

**Chart of Accounts:
A Critical Element of the Public Financial
Management Framework**

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TECHNICAL NOTES AND MANUALS

Chart of Accounts: A Critical Element of the Public Financial Management Framework

Prepared by Julie Cooper and Sailendra Pattanayak

This technical note and manual (TNM) addresses the following main issues:

- Discusses the purpose of a chart of accounts and its importance in public financial management
- Discusses stakeholder needs in a typical public financial management framework that need to be reflected in a chart of accounts
- Discusses the role of chart of accounts in budgetary and financial accounting
- Discusses the relation between the chart of accounts and IFMIS
- Explains key steps for identifying data requirements and structures for developing a chart of accounts

Introduction¹

The chart of accounts (COA) is often considered—in particular, by non-accountants—obscure, if not esoteric, and is often a neglected element of a country’s public financial management (PFM) system. Yet, as argued in this note, it is possibly the most critical element or lynchpin of a well-functioning PFM system. The COA, although appears to be just concerned with classifying and recording financial transactions, is critical for effective budget management, including tracking and reporting on budget execution. The structure of the budget—in particular the budget classification—and the COA have a symbiotic relationship. As such, a mistake in designing the COA could have a long lasting impact on the ability of the PFM system to provide required financial information for key decisions. The design of the COA must be planned well to take care of current management needs and potential future requirements.

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At the same time, the COA should be able to be changed—particularly in the context of an Integrated Financial Management Information System (IFMIS)—to respond to changes such as reorganization of government and changing needs.

Although the concept of COA is well known in the private sector, governments have only relatively recently started to apply the same accounting principles and processes commonly used by the private sector in financial management.² The COA for a private sector entity is designed to meet the information needs of the management and the requirements of financial reporting standards. In addition to these requirements, the concept of COA used in PFM reflects the specificities of government operations and accountability requirements.

The purpose of this TNM is to demystify the COA and shed light on what a COA is; its role in the PFM framework, including budget preparation, execution and reporting; and the key principles and factors that need to be taken into consideration in designing a COA. It also discusses the specific issues associated with budgetary and financial accounting in governments and their impact on COA. The note concludes by drawing some considerations on developing and implementing a COA and its relations with an IFMIS.

I. Chart of Accounts: What it is and Why it is Important

Importance of COA in PFM systems

A well-functioning PFM framework includes an effective accounting and financial reporting system to support fiscal policy analysis and budget management. Among other things, government business processes and decisions are anchored on the flow of specific financial information/data between various stakeholders. Providing such information on government activities is an important function of the accounting and reporting system which should capture, classify, record, and communicate relevant, reliable, and comparable financial information for at least the following purposes: budgetary accounting and reporting, including reporting of actual against approved budget estimates; general purpose financial reporting; management information; and statistical reporting. This system underpins the collection and use of public resources and informs policy makers, managers of government agencies, parliamentarians and the public at large on government policies and operations.

The COA is the lynchpin of a government’s accounting and reporting system and serves as a key tool to meet its business requirements. Recording and reporting financial information requires keeping a chronological log of transactions and events measured in monetary terms and classified and summarized in a useful format based on the business needs of

²In countries where accounting generally follows a rules-based approach, charts of accounts (COAs) have been a traditional feature of the accounting system, both in the private and public sectors. In some of these countries such as France, a uniform COA was developed for government entities before a “generalized COA” was developed for the private sector.

the organization. This is achieved with the help of a COA. Raw data is not very useful until it has been appropriately classified and summarized into meaningful information by using an appropriate COA. With a poorly designed COA, straightforward tasks such as the preparation of standard reports become onerous and often require human and spreadsheet intervention. It becomes difficult to retrieve and reconcile the required financial data and the financial reports become unreliable.

What is a COA?

The COA 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 way. The COA is an organized and coded listing of all the individual accounts that are used to record transactions and make up the ledger system. In particular:

- The COA specifies how the financial transactions are recorded in a series of accounts that are required to be maintained to support the needs of various users/stakeholders. It defines the scope and content of these accounts for capturing the relevant financial information. This series of accounts is called the General Ledger (GL) and subsidiary ledgers, which record all transactions as per specifications in the COA.³
- The COA provides a coding structure for the classification and recording of relevant financial information (both flows and stocks) within the financial management and reporting system. The classification structure (see Box 1 for examples of classifications commonly used) should not only meet the legal and administrative requirements for budget management and financial reporting, but should also conform to certain international standards on financial and statistical reporting (discussed below). For budget management purposes, the COA should meet the requirements of planning, controlling and reporting of budgetary allocations/appropriations as well as internal management needs of budget units and/or cost centers.

