. Generally, however, it is important to avoid significant variations from CoFoG given its universal application across countries.

153. **One area where countries may choose to vary the specific requirements of CoFoG is with the "not elsewhere classified" (NEC) sub-function that appears in all ten functions of CoFoG[96].**

[96] Twice in the social protection function of CoFoG, once for social exclusion and once for social protection

In general, the administrative support functions in the sector, including the executive of a ministry, corporate support activities such as human resources, financing etc. are coded to NEC. There will also occasionally be an activity that just does not have a clear match with the CoFoG sub-functions and therefore is also coded against NEC. However, these activities are likely to be the exception, will tend to be small and therefore not significant from an expenditure perspective. Thus, it remains an option for countries to create a more specific or clear description for the third level functions coded to NEC given that the majority of activities are primarily "executive and administrative support". One obvious option would be to define executive and administrative support as an explicit category, although this may not be required if such structures are already in place in the organizational segment.

Common Country Issues

154. **Common issues with country specific sector classifications include:**

- **Utilizing the Functional Segment to control budgetary spending.** This in itself is not an issue as long as the functional segment is not viewed as the only segment for control. The segment should work alongside the other segments such as the organizational segment, to ensure comprehensive controls are in place and the overall classification is flexible and its usefulness is not compromised. An issue can occur however, where actual spending authority is allocated ministerially and the functional allocations cross ministerial boundaries. In such cases it is important that the functional allocations be suballocated to specific ministers or officials. Ideally only one budget manager should have control over each budget;
- **Creation of specific additional functions/sectors which are cross cutting and should be allocated according to the existing functions.** Two common examples include creation of a Capital (Budget) Sector and Research and Development Sector. In both cases, sector spending, for example, on education or health should include capital and recurrent spending and spending on research and development. These cross-cutting sectors create misalignments and result in understating actual functional/sector spending;
- **Treating Unallocated Budgets as Final Expenditure.** It is common for government to set funds aside for emergencies, or to allow flexibility over spending for certain budget entities or budgetary items. As a result, it is important that these funds not be codified functionally until the actual expenditure is known. Alternatively, the initial functional coding should be treated as temporary, with the final recording of transactions allocated to the correct final function and sector. For example, if a country appropriates funds to a Contingency Fund, this could be recorded as a temporary charge against General Government. If there is a natural disaster and twenty primary schools are damaged, and approval is given for spending from the Contingency Fund, the final spending should be recorded against the Ministry of Education and the relevant sub-function for primary education. Effectively there are two options. Option one would not allocate the original budget for the Contingency Fund against the functional classification but against other segments. In this case the functional classification would only be recorded at the time the expenditure is made. Option two would require a specific functional allocation against a separate functional item called the Contingency Fund, possible in the General Function or a separate function set up for budgetary allocations. This should not however be used to record any final expenditures, as no such (sub)function really exists. When a decision is taken to spend funds from the Contingency

Fund, a budget transfer would shift the budgeted amount from the Contingency Function to the Education Function. This ensures that all final expenditure is correctly recorded against the correct functional codes. The important point is to not allow a final charge against the Contingency Fund as this is not a ministry, function or sector[97].

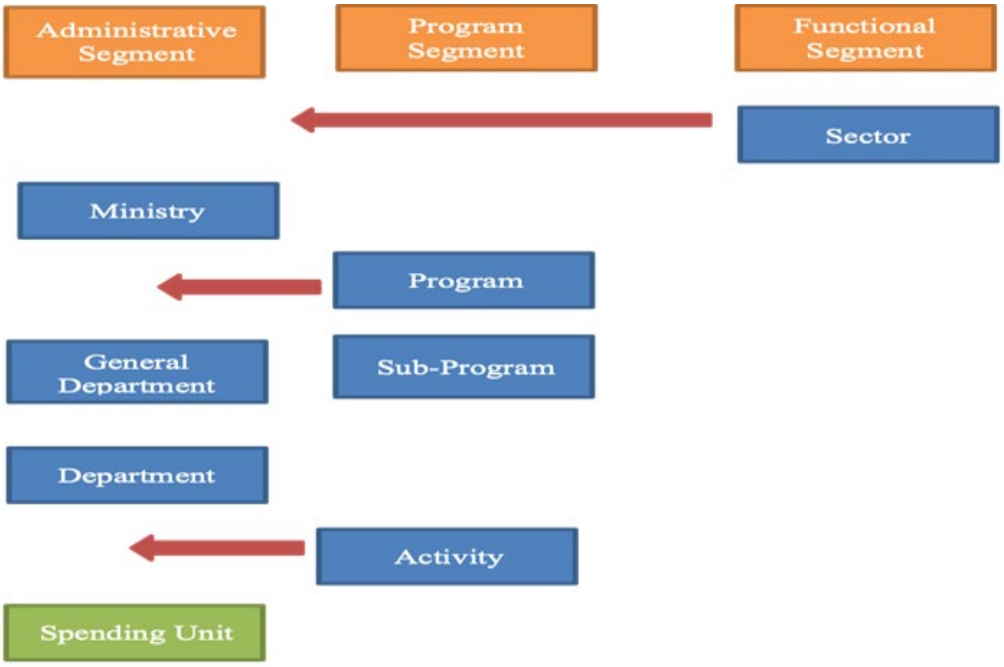
- **Aligning spending units under functions/sectors –** A few countries explicitly code spending units as "children" of sub-functions/sub-sectors. This may have been the only option when systems could not support more extensive CoAs classifications and multiple segments. SUs are organizational structures and as such the function/sector segment should be used in conjunction with the organizational segment to allow SUs to also be reported functionally and by sectors.
- **Spending Units are allocated functionally according to their "parent" ministry rather than in accordance with the activities and services they deliver** - Ministerial structures are a political decision. This is the reason why CoFoG is in place, to ensure that real sector outlays are captured for each country. Thus, if educational services are delivered across a number of ministries, the SUs related to education should be mapped to the correct function. This will occur in many countries in the budget where the heads of government seek direct control over areas they deem important. These are normal political decisions in any government, however, if the organizational "parent" is used to determine the function rather than the actual activity being undertaken, it will result in the executive function being overstated and the education or other functions understated. As the President and/or Prime Minister are executive functions they are coded under function one in CoFoG, which is 01, and specifically under the executive which is 011. However, if there is a hospital under the President's Administration this should be coded to Function 7073 or its equivalent in the country. If the Prime Minister's Office has cultural or religious activities in the portfolio these would normally be coded against 7082/7084 in CoFoG or the country equivalent.

155. **As highlighted in the earlier section on the Organizational Segment, the relationship between programs, organizational structures and functions is very important to define and map.** This mapping will show where new structural elements are required or highlight where proposed new structures are largely redundant. It is not useful to create a reporting level in programs, for example, which duplicates or largely duplicates existing structures in the organizational or functional segments. As mentioned in paragraph 45, in one country a mapping table of proposed subprograms and subfunctions revealed 96% of the elements were identical. Thus, an entire subsegment was developed that would provide a report which was just 4% different from a report that could already be produced from the existing UCoAs. Figure 31 shows an example of the relationships between the three segments. In effect it is possible to redefine each of the sub-segments as part of a larger integrated hierarchy. This means that where a one-to-one relationship exists with one level of any of these segments with the higher levels of the three segments, this information can be derived from the UCoAs by mapping from that lower level. Thus, that higher level need not be coded when transactions are recorded as it can be derived because of the predefined relationships. Thus, many countries have functional reporting but do not explicitly code transactions against the functions. As countries move to implement new structures such as programs, these relationships should be revisited to determine the most efficient way for capturing information in the future. For example, program coding could replace functional coding

[97] There may of course be other possible variants. The key requirement is to ensure that final expenditure is correctly recorded in the UCoAs and not against the Contingency Fund

at the transactional level, or if coding is already in place down to spending units, both program and functional reporting could be derived.

Figure 31- Relationship between Organizational, Program and Functional Segments



Box 18 - Tips for Developing a Functional Segment

- Ensure CoFoG is used to guide the development of the functional segment
- Consider whether country specific functions and subfunctions are required. If so, this may require an elevation of specific lower level functional elements to the level of subsector or sector for domestic reporting requirements. However, this should ensure integrity for mapping to CoFoG for external reporting and international benchmarking
- Ensure the functional segment is able to report government outlays (final expenditure.) Budgetary devices such as contingency funds and block allocations should not be used to record final expenditures. In addition, cross cutting elements such as capital/development sectors should also be avoided as they impact the integrity of proper functional reporting
- Ensure functions are mapped to both programs and the organizational classification. If this mapping is reliable there may be no need to explicitly code functions when transactions are processed – the functional coding can be derived from pre-set mapping tables in FMIS

Developing a Geographic Segment

156. **Geographic segments are important in most countries, as they allow spending and in some cases revenues, to be tracked by specific regions.** This can be very useful for many different reasons, not least of which to monitor the distribution of government services and spending by region. This type of analyzis can be particularly important when targeting social disadvantage and determining grant allocations to sub-national governments. In modern government it is now possible to link this type of information to other statistics, for example number of school age children, income levels etc. to inform government policy decisions. In the Kyrgyz Republic they are using the segment to allow the public to access a project database to track the progress of investment projects in any location, including by Ayil Okhmotus (local government), rayon and oblast.

157. **Typically, there will already be a structure in place that can be used for this segment in most countries.** This may have already been developed by the Statistics Office or based on administrative/electoral boundaries. In Moldova for example, the segment has three primary levels based around the structure of government: tier one is Central government, tier two Rayons (32) and Tier three Primaria's (902). There are also specific structures for the autonomous regions and for the Municipalities of Chisinau and Balti. In the Kyrgyz Republic there are four levels, tier one Central, tier two Oblast which includes seven oblasts and two larger cities, tier three Rayon which includes 40 rayons and 23 medium sized cities, and tier four Ayil Okhmotus, 459 in total including 19 townships. Examples of the geographic hierarchy for the Kyrgyz Republic and Moldova are included in Figures 32 and 33 below.