The COA configuration represents the hierarchical structures of groups of classifications of information requirements (see Diagram 1 for an example of a hierarchical structure). Each classification group is often called a segment and identifies a discrete information requirement for management, reporting and control purposes. Each segment can be combined with the others to create financial reports and enforce controls with a view to meeting the needs of various users and complying with the laws and regulations in the PFM area. The combinations of segments and the numbering sequence of the coding structure are used to re-

³The GL has a control account for each subsidiary ledger which gives the balance on that ledger to ensure their mutual consistency and a clear link between them. For example, while the “accounts payable” subsidiary ledger records the amounts due to each individual creditor/supplier, the sum of postings (or total credit balance) on this subsidiary ledger is reflected in the respective control account in the GL. In a computer-based integrated financial management system (e.g., IFMIS), each transaction and its attributes can be recorded in a computerized ledger system to ensure the link and mutual consistency between the GL and subsidiary ledgers.

Box 1. Commonly Used Classifications

Common classifications used to capture the relevant information required by various users/stakeholders include:

- Administrative or organizational classification
- Fund classification (which may include donor classifications)
- Program classification
- Classification of Functions of Government (COFOG)
- Economic (or Natural account) classification*
- Government Financial Statistics (GFS) classification (usually based on the IMF *GFSM 2001*)*
- Location or geographic classification

*Both the economic and the GFS classifications should either be the same or the latter should be derived from the former.

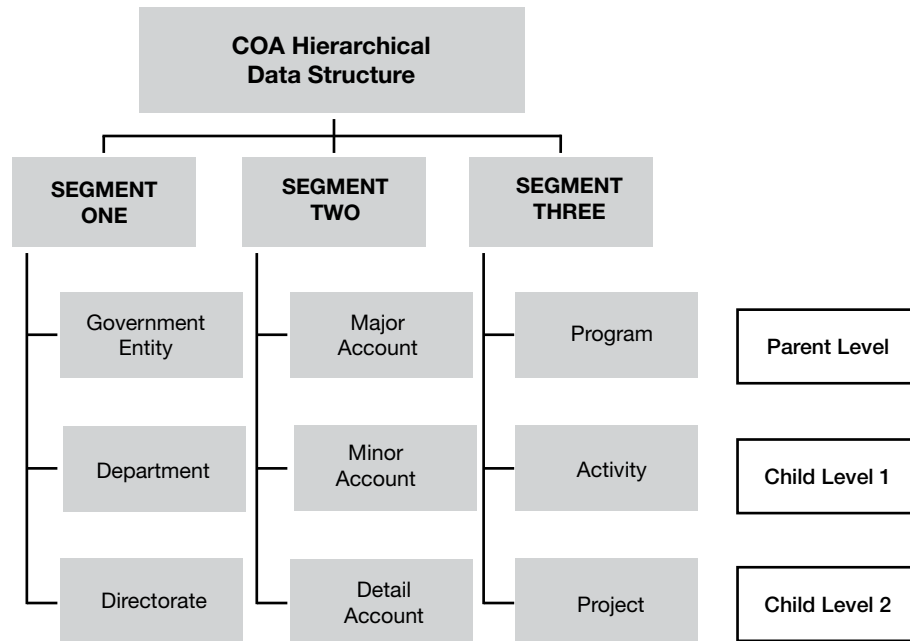
cord data in respect to budget related and other financial transactions and to generate budget execution reports, financial statements and internal management reporting information.

For effective management, the COA should cover all transactions (flows) and balances (stocks) of the reporting entity for budget management and general purpose financial reporting (see Box 2 for the “reporting entity” concept and how it relates to the budgetary sector). Governments produce not only general purpose financial statements, but also other types of fiscal reports. The COA should facilitate (i) the required control features and management information requirements at different stages of budget execution; and (ii) reporting to various internal and external stakeholders. With an IFMIS, the needs of all stakeholders can be met with one unified or common COA. A unified COA is configured with a hierarchical set of linked codes based on parent-child relationships, with lower level codes being used by individual accounting units and higher level codes used for consolidation of accounting/financial information (see the diagram in Annex for an example of linked segments and codes that will provide the required financial reports while effectively controlling budget execution).

II. The role of Chart of Accounts in Government Systems

The COA's definition and use in government systems are influenced by different PFM traditions. Countries have developed different approaches to address the information needs of governments and as a result actual practices differ across countries. This is also due to the fact that each country, based on its legal and administrative tradition, needs to have systems that cater to specific control and information requirements for government budget manage-

Diagram 1. Example of a Hierarchical Data Structure



ment. However, despite the unique requirements of individual countries, there is sufficient commonality to set the underlying principles for an effective COA.

The COA, which plays a key role in government financial management, accountability and financial reporting frameworks, should meet seven major objectives.

- **Control.** This includes budget appropriation control, in-year allotment/warrant control, fund control (e.g., the general revenue fund of the government [e.g., Consolidated Fund] and other special funds), management control and other fiduciary controls.
- **Accountability.** In a typical PFM system, the government (sometimes referred to as the *executive* to distinguish it from the *legislature/parliament*) is held accountable to parliament and the public at large, and the managers of individual government agencies are internally held accountable in terms of their legal mandate/responsibility. This is achieved, among other things, by tracking the transactions that are specific to each administrative entity the accountability of which needs to be enforced through appropriate audit trails. The COA configuration needs to respond to these accountability requirements.⁴ Sometimes there are specific audit requirements⁵ which need to be taken into account.

⁴The accountability requirements typically involve (i) the *imposition of controls* around the financial transactions the managers of government agencies can enter into; and (ii) the *reporting arrangements* for evaluating the performance of managers (of government agencies) and the government as a whole. These accountability requirements are usually specified in the respective country's Public Financial Management Law and further elaborated in secondary regulations.

⁵For example, this may include tracking different stages of transaction authorization (e.g., authorization of expenditure commitment and/or payment) to ensure that these stages are not bypassed and the respective persons authorizing the transaction have the legal/regulatory mandate to do so.

Box 2. Reporting Entity and Budgetary Sector

What is a reporting entity?

The “reporting entity” concept is used in the preparation of general purpose financial reports, which include information on the performance and financial position of the entity concerned. For these purposes, information about all resources able to be deployed by a reporting entity is relevant, whatever the legal or administrative structure established to manage those resources. An implication of applying this concept in the public sector is that a government as a whole, whether at the federal, state, territorial or local government level, would be identified as a reporting entity because it is reasonable to expect that users will require general purpose financial reports to facilitate their decision making in relation to the resource allocations made by, and the accountability of, those governments. At a lower level of reporting, a number of individual statutory authorities and departments (and the entities they control) may also be defined as individual reporting entities because of their economic or political significance and/or their financial characteristics (e.g., resources controlled).

Identifying a “reporting entity” in a specific situation requires consideration of the boundary of the economic activities that are being conducted, have been conducted, or will be conducted. The existence of a legal entity is neither necessary nor sufficient to identify a reporting entity. A reporting entity can include more than one entity in which case one of the entities within the group will control the other entities so that they operate together to achieve objectives consistent with those of the controlling entity and there exist users dependent on general purpose financial reports for making and evaluating resource allocation decisions regarding the collective operation of the group of entities. If an entity that controls one or more entities prepares financial reports, it should present consolidated financial statements.¹ In this sense, the concepts of “reporting entity” and “entity for consolidation” may be similar for the preparation of consolidated financial statements/reports.

Reporting entity vs. budgetary sector

In the public sector, the entities making up the budget sector (i.e., those entities whose resources are allocated through the budget) may individually be identified as reporting entities.² Because they are controlled by a government (e.g., central/national or sub-national government), those entities together with that government and the other entities that the government controls would, as an economic entity, meet the definition of a reporting entity—the information presented about this reporting entity, which is comprised of a government and its related/component units, allows users of financial statements to better assess the financial performance/accountability of the government as a whole. In preparing a general purpose financial report for this reporting entity, that is, for the government as a whole, it may be desirable to report detailed information regarding the operation of particular segments of the government as a whole, for example, the budget sector. In order to fully comply with the financial reporting standards (such as the International Public Sector Accounting Standards, IPSAS), or to include all financial transactions controlled by the government in the financial statements, it may be necessary to extend the coverage of the “reporting entity” beyond the budgetary sector.

¹This definition of the reporting entity (control criterion) is the most common for financial reporting purposes. However, other definitions might be seen as relevant for other purposes, e.g., for statistical purposes, the economic function of the entity will be the main criterion to determine its inclusion in the general government.

²The definition of the budget sector, however, varies from country to country and depends on the entities accountable to parliament/legislature. The nature of resources can be one factor, but it is not the only one.