Figure 32 – Kyrgyz Republic Geographic Segment

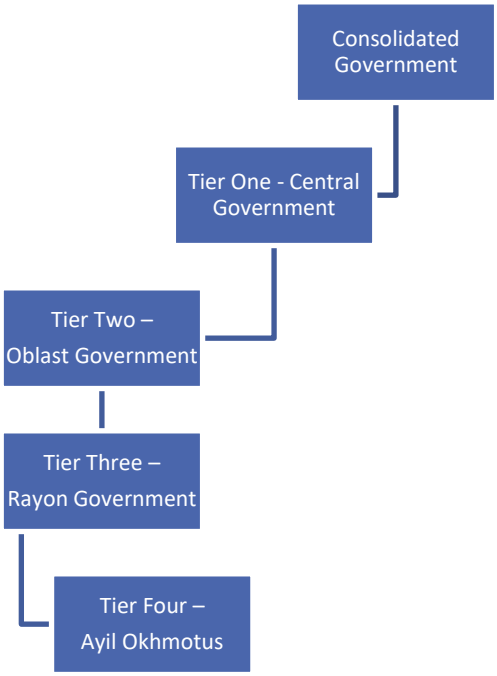
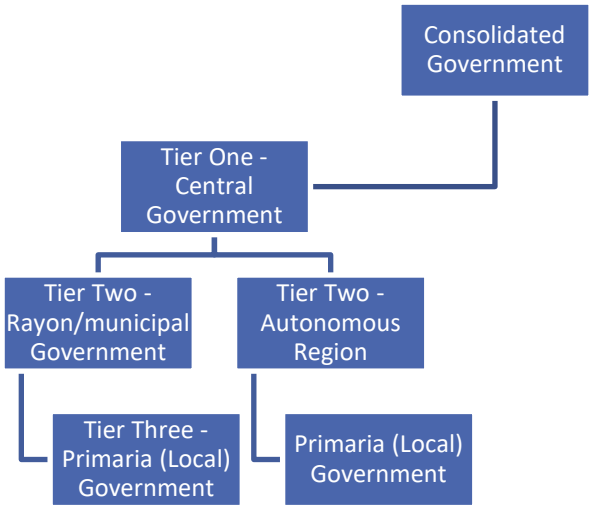
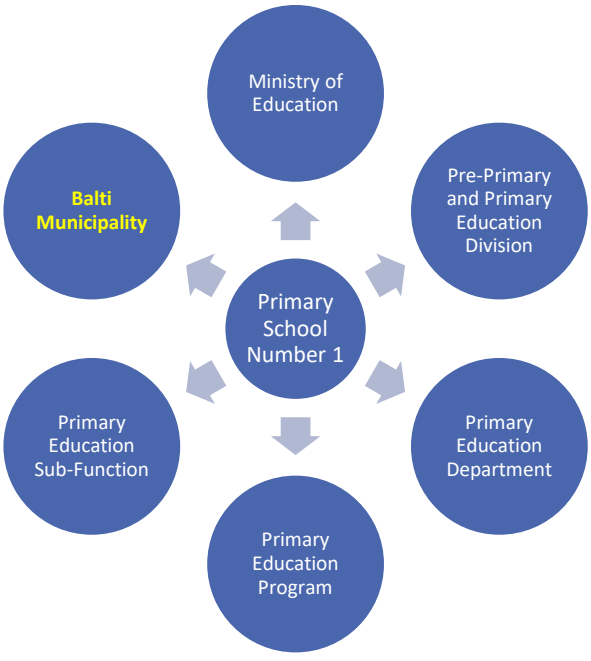


Figure 33 – Moldova Geographic Segment



158. **In some cases there may be more than one option already in place in government, for example both a statistical geographic structure and an electoral structure.** The one chosen as the primary structure for the UCoAs should be the one that provides the most useful information for reporting. This also does not mean that reports are not possible for both structures, or any other geographic structures that may exist or be required. There may in fact be a simple mapping process which will allow reports to be produced according to the second, or any additional structures. If this is not possible, then both (all) structures can also be mapped to the SUs and reports for both built bottom-up as per Figure 8 (repeated below). As spending units have only a single physical location, once all spending units are defined they can be used to produce reports for other segments, including geographically.

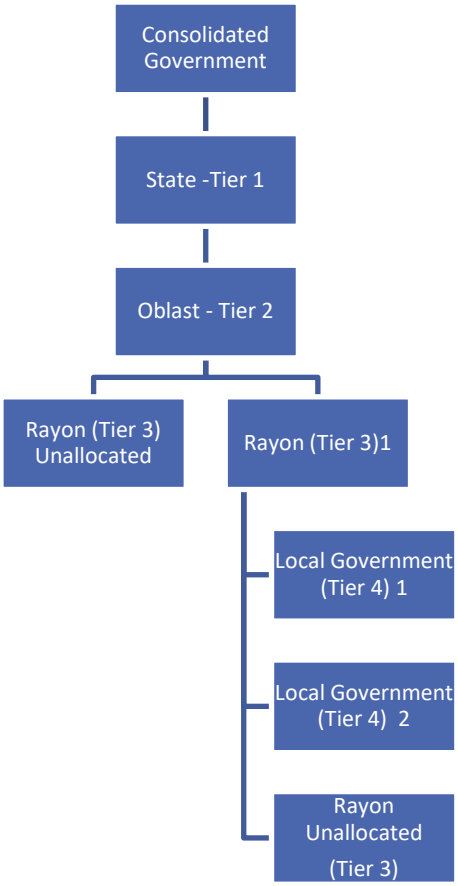
Figure 8 (duplicated)- Unique Relationships in UCoAs Design



159. **Even though the geographic segment used may have been developed by another part of government, if the numbering system utilized is not logically structured, then only the structure and not the actual numbers should be utilized.** All structures in a modern UCoAs should be developed in a manner that makes it easy for users to identify specific elements at any level of a segment hierarchy. Thus, in the new UCoAs a logical hierarchical numbering system should be developed and mapped to the related coding from the originating entity to allow sharing of data between agencies.

160. **On some occasions certain activities in government may not be divisible down to the lowest geographic level.** For example, if a national road project is being developed, the project may not be allocated or managed down to specific local governments. In such cases a pragmatic approach is required. Ultimately the objective is to produce reports for analysis, however, if reporting for certain elements is not required, or possible, at the lowest level, manageable alternatives should be produced, for example, by only allocating down to intermediate levels such as tier two or tier three, or not sub-allocating at all. This could be achieved by creating an additional lowest level code called "unallocated" or repeating the tier two/three code at the lowest level for the local government level. The unallocatable elements would be coded to the additional code and therefore reported only at the higher tier, for example at the Rayon level. Thus, these elements could either be excluded from the specific lowest level reports, or reported as an unallocated lowest level in the reports. This can be seen in Figure 34.

Figure 34 – Projects which are managed at intermediate levels of government



Box 19 - Tips for Developing a Geographic Segment

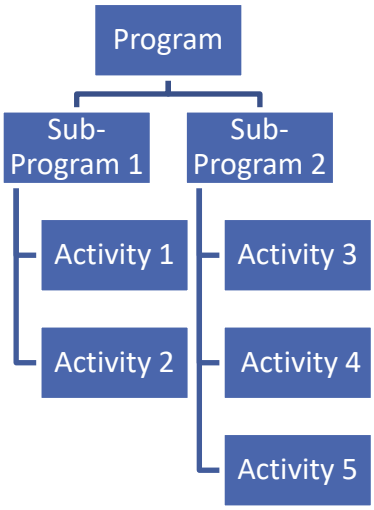
- Do not build a new structure if there are existing structures already in use elsewhere in government, for example, used by the statistical or electoral agencies. If more than one structure exists use the one that will provide the best reports for stakeholders
- Ensure pragmatic solutions are found to capture information in the UCoAs where specific projects or activities are not definable at the lowest level of the geographic segment

Developing a Program Segment

161. **In recent years many countries have moved to implement budgets which are oriented towards measuring the results being achieved rather than just reporting the money spent on inputs.** This approach has many variations across the world but is frequently referred to as program-based budgeting (PBB - in some countries it may be referred to as budgeting by objectives or results or output based budgeting). The implementation of PBB in many countries has been challenging, as it should also be accompanied by significant changes in management practice, particularly a shift of authority and responsibility from central agencies such as MoF to MDAs.

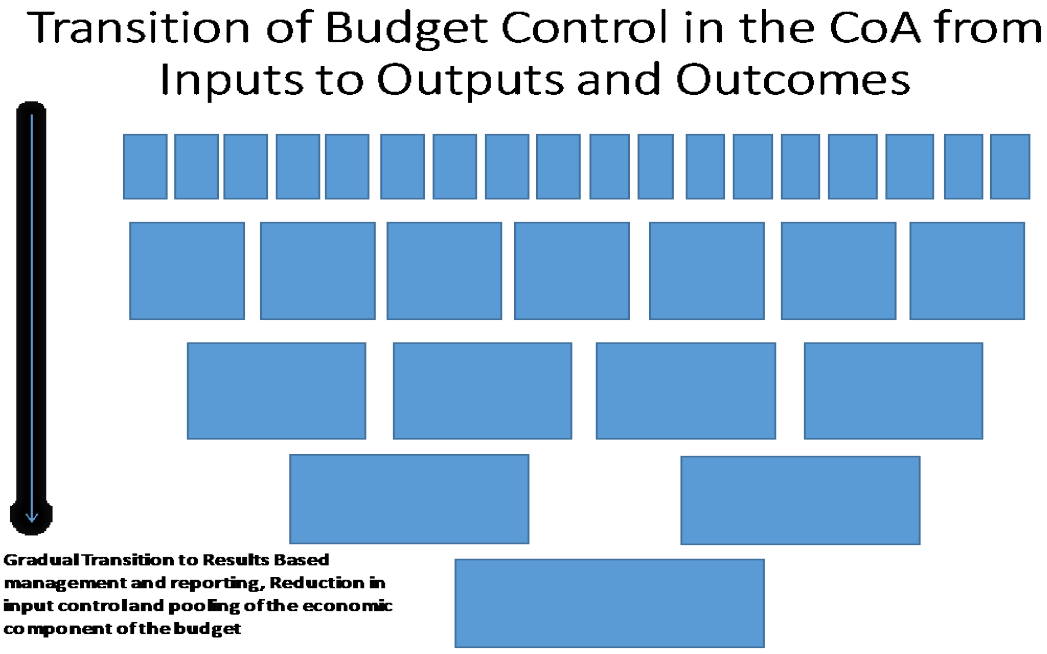
162. **From a UCoAs perspective however, there is less of a challenge.** Once program structures have been developed these are simply codified in a segment. Even if a country decides to have programs, subprograms, activities and sub-activities, from a UCoAs perspective this is just a hierarchical structure. However, it should be noted that developing very complex and detailed structures for program reporting can be challenging to implement successfully. Countries should carefully consider the reporting capacity which is already available before creating detailed supplementary structures. This should include understanding the relationship and mapping to the organizational and functional segments – as the three segments have relationships it may not be necessary to develop detailed structures for programs (or functions) if spending is already captured down to the SU level in the organizational segment, which is a highly detailed level in any country. As an example, if every primary school is coded as a SU, then the activity of delivering primary education can probably be derived by combining all of the primary school SUs. In this case it would be possible to develop a mapping structure for the activity which would produce a report without coding specifically for the activity for all transactions at each primary school.

Figure 35 – Three-Level Program Structure



163. **PBB does not mean the end of input based reporting or management.** Program managers and MDAs still need to manage, analyze and report on inputs in the economic segment. You cannot manage a hospital unless you know what you spend on staff, medicines and equipment. PBB may however eventually lead to the elimination of centrally driven input controls over budgets (See Figure 36). In Australia the implementation of PBB saw a gradual reduction in input controls over time. This allowed program managers to become more familiar with how to properly manage and control their budgets gradually, over a number of years and annual budget cycles.

Figure 36 – Gradually shifting from Input to Program and Output Controls



164. **However, some countries may never fully relinquish all central controls over inputs**. The important capability required in the UCoAs is therefore to allow flexibility in relation to budgetary controls including the level at which expenditures are controlled. It is also important to ensure that FMIS and the UCoAs also allow flexibility to change the budgetary control levels in the future. Indeed, there may be a need for some parts of government to have input-oriented controls while others are allocated funds by program or as a lump sum.

165. **It is also critical for government wide analysis and the preparation of consolidated financial statements and GFSM2014 reports, that all spending is codified by the full economic segment at the most detailed level contained in that segment,** irrespective of the level of detail of the budgetary controls. Thus, the level of budgetary control should not determine the level at which expenditures are coded nor the reporting level by the MDAs.

166. **The relationship between programs, organizational structures and functions is very important to define and map.** This mapping will show where new structural elements are required or highlight where proposed new structures are largely redundant. A reporting level should not be created in programs which duplicates or largely duplicates existing structures in the other two segments. As mentioned earlier, (paragraphs 45 and 152) in one country a mapping table of proposed sub-programs and sub-functions revealed 96% of the elements were identical. Thus, an entire subsegment was developed that provided a report which was just 4% different from a report that could already be produced from the existing UCoAs. Figure 30 shows an example of the relationships between the three segments. It is therefore possible to redefine each of the sub-segments as part of a larger integrated hierarchy.

167. **Program structures should be carefully defined to ensure integrity across the UCoAs structure. The MoF has an important role in this regard.** Problems with program budgeting and reporting invariably occur because the MoF has not guided MDAs well enough on how PBB structures should be defined. The common areas where it is useful for the MoF to determine a policy include:

- whether common activities or subprograms/programs should be defined across MDAs. For example, many countries allocate the senior management of the MDA and support functions to an "administrative program". This has a number of benefits, including being able to compare the administrative (overhead) costs across each MDA;[98]
- whether programs should be unique to each MDA or apply across MDAs. Both options are possible, but if programs are to cross MDA boundaries, there must be common program structures used. This also poses potential issues for budget management and for the accountability for results. How do you ensure accountability where there are two or more program managers for one program? As a result, some countries do not allow programs to cross ministries (South Korea is an example);
- Are programs to be used for all government activities or only strategically important areas of government? If this is the case, the mapping to the other segments becomes critical and a default

[98] Results based budgeting would normally also seek to minimize overhead costs and allocate as much of the resources as feasible to service delivery. In Australia this was used to drive down costs in these areas

"non-program" code must also be developed (UK has strategic programs which apply only to specific spending in government);

- Programs are often defined based on other segment structures such as organizational or geographic. There will be significant alignment between existing organizational structures and programs, however, organizational structures are not necessarily going to reflect a useful results-oriented program segment. A common example is where subprograms are created based on existing management structures e.g. dividing control for the police into southern and northern divisions. Both divisions are delivering the same activities and have the same objectives so should normally be included in a single program.

168. **In some countries program segments are changed each year which creates an unstable base for comparing data from one year to the next.** While changes can always be accommodated, it is important for MoF to adequately guide MDAs to ensure the integrity of the structures in the first place. In any event all changes must be properly managed, allowing adequate time for the new structures to be mapped to the old ones and to be tested in FMIS prior to implementation in the new year. Chapter 4 provides some guidance on UCoAs changes.

Box 20 - Tips for Developing a Program Segment

- Assess the need for detailed program structures against the other segment structures that already exist in the UCoAs. It may not be necessary to create a detailed segment where for example, detailed SUs are already in place
- Develop clear policies and procedures to ensure MDAs understand the approach required in developing a program structure. MoF should review the proposed structures and assure their compliance with the required policies and the quality of the structures submitted

6. Integrating the UCoAs into the PFM Framework

UCoAs and the Budget

169. **Once the UCoAs is developed countries are also in a position to determine the budgetary controls that will be imposed using the UCoAs.** In many OECD countries the trend has been to move away from detailed line item controls to more aggregate controls. In many cases this has been under the auspices of budgetary reforms such as results oriented or PBB. Figure 36 shows how this process evolved in Australia. Over a number of years, the Department of Finance gradually reduced the controls centrally imposed on MDAs moving through a series of stages. The starting position saw tight MoF controls over very detailed inputs, such as electricity, water, telephones etc. Over time budgetary categories were broadened, for example from electricity and natural gas to the broader category of utilities. Each year further flexibility became available to MDAs until controls were eventually only monitored centrally at the program level. It is important to note that while budgetary controls changed, input based economic items and accounting continued, in this case the input controls were undertaken in MDAs rather than centrally. PBB does not eliminate inputs, indeed inputs are a critical element in any budgetary and accounting system. Instead control and decisions about the inputs shifts and are devolved from central agencies to the MDAs.

170. **In reality few countries have moved to control only by programs, instead maintaining some more detailed controls in general economic categories** (for example continuing to require separation between salaries and goods and services). Each country must assess the correct level of control for its circumstances. Highly detailed controls create a large number of budgetary categories, frequently resulting in the MoF spending all of its time moving (viring) funds from one account to another. Conversely controls set too high may see discretionary expenditure displace funds which should have been set aside for non-discretionary purposes.

What is the appropriate level of control for budgeting in a country?

171. **Determining the appropriate level to control MDA budgets in a UCoAs is extremely important.** In the past, where system capacity was low, BCs and CoAs tended to have simple often two-dimensional structures. Budget controls and the recording of spending occurred at the same detailed level, as conceptually there was no other option that made sense. Central controls in Treasury tended to be exhaustive and occurred at the final stage, when payment was due, in a gatekeeper type role. The advent of modern systems has resulted in the ability to record more detailed information regarding each transaction. As this paper suggests this may involve seven or more multileveled segments and extend to 40 or more digits or alphanumeric codes. This additional level of classification requires a rethink regarding where budgetary controls should occur in each segment, as this has a significant impact on flexibility in MDAs and workloads for both MDAs, and the central budget and treasury functions.

172. **Table 27 shows the implication of different levels of control, and how each stage of the payment process can be considered.** In the example provided, controls are contrasted for both

the appropriations and sub-allocations in the government. High level controls for appropriations result in 360 separate budgetary allocations across 30 ministries, each of which has up to six programs and two economic items (for example salaries and other). If the appropriations are further broken down by department, subprogram and economic items, the budget allocations very quickly grow to 64,800. The question each country must ask is what is the correct level for strategic allocation by the Parliament? Too high may result in certain strategic priorities being absorbed into less important spending, while too detailed categories results in the focus being on inputs rather than results.

Table 27 – Budgetary Controls in FMIS and the UCoAs

	Administrative	Programs	Economic	Total	Frequency
Appropriations					
High Level	Ministry	Program	Class		
	30	6	2	360	1
Detailed	Department	Subprogram	Category		
	180	18	20	64,800	1
Allotments					
High Level	Ministry	Program	Class		
	30	6	2	360	4
Medium Level	Department	Subprogram	Category		
	180	18	20	64,800	4
Detailed	Spending Unit	Activity	Item		
	25,000	48	200	240,000,000	4

173. **The same challenge exists for the MoF and the Budget Department in relation to allocations with the possibility of overwhelming workloads if controls are set at too detailed a level.** Table 27 shows that if control was to occur at the most detailed level for SUs, this would grow exponentially to 240 million budget items to be managed by the MoF. At this level the Budget Department would have no time for anything other than processing continual virement requests from MDAs who in turn would be frustrated by the central controls imposed over every financial decision they make. This workload would be even more demanding if applied quarterly or even monthly instead of annually as is reflected in the table (see the last column). The reality of such a process is it becomes a mechanical bureaucratic repetitive exercise with no strategic focus. A visit to a SU (hospital) in one country revealed that it remained without a much needed new ambulance until the third quarter of the year because it had to wait for adequate funds against the specific line item to accumulate for nine-months (in accordance with the monthly cash release process) before it had sufficient funds to commit against its budget. This is a major risk with central detailed controls - the cash control[99] becomes the focus for the MoF rather than the needs of the MDAs/SUs and their clients. It is therefore critical that each country carefully designs central

[99] This approach to "cash control" should not be seen as part of good practice cash forecasting and management – in contrast it is frequently a core element for "cash rationing" in countries

budgetary controls at appropriate levels in the UCoAs to ensure the PFM system can operate in a way that supports proper management.