- **Budget management.** This includes budget formulation, execution and reporting (in-year and end-year) and day-to-day monitoring of the budget. Implementation of a comprehensive system of budgetary accounting for tracking appropriations and their uses at each stage of the expenditure cycle should cover authorized appropriations, in-year allotments/apportionments, any increase or decrease in appropriations during the year through *virements* or supplementary budget authorizations, expenditure commitments, obligations/liabilities incurred at the verification/delivery stage, and payments.⁶ Some additional information may also have to be captured to enable reporting on a results-based budget (in combination with non-financial information on performance). The budget classifications define the structure of the COA codes/sub-codes that are related to government budgetary revenue and expenditure operations.⁷
- **Financial planning and management.** This includes financial planning, cash management, and asset and liability management. From the perspective of COA design, it is important to know: (i) how the assets and liabilities should be categorized; and (ii) at what aggregated level the cash and other liquid assets should be monitored.
- **Management information.** Depending on their internal management structure and business needs, individual line agencies may require information in greater detail and frequency for the preparation of various reports to support detailed cost monitoring, internal control and day-to-day decision making. As some of these information/reports could be specific to the line agency concerned, it may not be necessary to track such information for the whole of government through a generalized COA. However, individual line agencies/accounting units could track such information by using their own detailed accounts codes as long as these are linked to higher level codes which are used for consolidation of accounting/financial data across the whole reporting entity.
- **General purpose financial reporting.** This includes the preparation of financial statements and reports in accordance with national and/or international accounting standards (such as the International Public Sector Accounting Standards, IPSAS). General purpose financial reports are prepared to provide their users (e.g., parliament, public and creditors/donors) with information about the financial reporting entity (Box 2) which is useful for making and evaluating decisions about the allocation and use of resources. When general purpose financial reports meet this objective, they will also be a means—in addition to budget reporting—by which managers of public resources discharge their accountability to those users.
- **Statistical reporting.** Statistical reports (e.g., GFS reports) are generated to facilitate macroeconomic analysis and surveillance, and international comparisons, as well as for reporting to international organizations such as the IMF. Data used for statistical reporting should be generated from the underlying accounting system via a well-designed

⁶Budgetary accounting is only one element of a government accounting system, but it is the most crucial for both formulating policy and supervising budget implementation.

⁷This is discussed in further detail in Section IV.

Box 3. Budgetary Accounting vs. General Financial Accounting – Case of France

Article 27 of the French Organic Budget Law (*loi organique relative aux lois de finances*, LOLF) of 2001 stipulates that “the central government shall keep accounts of budgetary receipts and expenditures (*comptabilité budgétaire*) and general purpose accounts (*comptabilité générale*) for all of its transactions.”

Budgetary accounts (*comptabilité budgétaire*). *Budgetary accounting* has traditionally played a very important role in France (and also countries in Francophone Africa that have been influenced by this tradition). Article 28 of the French Organic Budget Law (LOLF) of 2001 stipulates that budgetary receipts and expenditure payments shall be recognized on a cash basis. Article 8 stipulates that appropriations comprise commitment appropriations and cash appropriations. *Budgetary accounting* in France tracks government expenditure and revenue operations in order to verify whether they are in line with parliamentary authorizations with a view to enforcing accountability for proper execution of the Budget Law. Thus *budgetary accounting* only tracks/reports expenditure and revenue transactions and does not track or report on government liabilities and assets. It produces a budget execution report, but does not produce a balance sheet. It is, therefore, a flow-based accounting system based on single entry. The coverage of *budgetary accounting* is limited to only those transactions that are strictly “budgetary,” i.e., formally authorized in the Budget Law. The accounting classification used in budgetary accounting reflects the nomenclature used in the budget. The scope and type of authorization given by parliament also determines the stages at which the expenditure and revenue transactions are recognized (and accounted for) in budgetary accounting. For example, expenditure appropriations in the case of France are authorized at two levels: (i) *autorisation d’engagement* or authorization for commitments, which could be multiyear; and (ii) *credit de paiement* or authorization for payments during the budget year. Therefore, the system of *budgetary accounting* records both commitments and payments during the budget execution cycle.

General purpose accounts (*comptabilité générale*). Article 30 of the French Organic Budget Law (LOLF) of 2001 states that the general purpose financial statements (based on *comptabilité générale*) are to be based on the accrual accounting principle. Transactions are entered for the financial year to which they are related, independently of the date of payment or receipt. One of the broad objectives of the reform process was that central government general accounts would reflect the model in the French chart of accounts (*plan comptable*) for the private sector.¹ Consequently, the French Organic Budget Law stipulates that the accounting rules for the central government are the same as those for business, except when differences are warranted by the specific nature of the central government’s activity. The General Account (*Compte Général de l’Etat*, CGE) is a document issued each year along with the Budget Review Act (Loi de Règlement). The Budget Review Act, prepared from budgetary accounts, records the execution of the preceding year’s budget whereas the CGE is a report which describes the budget transactions for the year, cash transactions, and the results of the accounting entries, presented in the form of a balance sheet and a statement of revenue and expenditure. Accrual accounting makes it possible to present financial information in the CGE for a more reliable assessment of the government’s assets and financial position. In particular, it enables the reporting of fixed assets such as property, plant and equipment and receivables and payables (posted to the financial year for the purpose of true and fair accounts).

The linkage between the budgetary accounting system and the general purpose accounting system is an important objective. The principle adopted is that these two different

systems need to be integrated in conceptual terms and that their architecture needs to be consistent so that linkage is possible between them for monitoring budget execution. Even though the budget rules follow their own logic, there should be clear links between budgetary accounts and the accounting records that provide information for the general purpose financial statements for the year. Accordingly, France has developed a common budget and accounting code—called *nomenclature budgétaire-comptable*—which is used for both budgetary accounting and financial accounting/reporting.