174. **This challenge also extends to MDAs where they directly control departments and/or SUs, as ultimately the controls should focus on mitigating risks without adversely impacting the operational capabilities of the SUs.** As mentioned, the development of more detailed and complex UCoAs structures has made this a more critical issue for each country to consider. In a well-designed system MDAs and MoF should have regular access (ideally in real time) to FMIS (or reports submitted electronically from MDAs where they have their own accounting systems) to monitor budget execution and this can be used as a tool to identify areas of high risk without imposing a highly detailed one size fits all set of detailed budgetary controls. Even when controls are lifted to higher levels in the UCoAs structure, the additional detailed information regarding actual spending and budget execution is still available for review and analysis[100].

175. **It is also important to remind all stakeholders why budget reform such as PBB (where appropriate) has been introduced in countries and included in the UCoAs.** If the addition of a program or other results based segment has resulted in additional layers of detailed central control, as distinct from a reduction as reflected in Figure 36, then this will result in an increased focus on inputs and be counter to the objective of the budgetary reform. Even countries that have not adopted PBB should recognize the negative impact potentially arising from highly detailed budgetary controls.

Which UCoAs segments should be used for budget allocations?

176. **Ultimately each country must decide how it allocates the budget within the UCoAs, however, a key factor must be ensuring strategic allocations, control and accountability.** Figure 30 shows that there is normally a strong relationship between organizational, program and functional segments. In many countries ministries will generally fall into one sector, although there are likely to be some examples where elements of a ministry are reflected in two or more sectors (the example regarding the hospital in the President's Administration). However, at lower levels there will tend to be a fairly coherent hierarchical arrangement, with programs subordinate to ministries, departments subordinate to sub-programs etc[101]. Thus, in Figure 30 if appropriations were set at only the ministry level, budgets could be reallocated across different programs. Generally, the budget appropriations will seek to allocate funds by program to achieve specific objectives, thus any ability to reallocate funds across programs by a ministry could be seen to undermine the original appropriation process. However, if appropriations were set by program within ministry then no fund movement would be possible across programs even within the ministry without

[100] This is also why it is important for budgetary controls to go beyond cash to include commitments and payables, as it provides early warning about appropriations and allotments which may be at risk of being breached

[101] There is no hard and fast rule and it depends on who decides on the structure of each segment and whether the segments have been underpinned by specific policies regarding the structure, for example, programs could be subordinate to, and not cross ministries. It is possible for any number of variants to these relationships. Ultimately FMIS can handle all variants including where all structures have a many to many relationship. However, it significantly improves the logic and integrity of the UCoAs where the relationships are defined and implemented consistently

additional legislative authority. Once these relationships in the UCoAs are defined the FMIS need only control the budget at the lowest level in the structures that reflects the budgetary appropriations, that is, there is no need to control the appropriations by ministry if programs are subordinate to ministry. So, in the above example where programs do not cross ministries, only the program segment would need to be controlled and this would also provide explicit control over ministry spending too.

177. **Ideally budgets must also be appropriated and allocated to a single budget manager.** If for example, there is no designated program manager in a ministry,[102] and departments are responsible for spending, program budgets must be allocated to each department (even if appropriation control is higher). Thus, it is important to not only ensure that these segments are built coherently, but that the budgetary controls also support reasonable control and accountability.

178. **In general, while it is useful to focus on strategic budget allocations by sector (eg functions) controls must occur at lower levels in the respective segments.** Thus, the question is if Parliament (or the equivalent) appropriates functionally, does this mean the controls must also occur directly in the functional segment? This was the view held in the Budget Department of one PEMPAL country. In UCoAs, if controls in other segments ensure the integrity of the original appropriation controls (for example controls by program ensure sector/functional appropriations are not exceeded) there should be no need to explicitly duplicate controls in the functional segment. This is one of the challenges for the departments in MoF in developing the new UCoAs – understanding that some traditional controls maybe redundant with a more sophisticated UCoAs and FMIS.

179. **It is normal for the budget classification to change from one year to the next and a well-designed UCoAs should be able to readily accommodate this.** Normally these changes would only occur at the beginning of the new financial year to minimize disruption (for example implementing new codes within the year may create alignment issues with existing CoAs elements). These changes should also be carefully planned and adequate testing take place in FMIS prior to implementation. Table 6 in Chapter 3 discusses this in more detail.

180. **A standard feature of a good FMIS is the ability to report at all stages of the payment process, including commitment, accounts payable, and at the time of payment[103].** Many countries developed quite sophisticated accounting structures to track specific stages in the payment cycle. This was probably necessary in the past when all of these disconnected elements came together for consolidated reporting. Table 28 shows how a modern FMIS should support all of these requirements simultaneously without explicit additional CoAs structures. To determine the cash spent against the budget, neither commitments nor accounts payable would be taken into account. A country can choose whether to record just cash, or require commitments, and/or

[102] If a country moves to PBB but does not ensure accountability and alignment of its organizational structure by creating a program manager then the accountability of the ministry for results is likely to fail

[103] Where countries continue to pay by cheque in lieu of bank transfer their will be a further stage and reconciliation required until the cheque is presented and cash drawn from the bank

payables which are accrued (there is of course explicit coding in the accounts to distinguish payables from cash payments). Thus, for budget control, there should be no need to have separate subaccounts for cashflows (or commitments), as business processes in the payment workflow of a well-designed FMIS will be able to manage all these stages simultaneously without explicit separate CoAs codes or structures. However, if the FMIS does not have this capability, explicit coding will need to be developed.

Table 28 – Ensuring Budgetary Control at each stage of the Payment Process

Transactions	Appropriation	Budget Allotment	Commitments	Accounts Payable	Paid	Balance of Funds Available
Budget Passed	1,000,000					
Allotment Released		400,000				
Contract to buy a Vehicle			-50,000			350,000
Vehicle Delivered			50,000	-50,000		350,000
Invoice Paid				50,000	-50,000	350,000

181. **Proper budgetary controls require more than just cash to be recorded and reported in the UCoAs.** Table 28 also shows how proper budgetary controls also require commitments and payables to be controlled, to ensure the integrity of the appropriations and prevent the appropriations being over-committed. Many countries that have not controlled commitments suffered from the accumulation of massive budgetary arrears, requiring considerable budgetary pain to recover to more sustainable spending levels[104]. To be effective the budgetary controls should be system based, ideally in FMIS, to eliminate the risk of human oversight or intentional omission.

182. **While cash control is very important, controlling "appropriations" only at the stage cash is paid is extremely risky for any country.** When line ministries decide to commit government funds, it is important that these commitments are also managed against the appropriations, and subsequently at each stage of the payment process: for commitments, payables and the final cash payment. Controlling only at the payment stage allows line ministries to commit more than the appropriations (as no cashflow has occurred and the full cash-based appropriation is still available), which ultimately can lead to the accumulation of arrears. It also has significant negative consequences for cash management, including cash rationing. Thus, even when a country only reports cashflows, if it does not have additional controls to manage the earlier budget execution stages of commitment and payables, it will ultimately have cash management issues, not to

[104] Albania implemented specific additional commitment and payables central controls to reduce the incidence of over-committed appropriations. Over time these controls moved from being manual to controls in the FMIS. For more on this please see the following link https://www.pempal.org/events/videoconference-tcop-thematic-group-evolution-role-and-functions-treasury.

mention overspending against the appropriations and a deterioration in its fiscal position (increased deficit or reduced surplus).

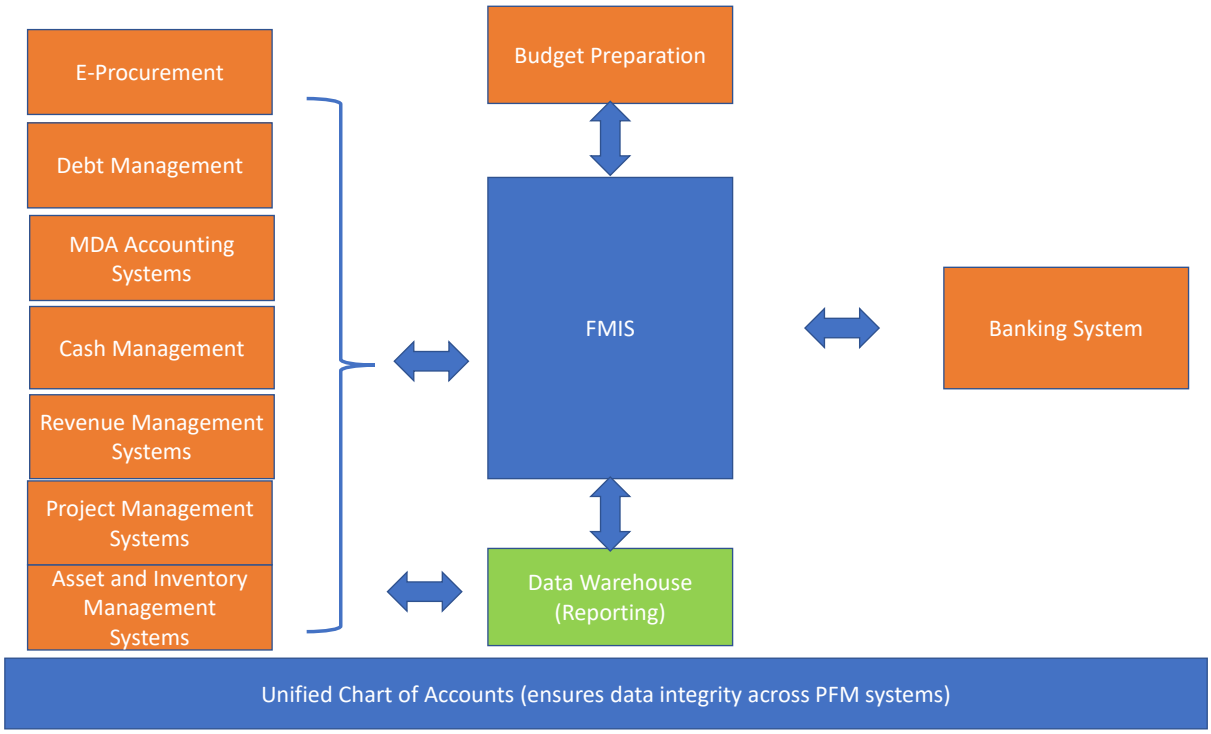
Box 21 Tips for Budgetary Control in the UCoAs

- Extend budgetary controls beyond the cash payment stage to include earlier stages of the payment cycle including commitments and payables. Without this there is a risk that cash based appropriation controls will be breached
- Ensure each stage in payment control is system based, ideally in FMIS to be effective and to reduce the risk of human error or intentional omission
- Consider the appropriate level of control for your country's circumstances. Highly detailed controls create a large number of budgetary categories, frequently resulting in the MoF spending all of its time moving (viring) funds from one account to another
- Rethink how budgetary controls are implemented in the UCoAs and FMIS when reforming the budget such as moving to PBB as this should normally be accompanied with some devolution of authority from central agencies to MDAs
- Understand that PBB while shifting the focus to results does not eliminate the focus on inputs. Indeed, inputs are a critical element in any budgetary and accounting system. Instead control and decisions about the inputs shifts and are devolved from central agencies to the MDAs
- Ensure when designing budgetary controls that the focus is on maintaining the integrity of the original appropriations. You should consider where budgetary controls should occur in each segment, as this has a significant impact on flexibility in MDAs and workloads for both MDAs, Budget and Treasury
- Ensure any changes to the budget classification which impact the UCoAs are carefully managed each year to ensure integrity and to minimize disruption

UCoAs and the FMIS

183. **The UCoAs is the primary data structure for the PFM system in modern government.** As Figure 39 shows there are many systems operating in support of PFM in most countries with the UCoAs ensuring that these systems can be interoperable and that data can be readily exchanged across all ICT systems in the PFM framework. To achieve this it is important that the UCoAs be structured to encompass all major reporting requirements in government, as per the guidance in Chapter 2. Each system may have additional data elements, for example specific procurement codes used more broadly in the economy regarding traded goods and services, debt classifications regarding different types of debt instruments, or detailed codes regarding each asset owned by government. All of these classifiers will either be extensions of the UCoAs or mapped to the UCoAs.

Figure 37 – Unified Chart of Accounts Operates Across all PFM systems and sub-systems



184. **Figure 37 provides an example of how major PFM systems would utilize a common UCoAs.** The UCoAs enables data to be passed seamlessly from one system to another, allowing for the interoperability of each of the systems or sub-systems. Georgia has utilized this approach in relation to its recently developed E-procurement platform. When MDAs undertake purchases, these are classified using an international classification for goods and services (WTO coding) in the E-procurement system. Each of these codes is linked to the UCoAs economic segment, that is, MDAs have no discretion to select the economic codes when purchasing through E-Procurement. This ensures the correct code is always utilized and passed forward into the FMIS. This is one of the major advantages of modern systems: developing a UCoAs, accompanied with system-based controls, reduces the likelihood that MDAs will either accidently or intentionally misclassify transactions. This improves controls and the quality of reported information and therefore improves the integrity and use of the UCoAs. It also eliminates the need for many of the traditional control checks later in the payment cycle as the earlier controlled data is passed forward unchanged to later stages in the payment process. Each of the systems will also have additional classifiers or extend the classification of the UCoAs to provide further detailed information for reporting. There is therefore no need to include detailed data elements in the UCoAs if they are used for one specific purpose which is managed and dealt with in a specific system. The use of modern data-warehouse capabilities also allows these additional reporting elements to be captured as required, without including them explicitly in FMIS or the UCoAs.

Operation of the Central General Ledger and TSA

185. **At the centre of the PFM ICT environment is the FMIS and the general ledger (GL) as reflected in the Model in Appendix I.** The FMIS is therefore the engine room for government finances. While other systems are also important, this is what ensures the whole system operates

with integrity. The GL which utilizes the UCoAs, ensures all financial transactions are properly codified, including updating the government's balances. Even where a country manages its budget on a cash basis, the GL will still show the impact of all financial transactions on a government's cash balance sheet. While the GL operates according to generally accepted accounting concepts, it is not just accounting data which is stored in the GL[105]. The GL is itself a database, and all of the segments of the UCoAs are also captured in the GL.

186. **This integrated GL concept is extremely important to understand as it forms the basis on which government can consolidate its cash and non-cash operations for management, reporting and analysis.** As an example, it is widely recognized today that consolidation of government cash utilizing a TSA is good practice[106]. In the past it was difficult to ensure timely payment for goods and services across all functions and geographic locations of government. This resulted in a deconcentration of government's cash and a proliferation of cash holdings and bank accounts particularly in commercial banks. This also created problems with both accounting and reporting with timing issues in consolidating the deconcentrated financial information. The advent of modern FMIS and advances in electronic payments and the banking system have changed this. It is now possible and preferable to hold cash in a TSA and make payments just in time from the FMIS or MDA accounting system. The UCoAs is used to create cashbooks for this purpose for every organizational unit in government.

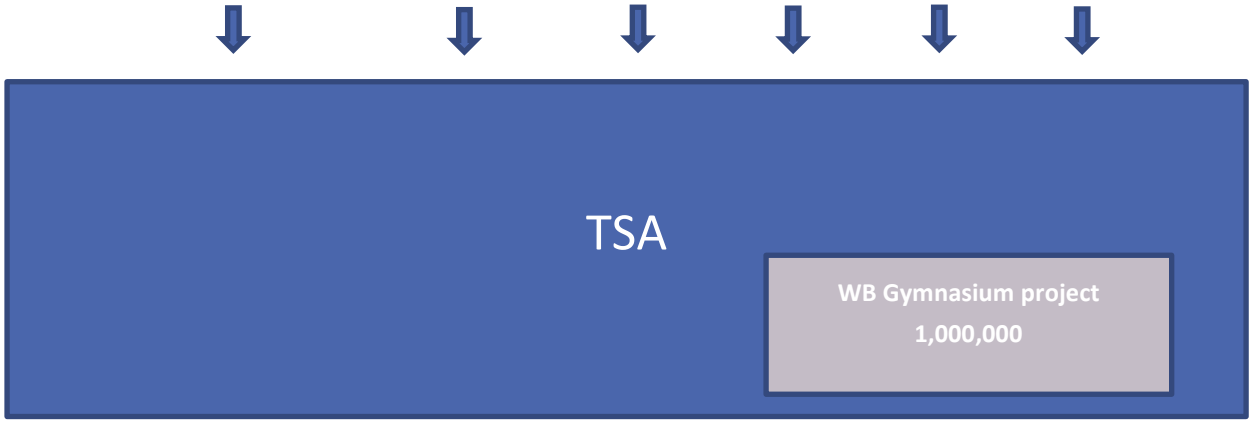
187. **This can be seen in Figure 38 which seeks to show the relationship between the accounts of a SU and the operations of the TSA in government.** In this case the government has a single bank account both in the GL and in the Central Bank. All funds are held in the TSA including from DPs. Separation of funds is undertaken in the general ledger using the UCoAs. The SU Primary School I, has a carry forward balance on its balance sheet of 100,000 from school fees. These funds are held in the TSA as part of the general fund but in a sub-fund for SU own-source revenues. The school purchases 20,000 in stationary from the fund during the year, leaving a balance of 80,000 in the TSA sub-fund for the school. The World Bank also provides a project grant during the year for 1,000,000. While this is recorded as part of the school's balances, it is a separate sub-balance in a specific sub-fund (WB) and with a specific project account. Controls will be in place in FMIS to prevent unauthorized use of these funds. The result is that all cash is consolidated in the TSA so the government can easily manage its cash balances, and each entity in government has its own sub-TSA for management, reporting and control. This also ensures that the SU cashbook is in the FMIS for reconciliation purposes. Thus, if all transactions into and from the FMIS are electronic, the reconciliation process can also be largely automated.