¹In 1988, the central government chart of accounts was subject to an in-depth review and revision to bring it in line with the principles and rules of the 1982 chart of accounts as used in the private sector (the *Plan Comptable Général*). The central government chart of accounts was modernized again in 2004 to take into account the move to accrual accounting.

COA. A COA that is compatible with the IMF Government Finance Statistics Manual (GFSM) is, therefore, desirable to ensure that the economic classification used in the COA is the same as (or at least could easily be mapped to)⁸ the GFSM.

Budgetary and financial accounting in government

Given their different objectives, some governments make a distinction between budgetary and financial accounting. As discussed above, the accounting during budget execution may require data capture at a more detailed level and at different stages of the budget cycle (e.g., a detailed presentation of commitments and payments by programs, sub-programs, etc.), which are not necessarily used for the preparation of annual financial statements/reports.⁹ Therefore, some countries—particularly those influenced by the continental European tradition—have traditionally operated separate systems for budgetary and financial accounting (see Box 3 for the example of France).

When the underlying accounting bases are different for budgeting and financial reporting, the latter may require additional information to comply with the relevant standards. For example, some governments have implemented accrual-based financial accounting and reporting concomitantly with cash-based budgeting, which means that cash-based budget execution accounts may not include some information that need to be disclosed in financial statements prepared in line with applicable financial reporting standards.

In spite of the apparent distinction between the two, there can and should be a common and integrated account coding structure for both budgetary and financial accounting. In most countries, it is generally considered to be good practice for the budget classifications

⁸In this case, one can derive the GFSM-based statistical report from the underlying accounting data.

⁹A typical PFM system incorporates important features for enforcing accountability and allocating responsibility to key actors for the preparation, authorization/approval, budget management/control and reporting on the annual budget. The accounting system should be able to capture information at different stages of the budget cycle with the appropriate level of detail.

and accounting classifications to be completely integrated.¹⁰ The two needs to be developed together to ensure that they are mutually consistent. This principle directly applies in cases where an IFMIS is used for budget management and financial reporting. For example, France has developed a common budget and accounting code—called *nomenclature budgetaro-comptable*—which is used for both budgetary accounting (which tracks budget execution both on commitment and cash basis) and financial accounting (which is on accrual basis).

In countries where the budget classifications are not integrated with the COA,¹¹ or only partially integrated, there is risk of loss of important information undermining the effectiveness of budget control and reporting. For example, in this case it might be difficult to identify with certainty the accounting implications of a given budgetary operation, and reciprocally, identical accounting transactions may not reflect systematically equivalent budgetary operations.¹² Mechanisms such as a bridge table (e.g., as used under the old French system) are used by some countries to link accounting data with budgetary operations when budget classifications are not integrated with the COA.

Any improvements or changes to the budget classification should be implemented only when the corresponding changes have been made to the COA structure and fully adopted by the IFMIS. For example, there are several countries where a program segment has been introduced in the budget classification, without corresponding changes to the COA and IFMIS, and as a result budget outturn data is not available by programs.

The COA, as defined in this TNM, covers the full coding structure used for both budgetary and financial accounting. In a narrower sense, however, the term “COA” is sometimes used to refer to only the later. For example, the term “*plan comptable*,” which has usually been translated as “chart of accounts,” is used in France and Francophone African countries to refer to the accounting classification used for the preparation of financial accounts (called *comptabilité générale*).

III. Key Principles and Factors for the Design of a COA

Designing a COA is one of the first, if not the first, task that is performed when setting up a budgeting and its associated accounting and financial reporting systems. The COA should seek to meet the information/reporting requirements of all stakeholders, not just the ministry of finance or treasury, e.g., members of parliament/legislature, ministers/deputy ministers, heads of departments/agencies, program managers, auditors, etc., who all have varying roles and responsibilities and require financial and non-financial data for a variety of purposes. The definition, use and maintenance (over time) of the COA segments are critical

¹⁰D. Jacobs, J. Helis and D. Bouley (2009).

¹¹This is, for example, the case in a number of Latin American and French-speaking African countries.

¹²D. Jacobs, J. Helis and D. Bouley (2009)

to ensure data integrity and usefulness of reports coming out of the financial accounting and reporting system. The list of segments/classifications need not be limited, but caution must be taken not to overcomplicate the lists as this can lead to a loss of data integrity.

At least seven core principles can be identified for effective development, implementation and maintenance of a COA.