[105] A traditional accountant's view was that only accounting entries occur in the GL. While the GL is fundamental for deriving the balance and financial performance, modern FMIS provide the capabilities to consolidate and aggregate balances across the entire general government, and present this information from many different perspectives

[106] For more on this please refer to https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Treasury-Single-Account-Concept-Design-and-Implementation-Issues-23927

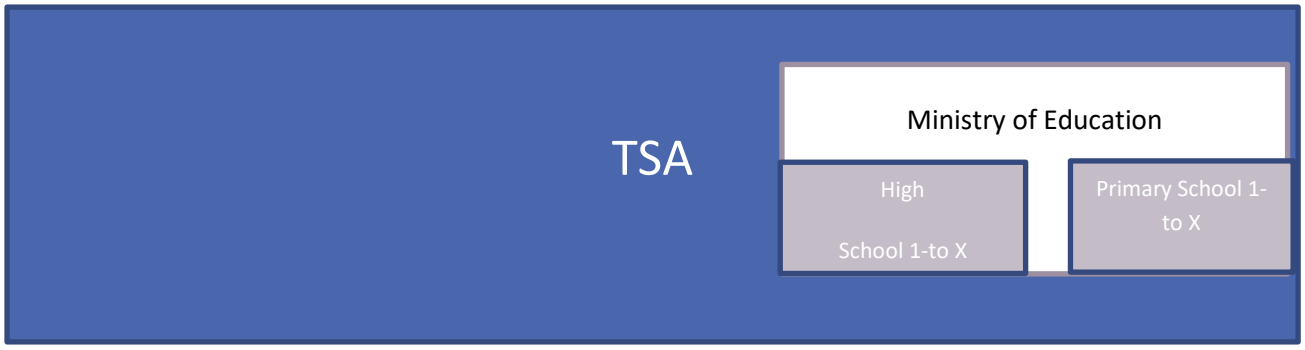
Figure 38 - TSA and the UCoAs and General Ledger

Transaction	Source of Funds	Organization	Program	Function	Project	Geographic	Economic	Amount
Opening Balance	General - own source revenue	Primary School I	Primary Education	Primary Education	N/A	Baku	Financial Assets - TSA	100,000
Purchase stationary	General-- own source revenue	Primary School I	Primary Education	Primary Education	N/A	Baku	Expense - Stationary/Financial Assets TSA	-20,000
Grant	World Bank	Primary School I	Primary Education	Primary Education	New Gymnasium	Baku	Financial Assets – TSA/Grant revenue	1,000,000



188. **The relationship between the SU and the TSA also applies to the entire organizational segment at each level of the hierarchy.** Thus, if the Ministry of Education needs a report on the cash position for the entire ministry including all SUs, this is reflected in Figure 39 where the Ministry of Education cashbook reflects all of its subordinate SUs too. Equally, the UCoAs could be used to also report the total cashbook for the ministry broken down into each spending unit or any other combination required.

Figure 39 – The Sub-TSA and Cashbook for the Ministry of Education



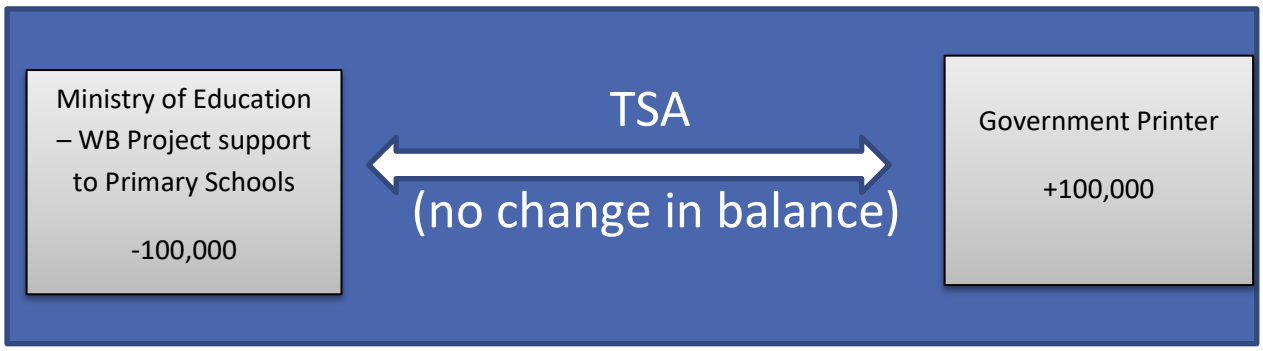
189. **This relationship with the TSA can also apply to the other segments of the UCoAs.** This is particularly useful when considering projects and DPs, as each DP and project can be viewed as having its own cashbook and controlled cash balance in the TSA too. The DPs will not directly

control the cash, the Treasury controls it with each MDA managing their projects in FMIS, and reports on the total cash position can be extracted from FMIS. Government can readily consolidate all of its cash holdings while still maintaining the required separation for control and budget execution. Thus, where government wishes to disclose cash which it controls but which is "quarantined" for DPs, this information will be readily available in the GL.

190. **This principle already applies across all the operations of government which are included in the GL.** Thus, extending coverage of the UCoAs and FMIS as broadly as possible across general government[107] creates many further benefits. All transactions between government entities can also be completed within FMIS. This eliminates significant external transactions reducing costs and further consolidating cash balances. Where a TSA is in place these internal operations will not result in cash leaving the TSA. This can be seen in Figure 40 where a WB project for Primary Schools purchases stationary from the Government Printer. As both entities are in the FMIS, the transaction occurs within FMIS and does not result in funds leaving the TSA. The accounting for both the payment and revenue is also recorded directly in the GL. Thus, reports and the ledger for the project will include the payment and the Government Printer report and ledger will include the revenue. However, a report prepared for the whole of government will eliminate the debit and credit as they are two sides of the same transaction which is netted off for consolidated reporting.

Figure 40- Transactions between government entities in GL

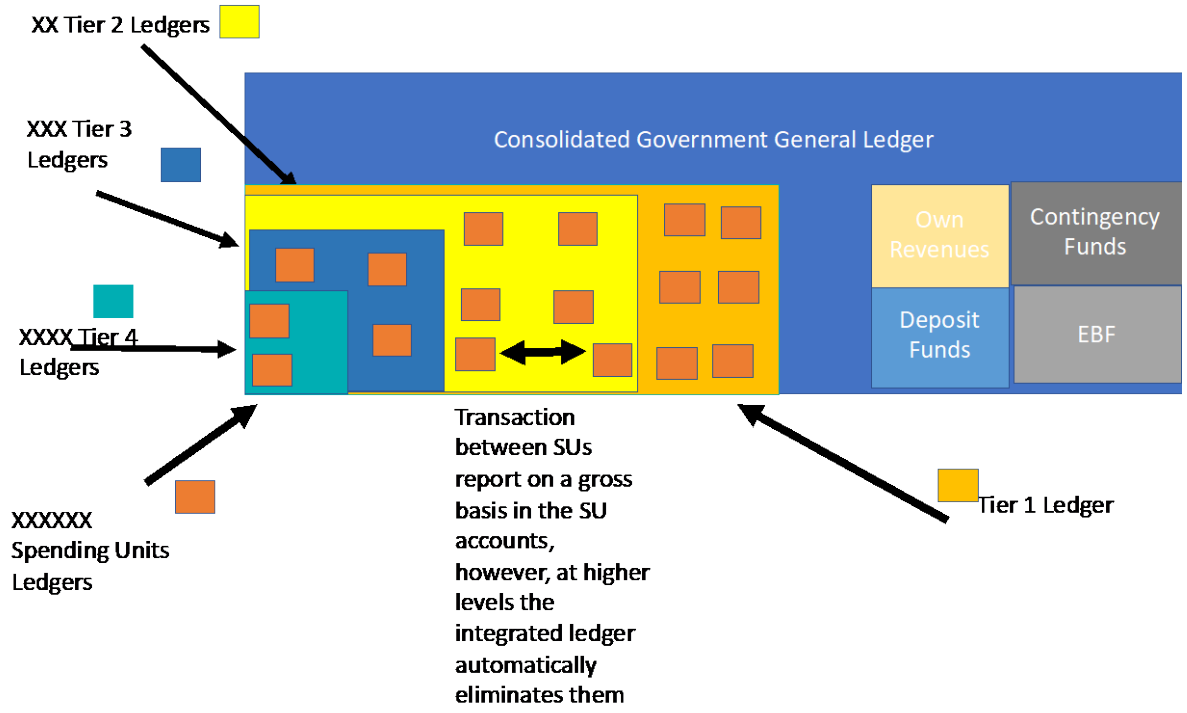
Transaction	Source of Funds	Organization	Program	Function	Project	Geographic	Economic	Amount
Payment for stationary	WB	Ministry of Education	Primary Education	Primary Education	Support to Primary Schools	Baku	Expense - Stationary	Debit 100,000
Sale of Stationary	General	Government Printer	Administrative Services	Support services	N/A	Baku	Revenue- sales by a market establishment	Credit 100,000



[107] The GFSM definition of general government is used here.
https://www.imf.org/external/Pubs/FT/GFS/Manual/2014/gfsfinal.pdf

191. **The goal therefore for many countries should be to expand coverage of the UCoAs and FMIS to all of general government, or as extensively as is possible.** Even where entities in general government are not users of FMIS, it is important for data integrity, particularly consolidated reporting, that the UCoAs is utilized. Figure 41 provides an example of how the GL works for a general government with full coverage. All entities are part of the GL and operate in the same way as components of the TSA as reflected in Figures 38 to 40. This ensures that reports can be produced for all stakeholders based on the transactions processed by the SUs. Thus, separate reports produced for the Budget Department of MoF, the Treasury and for "parent" ministries would be redundant – each stakeholder could have access to reports directly from FMIS or via a data-warehouse. This will also improve reporting integrity across government.