- **Comprehensiveness.** The COA should be comprehensive enough to capture all the required/relevant information and it needs to reflect not only the budget framework but also the accounting framework. The budget classifications should not be different and should be embedded in (or harmonized with) the government's accounting classifications. This is because the accounting and reporting system¹³ should be the primary source of financial information for reporting on budget execution. As discussed above, the accounting and reporting system may require additional classifications to meet the financial management needs and comply with accounting standards.
- **Adequate granularity.** The segments and sub-segments of the COA should be designed to facilitate many possible 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 of various stakeholders.
- **Mutual exclusiveness.** The COA segments and their attributes should be defined in a way to make them mutually exclusive and avoid confusion in transaction recording and reporting.
- **Avoiding redundancy.** There is no need for an independent segment in the COA if the related information could be derived from another segment. Where there are multiple classifications, it is useful to explore the relationships between those classifications. For example, the requirements of GFS can be derived from the economic classification and the United Nations Classification of Functions of Government (COFOG) can often be derived from either the administrative classification (if each lowest level administrative unit in a hierarchical administrative segment discharges a unique function) or the program classification.¹⁴ When relationships are established, it also helps to minimize the volume of data capture (or the number of key strokes for a data input operator in a computerized IFMIS) which in turn reduces the opportunity for data input error.
- **Internal consistency.** The logic applied in designing the hierarchical structure of COA segments should be internally consistent. Using a consistent numbering system and structure helps make the chart user friendly and reduces the chance of coding errors.
- **Unified framework.** Sometimes individual accounting units are allowed certain flexibility in developing their own specific accounting codes at a more detailed level to capture/record specific information, e.g., through subsidiary ledgers, for internal management

¹³The accounting/reporting system here means the budgetary and financial accounting systems taken together.

¹⁴COFOG can be derived from the program classification, only to the extent that programs do not straddle functions and/or sub-functions. Although this is desirable, this is systematically not the case in all countries with a program classification.

and control of their units. However, the COA framework should be unified to ensure that at least the information at the aggregated level uses the same accounting classification to ensure consistency between the two sets of accounting data.

- **Scalability.** The COA should allow flexibility for future additions and changes as far as possible. It should provide for capturing additional information in future, particularly when such information has been anticipated/identified as part of an ongoing PFM reform program. Providing room for growth, change and future reporting requirements can help ensure a COA remains relevant for a long period of time as the business environment, regulatory requirements and reporting needs evolve. Appropriate planning during the development stage can help design a COA with open account range to accommodate future legal and business requirements.

In addition to the above core principles, there are several other factors that need to be taken into consideration while configuring/designing a COA. These include:

- **Institutional framework for financial transaction processing and accounting.** A key issue to consider is whether the transaction processing system is centralized or decentralized. Even under a centralized payment system (i.e., expenditure payments to beneficiaries/suppliers are made by a centralized unit in the ministry of finance/treasury) individual budget units are usually responsible for authorization of commitments and issuance of payment orders. There is thus a need to ensure that the recording/accounting at the commitment and payment order stages are well integrated with the financial accounting at the payment stage to ensure a seamless tracking of transactions covering the full budget execution cycle.¹⁵ This aspect needs to be taken into consideration while configuring the COA and designing the IFMIS.
- **Transaction processing and accounting platform.** If the COA is to be implemented as part of the GL module of a computerized IFMIS, some specific issues need to be addressed. These are discussed in Section IV below.
- **Accounting basis.** The accounting basis (cash or accrual) used for budget execution reporting and financial reporting will influence the COA design.¹⁶ It is not unusual to find a cash-based budget with accrual-based financial reporting. The issue here is how to design an integrated COA that conforms to accrual-based financial reporting standards (such as IPSAS) and can also be used for control and reporting of a cash-based budget. To avoid any ambiguity, the accounting policies should also be defined simultaneously

¹⁵There are different options to ensure a seamless tracking of the same transaction as it passes through different stages of the budget execution cycle, e.g., the same transaction code could be used at different stages, or the transaction codes used at different stages are linked through a clear parent-child relationship (e.g., a detailed transaction code used at the commitment stage is clearly linked to an aggregated code used by a centralized payment agency). This requires that all modules of the IFMIS such as the *general ledger*, *accounts payable*, *accounts receivable* and *commitment* modules are consistently configured. Although this may seem to be more of an IFMIS control issue, this has a bearing on the hierarchical structure of the COA and its various segments.

¹⁶Most countries that have adopted cash-basis accounting also undertake supplementary reporting of some accrual information, e.g., additional disclosure (in full or partial) of financial assets and liabilities.

with the COA. If the government is in transition from cash to accrual accounting, the COA should be set up to enable progressive capture of accrual information in line with the transition strategy.

IV. Key Steps in Developing a COA

The development and implementation of a COA should involve the following key steps.

Carrying out a comprehensive business needs assessment

The COA can only be properly configured after a comprehensive business needs analysis has been undertaken. The business needs analysis will define who the stakeholders/users are,¹⁷ their tasks, goals, functions and what information they want from the system. The business needs analysis should draw from the country's PFM framework and identify the stakeholders/users' information requirements to be taken into account in designing the COA to ensure that the accounting and reporting system can record, control and report on the government's activities accordingly (Box 4 provides a list of key issues to be analyzed as part of the business needs analysis).

The three primary classifications that are essential for controlling, managing and reporting on the implementation of the government's budget are: (see also Table 1 below and the Diagram in the Annex)

- **Administrative.** Governments establish organizations (e.g., ministries, departments, agencies and other budget-funded entities) to deliver government functions. The administrative classification is essential for accountability purposes and identifies the organization/entity that is responsible for managing the resources allocated to it for implementing specified policy objectives, such as the ministries of education and health or, at a lower level, schools and hospitals.¹⁸
- **Functional/programmatic.** Governments make decisions about what they want to do and why they want to do it. In other words, we talk about the functions of government or the programs the government wants to deliver to society and/or to impact the economy. The formulation of policy and efficient allocation of resources require information on government programs and COFOG. COFOG can be derived from the program classification only to the extent that programs do not straddle functions and/or sub-functions.

¹⁷The stakeholders include the parliament, policy makers, government managers, the broader public, supreme audit institution, creditors/donors, and international organizations such as the IMF and the World Bank.

¹⁸D. Jacobs, J. Helis and D. Bouley (2009).

Box 4. Business Needs Analysis – Key Issues

Users of government financial information. They include policy makers, government managers, parliament/legislature, the broader public, supreme audit institution, credit rating agencies and international organizations. Each of these stakeholders may require data for different purposes.

Control framework. All governments need to control the use of funds, hold entities accountable and be able to determine if they are delivering on their policy objectives. This is true whether the government has chosen a performance-based or a line-item-based management control of the budget. As a key tool to achieve this, the chart of accounts (COA) should take account of who are to be held accountable, why are they held accountable and for what types of funds are they held accountable (both for collecting and spending).

Data structure. It is important to establish data structures to ensure that the data meets users' financial information needs fully and efficiently. In particular, the process must allow data from different dimensions and levels within the organization to be collected, reconciled and consolidated, to enable alternative views.

Reporting requirements. The COA structure determines what information is captured and made available to meet the reporting needs of various stakeholders. This includes, for example: (i) entity reporting;¹ (ii) financial reporting; (iii) internal management reporting; (iv) consolidation reporting, including in-year reporting at the aggregate level; (v) accountability reporting requirements; (vi) GAAP/IPSAS reporting requirements; (vii) segment level reporting; (viii) program and project reporting/monitoring needs; (ix) interdepartmental and intercompany reporting (in the case of State-Owned Enterprises); and (x) other country-specific reporting needs.

Deriving the balancing segment. In any double entry accounting system, the accounts must be balanced, i.e., debits must be equal to credits. This balancing is also required at the segment level for which the trial balance is to be prepared. It is common to set the organization segment as the balancing segment as it is usually the basis for reports generated for accountability purposes. It is important to conclude where this balancing is to happen for appropriate configuration in a computerized system/IFMIS.

Anticipating future needs. Most tricky part is to identify the future needs of an organization and design a flexible COA structure that caters not only to the current business processes, but also has the ability to accommodate anticipated future requirements. Keeping one or two reserve segments is a good idea.

Hierarchy versus segment. Sometimes the same objective can be achieved either by defining a segment or by creating parent-child relationships between the segment values. The impact and pros and cons of taking the either route should be considered. Some of the segments where this analysis should be done are Administrative Classification and Cost Centers; Functions and Programs; Natural Account and Economic Classification; and Projects, Activities and Geographic Classification (regions, cities and municipalities).

¹For example, an entity defined/constituted under a law may be required to report specifically on its activities. As explained in Box 2 above, the existence of a legal entity is neither necessary nor sufficient to identify a reporting entity or "entity for consolidation" for the preparation of consolidated financial statements/reports.

Mapping requirements. The mapping requirements should be identified, e.g., to derive GFS and COFOG classification from other classifications. Mapping may consist of a one-to-many or many-to-one mapping methodology. In any case, the mapping process should be well documented and tested.

Interdepartmental account/segment. Governments usually have complex interdepartmental transactions which need to be settled and reconciled at periodic intervals. The objective can be achieved either by having an interdepartmental segment to reflect both the transacting entities, or by defining interdepartmental accounts. The choice depends on the organization's specific requirements.

- **Economic.** Governments collect revenue and spend money on delivering their functions. The economic classification includes classification of revenue, expenditure, assets and liabilities and retained earnings. This classification is the basis for preparing government finance statistics (GFS).