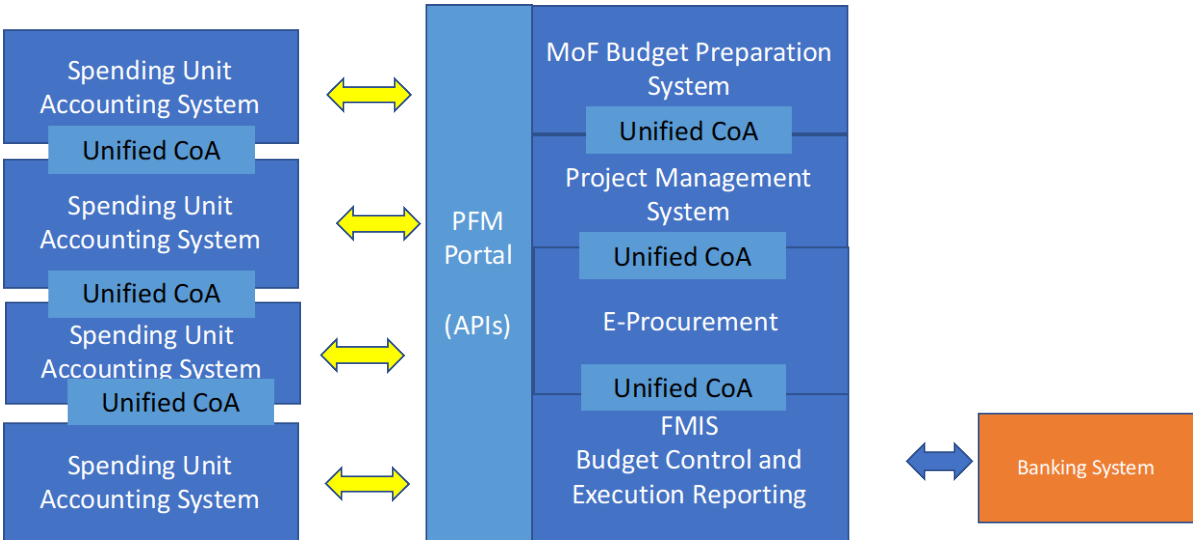
Figures 41 – Coverage of FMIS and UCoAs



192. **Even where some MDAs have their own accounting systems, the UCoAs can ensure the interoperability of systems and the ability to improve controls and reporting where the UCoAs is also applied in those systems.** Figure 42 reflects the arrangements in many countries where accounting systems are in operation in SUs and MDAs. These countries are choosing not to replace existing systems which are in place, instead using the UCoAs and government ICT portals to capture information. Azerbaijan has created a portal between Treasury and spending units which is now used to capture all commitment and payment requests. Countries are frequently developing Application Programming Interfaces (APIs)[108] to ensure data integrity. These can often be developed at much lower costs than traditional interfaces developed between systems.

[108] Application programming interfaces is an interface or communication protocol which are used in government to streamline data sharing and ensure data integrity across the PFM framework

Figure 42 – Extending Coverage of the UCoAs to MDA and SU Systems

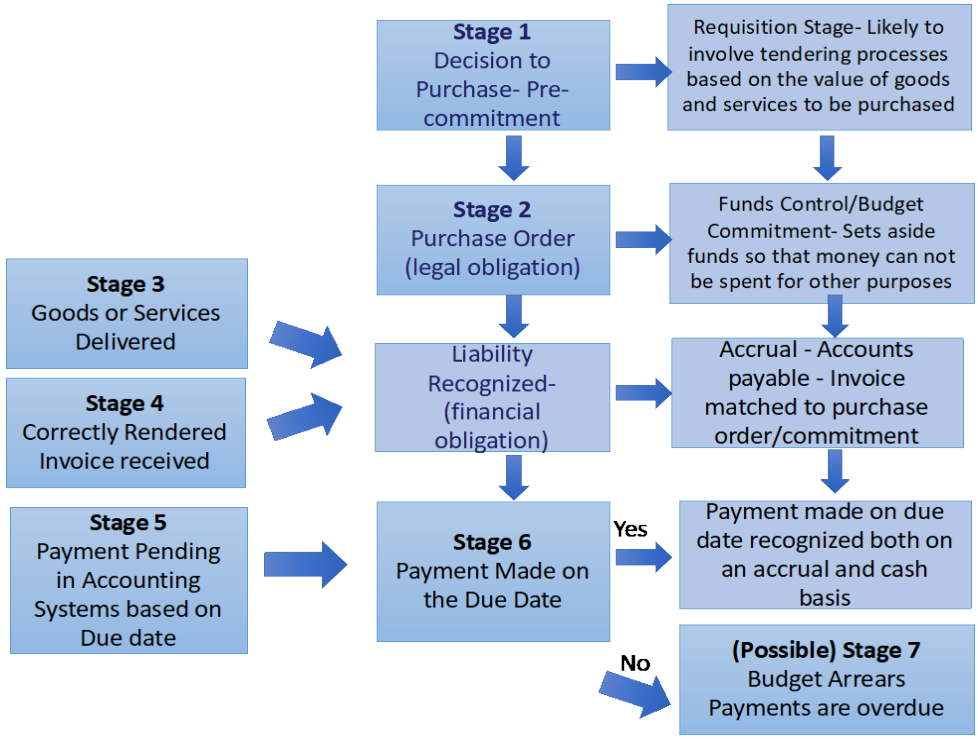


Expanding Coverage beyond Cash Receipts and Payments

193. **In the past treasury systems typically focused only on the final release of the actual payment, and therefore central controls were also focused at this stage, despite the fact that government money had been committed many days and often months earlier.** This meant that the treasury and the treasury system did not really control budgetary expenditures, just payments, and acted as a gatekeeper, just before cash was released. The main incentive ensuring compliance by MDAs was the risk that Treasury would delay the payment[109]. This can be seen in Figure 43 which highlights the key stages in a government contractual payment process with Treasury typically only becoming involved at Stage 6.

[109] In this situation the Treasury has limited real authority to reject payments completely, given that in most cases goods and services have been received and therefore a legal and financial obligation exists

Figure 43 – Integrated Payment Process in government



194. **The advent of modern FMIS[110] has created the opportunity for expansion of the reporting, accounting and controls over government finances to cover all of the stages highlighted in Figure 43.** It is now possible to record transactions much earlier and enhance controls even at the procurement decision stage. This is a far more effective control as it ensures that no funds are committed unless clear ex-ante controls have been met ensuring that the spending is a good use of public money. The importance of this is that the full UCoAs should be recorded at the earliest possible stage of the process – it passes forward from the procurement stage to ensure budgetary control. Indeed, the UCoAs would normally remain unchanged throughout the payment process, eliminating the need for checks of this later in the process (the earlier controls pass forward in FMIS and need not be revisited). This expansion can occur where a country is using a single FMIS across all users or where MDAs and SUs have their own accounting software. The major change would be that MDAs and SUs would submit commitments and payables to FMIS as the transactions are entered into their own accounting system. These could occur using APIs and a web-based portal as is occurring in Azerbaijan, Moldova and Ukraine.

195. **In the future the same approach could be utilized to capture all transactions to expand the operation of the GL to the full balance sheet.** While this may seem ambitious, the reduction in the cost of technology and data storage in recent years now makes such arrangements more realistic. Many countries have created parallel central systems to manage budget execution (FMIS) and a separate system for consolidated financial reporting. This was in part due to the fact that often different central functions were responsible for these areas. It would be prudent to consider

[110] Modern IFMIS no longer presumes a single integrated software but may in fact involve a range of different sub-systems which are interoperable with each other. The UCoAs is key for this as it becomes the basis for a common set of data elements which allow information to be shared between different sub-systems

how the two requirements could be better integrated in the future, to create a single window of operations with and for MDAs and SUs. While many countries may choose not to create a comprehensive GL for the whole of general government, FMIS could still be enhanced to capture end of period financial reports for consolidated reporting.

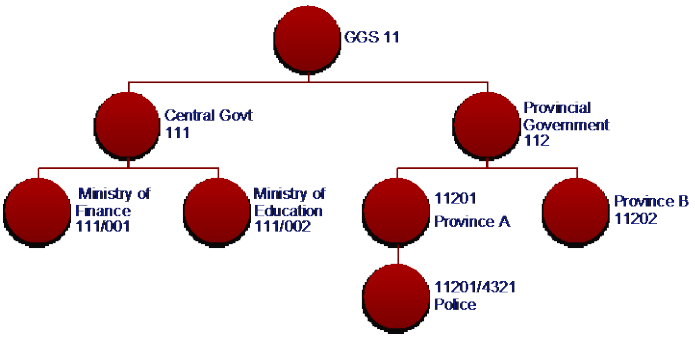
Consolidation

196. **A major issue in modern accounting is how to consolidate financial information for the accounting/budget entities included in the reporting entity.** Traditionally, lower level entities prepared financial reports and these would be passed to the higher level entity. The higher level entity would aggregate the lower level reports until a final aggregated report is presented to stakeholders. Where there are multiple levels in government this process is repeated at each level. While this approach is simple in practice it is time consuming, requiring each layer to complete its process before the next level of aggregation can be undertaken. It is also potentially misleading as it may include all transactions between levels and between entities as external transactions, overstating the actual financial position at each higher level of aggregation. Even if the inter-entity transactions within aggregation levels can be identified, transactions between spending units from different areas of aggregation will be challenging to eliminate. This is a major benefit of having a UCoAs and integrated GL - it clearly identifies whether transactions are internal or external at different levels of government.

197. **The FMIS accompanied with the correct use of the UCoAs can record these transactions for each budget entity but allow them to be eliminated automatically on consolidation.** This can be achieved by ensuring that all inter-entity transactions are recorded within the general ledger of FMIS. Figure 44 shows how this works. As the transactions are internal to the reporting entity, the ledger automatically eliminates them on consolidation. If a report is produced for the MDA or SU, it shows these transactions as external and the transactions are reported in full and not eliminated. However, when reports are produced at a more aggregated level, the inter-entity transactions are automatically eliminated because they are no longer external to the reporting entity.

Figure 44 – Automatic Elimination of Inter-Entity Transactions on Consolidation

- **The diagram represents a very simple example of the general government sector in a country, broken down first by central government and province, and next by organisational units**
- **The table shows that in the general ledger, the debit**
- **and credit entries will be recorded.**
- **If these transactions are recorded via internal journal entry, while the revenue and expenses will be reported at the institutional level, they will net off at GGS level.**
- **Thus consolidation can be achieved through a unified CoA even if transactions take place in different accounting systems.**



Organisational Unit	Economic	Debit/Credit
111/001 (MoF)	26 (grant expense)	debit
11201 (Province A)	13 (grant revenue	credit
111/002 (MoE)	22 (security, goods and services	debit
11201/4321 (Police Prov A)	1423 fees, non-tax revenue	credit

198. **The importance of this approach cannot be understated. Even if different systems exist across government, for example accounting systems in MDAs and SUs and the FMIS in Treasury, if transactions are recorded in this manner, they can be identified and eliminated at a later stage.** This shows why a UCoAs is so important. The unique spending unit number can be key here, where it is used even for external transactions. Transactions between government SUs would be recorded using their unique SU identifier. This could be included in the supplier database of all systems too, making it easy to separate transactions from other general government entities from transactions undertaken with external entities.

199. **Moldova has become even more sophisticated and now identifies different spending units in the banking system.** Thus, transactions and transfers can be external, but the recipient and payee can be identified and this is used to eliminate them in the future. Notwithstanding this, it is advisable for governments to not allow these transactions to be externally generated in the first instance as this results in actual cashflows from and to the TSA, which is unnecessary and may result in delays in funds returning to the TSA, reducing cash balances.

Box 22 – Tips for UCoAs and FMIS

- Ensure the UCoAs operates across all major systems within the PFM Framework - government portals and APIs are providing more affordable ways to better integrate ICT across PFM using the UCoAs to assure data integrity

- Expand use of the UCoAs to cover the full general government sector [111]where possible. It may also be useful to require FMIS to be utilized for this purpose
- Expand the coverage of the TSA including through the use of modern electronic payments and banking arrangements even where FMIS is not the primary system in use
- Ensure intra-government transactions are either processed within FMIS or flagged for future elimination when consolidated reports are produced. FMIS can gradually expand its operations beyond payments to include the full payment process, including commitments and payables
- Consider utilizing the UCoAs to capture the full balance sheet either in FMIS and the general ledger, or through periodic reporting to FMIS

[111] The GFSM2014 definition of the general government sector – "The general government sector consists of resident institutional units that fulfil the functions of government as their primary activity…" It includes central and subnational government and not-for profit entities which are delivering government functions. For most countries this will include many statutory bodies which are defined as outside the budget (but excludes profit making businesses typically define as state owned enterprises)

Planning and the UCoAs Manual

200. **Developing or redeveloping the UCoAs is a major undertaking that should be viewed from a project management perspective.** This is particularly the case where significant reforms are to be implemented in parallel which is frequently the reason for the (re)development in the first instance. Examples could include:

- Implementation of a TSA;
- Expanding the coverage of the FMIS or GL;
- Modernization of the UCoAs to better integrate other elements of PFM;
- Budgetary reform, for example PBB; and
- Accounting reform, for example transitioning to accrual accounting.

201. **In each case it is not just the UCoAs that must be (re)designed.** Major system changes will probably be required along with the development of new and revised policies and instructions. It is important that this process is allocated adequate resources and sufficient time is allowed for planning, development, testing and implementation. Ideally a multifunctional working group should be established drawing on key players from all major functional stakeholder. Typically, this would include at least representatives from budget, treasury, macro-fiscal, accounting policy, statistics and ICT. Participants should also be involved from major MDAs and subnational government. If possible, key officials should be taken off-line to undertake this project.

202. **Box 23 is an example of a very broad outline of a UCoAs reform plan prepared by one country.** This plan only details the major steps and considerably more detail is required for proper planning and implementation of each component of the project. Ideally, responsibilities should also be assigned to a lead official supported by a sub-working group, and deadlines agreed, not just for completion of each component, but regarding the intermediate steps as well.

Box 23- Possible Steps for Redevelopment of the UCoAs

1. Establish a Working Group (possibly) led by Treasury Department in close coordination with ITD, including Budget Department, Macro-fiscal, Statistics, MDAs and subnational officials (consider sub-working groups for each segment and activity)
2. Agree general structure of new UCoAs schematic for the segments
3. Develop indicative levels and coding lengths for schematic (not set in concrete)
4. Develop a brief concept paper and undertake the first broader communication and consultation process with stakeholders
5. Redevelop non-economic segments - these can occur simultaneously to some degree
    a. Source of Funds
    b. Organizational
    c. Functional
    d. Geographic
    e. Program
    f. Project
    g. Cross-cutting segment (eg poverty, gender, disaster risk financing)
6. Redevelopment of the economic segment
    a. Mapping existing accounts of the BC and CoAs to GFSM2014 to identify gaps and omissions
    b. Agree the overall structure of level one, classes (it is suggested that it align to generally accepted accounting standards and GFSM2014)
    c. Analyse gaps and issues
    d. Develop new revenue coding
    e. Develop new expense coding
    f. Develop new financial asset coding
    g. Develop new non-financial asset coding
    h. Develop new liability coding
    i. Develop new net asset coding
    j. Develop off balance coding
7. Undertake second broader communication outreach providing general information but also using focus groups to assist in reviewing the early draft of the segments
8. Development of non-core requirements and consider interaction with other systems including related data structures (eg. Budget Preparation, Debt, Project Management, Procurement, Asset Management, Stock Management, HR and payroll)
9. Develop and update policies and procedures and any required legislative authority eg UCoAs Regulations
10. Development of electronic manuals and training including computer based training
11. Testing in (the new environment of) FMIS
12. Deliver training
    a. Train-the trainers - subnational treasury staff and MDA superusers
    b. Training to SUs and other users
13. Go live
14. Help desk and quality assurance – ongoing
15. Communication of reforms throughout process to stakeholders through variety of means including social media

203. **The time required for redeveloping the UCoAs depends on many factors including:**

- Political and managerial support for the reform;
- Whether officials are taken offline or undertake the work part-time;
- Availability of funding for this and any related reforms, for example upgrade of FMIS; and
- the scope of the changes including any related reform, for example, implementing a comprehensive TSA will require a stocktake of existing bank accounts, decisions and policies developed regarding account closures and how funds will be managed in the UCoAs. Transitioning to accrual accounting will require the development of a project plan for this which is likely to take a minimum of five years.

204. **Typically, larger scale UCoAs reform takes between two to five years in a country.** It can be even longer where political/managerial commitment is weak and where related reforms processes such as FMIS upgrades are delayed. The absence of any major incentive, for example, implementation of a new FMIS by July 20XX, may see delays in progress if there are no external incentives for meeting the agreed deadlines. It is therefore useful to link this reform to other high-profile reforms to retain the focus on finalizing this work.

205. **Effective communication throughout the process is also key.** As mentioned in Chapter 2, it is useful to develop a Concept Note for the UCoAs reform early in the process to ensure all stakeholders share an understanding of the reason for the reform and the major requirements of the new UCoAs. Experience in countries shows that officials tend to focus on existing capabilities and approaches in the absence of any clear vision for the new UCoAs. This is particularly important where major changes will be made to existing processes and structures which may challenge thinking or may impose requirements for the overall structure where the benefits to specific functional areas may not be completely self-evident. Some countries are now using a combination of formal and informal communication including the use of social media. This is particularly effective in avoiding bureaucratic silos both in terms of communication and in relation to obtaining inputs and ideas. As an example, Azerbaijan uses YouTube videos to describe process changes similar to training videos. Cambodia utilizes a messaging application to communicate key developments with its FMIS reforms to a variety of stakeholders.

Assuring the Integrity of the UCoAs

206. **It is very important once the new UCoAs is developed that the design principles on which it was developed are clearly understood and recorded formally in writing.** One functional entity should also be given overall responsibility for maintaining the UCoAs. Often this is the Treasury but equally it could be another central entity, perhaps a department in MoF. It is important however, that the UCoAs be maintained for all stakeholder requirements, not just for the functional department that controls the structure.

207. **Future changes to the UCoAs should be underpinned by clear change management procedures including ensuring the integrity of the original design principles.** It is useful for the UCoAs to be defined and described in a Chart of Accounts Manual. The manual should be available electronically and updated annually including documentation of all major changes from year to year. A timetable for accepting changes should be included in the manual or related policy, which

will allow adequate time for the changes to be developed, tested in FMIS and documented in the new version of the manual each year. There should also be adequate time to provide training to stakeholders should any of the changes be significant. There should also be mechanisms included to ensure integrity over version control, particularly in relation to any hardcopies of the manuals that may exist.

208. **Key chapters required in the UCoAs Manual are detailed below with a simplified example of a manual provided at Appendix VII.**

- Introduction - including the purpose of the UCoAs and key concepts; structure and relationship to GFSM2014 and the primary reports of government; and relationship between the old CoAs and the new UCoAs. This section would also define the scope of application of the UCoAs to budget entities
- budget entity (organization) segment
- program segment
- source of funds segment
- functional segment
- project segment
- geographic segment
- economic segment
- cross cutting or other segments
- Appendix A (examples of typical accounting entries using the unified chart of accounts)
- Appendix B (full economic classification including mapping to GFSM2014)
- Appendix C (mapping the old accounts to the new accounts – this is temporary and would be deleted in the second year after implementation).

Ideally the UCoAs should also include links to relevant legislation, policies and procedures.

Box 24 - Tips for Redevelopment of the UCoAs and Manual

- Ensure when (re)developing the CoAs that political support, resources and adequate time for successful completion are in place
- Ensure any (re)development is properly planned within a project management framework with each stage, milestone, responsibility and accountability defined. Planning must also consider related reforms including the primary reason for the proposed changes to the existing CoAs
- Establish a Working Group drawing its membership from all major functional areas in central government and including stakeholders from users such as MDAs and subnational government
- Ensure strong communication continually regarding the (re)development of the UCoAs. This should be formal including development and promulgation of a Concept Note, and informal, including through the use of social media
- Assign a single functional area to be responsible for maintaining and approving changes to the UCoAs. The change process should also be underpinned by clear policies and guidelines, and where necessary, updated legislative authority

- Develop a UCoAs manual which is updated (at least) each year and which is available to all stakeholders, ideally electronically