There may be need for other classifications to meet the data/information requirements of budget managers and other stakeholders. These may include location, project type, entity type, outcome, output, and source of funds (see the Diagram in Annex, which includes Fund and location segments). Details of vendor or customer type should not be in the GL COA. These details can easily be included in the subsidiary ledgers (*accounts payable* and *account receivable*, for example) or in the profiles stored in other modules (e.g., procurement module) of the IFMIS. Where there are needs for multiple classifications, it would be useful to explore the relationships between them to see whether some classifications could be derived from others to avoid redundancy between COA segments (see Section III).

Structuring data attributes and developing COA segments

The COA segments and the hierarchical levels within each segment should be defined. Segment relationships diagrams are useful to establish relationships between segments (e.g., mapping to function and mapping to GFS structures) and hierarchy between different levels within each segment. Reserved segments (to meet anticipated future requirements) are shown on the side to emphasize that the reserved codes will be invisible to users for now. The diagram in the Annex presents a sample structure with hierarchical levels for each segment and possible inter-segment relationships. The purpose and structure of each COA segment should be clearly defined and classifications and sub-classifications within each segment should strictly adhere to the definition. Box 5 provides a brief discussion as to (i) how to incorporate the budget classification and other classifications in the COA; (ii) how to structure each segment into different levels based on a hierarchical relationship; and (iii) how to organize the general ledger and subsidiary ledgers and link them to the COA.

TABLE 1. THREE PRIMARY CLASSIFICATIONS OF THE PFM FRAMEWORK

Alignment of budget and accounting classifications		Purpose	Example
Budget classification	Accounting classification		
Administrative	Accounting unit/organization	Accountability, budget administration, and legal appropriation	Ministries, departments, agencies, cost centers, budget funded entities
Functional (and/or program)	Project/activity	Historic analysis, policy analysis and comparisons, and policy formulation and performance accountability	General public service; defense; health; education; public order and safety; economic affairs; environmental protection; housing and community amenities; recreation, Culture and religion; and social protection (Lower levels can include sub-function and/or projects & activities)
Economic (which is also based on the GFS classification such as the IMF <i>GFSM</i> 2011)	Natural account	Fiscal control, macroeconomic analysis, compliance control, internal management, and statistical reporting.	Revenue, expense, assets, and liabilities (each economic type is broken down to lower levels for deeper analysis, control and management purposes)

The transaction level¹⁹ of each segment is the lowest level at which actual data is recorded (or entered into the IFMIS database). A distinction, therefore, needs to be made between the COA and the transaction code. While the COA is a structure of integrated set of codes that consists of several logically-designed and hierarchically structured segments, the transaction code—sometimes called the *Coding Block* in system design—is a combination of segments that describes various attributes of a specific financial transaction or balance. If one segment could be mapped from another based on a clearly established relationship between the two, the transaction code will incorporate the lowest level of only the primary segment, as the secondary segment (s) could be derived through a mapping table (see Annex).²⁰

The COA and its segments should use basic logic and account definition. Account definitions and their underlying logic provide clarity as to how specific transactions and balances should be recorded. Caution must be used not to overcomplicate the numbering sequence

¹⁹Also sometimes referred to as “leaf level.”

²⁰Such a mapping table remains hidden and is automatically applied in a computerized financial management information system/IFMIS to retrieve data classified according to the derived COA segment.

Box 5. Developing a COA - Accounts Classification, Type and Ledger System

The COA should reflect the budget classification and other classifications. A well-designed COA includes budget classification (revenue, expenditure and borrowings) plus asset, liability and equity accounts. The COA also includes any internal management classification such as departments, cost centers, and regions. Each classification should have its name, a brief description and a code or number assigned to aid in recording, classifying, summarizing, and reporting transactions. Each classification is organized around a segment.

Each hierarchical segment of the COA can be further analyzed and sub-divided in the form of a parent-child relationship (summary and detail data requirements). Each of these sub-divisions of a segment is given a numbering sequence to create sub categories. For example, the *program* segment could be divided into *sub-programs* which in turn could be broken down into *projects and/or activities*. Similarly, the ministry of finance (under the administrative segment) may have the budget and treasury departments at the second level and so on.

COA is the basis of the general ledger (GL). COA represents the structure of the GL. The GL is an accounting book which uses the COA structure to record, report, and reconcile financial data. The coding structure of any subsidiary ledgers in use, such as the *Accounts Payable* module of an IFMIS, is mapped to the respective control accounts in the GL. For example, the GL will have a control account for *Accounts Payable* while the *Accounts Payable* system will have accounts of individual suppliers. Each purchase would be recorded in the *Accounts Payable* subsidiary ledger system and the total recorded in the GL. At any time, the GL balance can be proven against the details in *Accounts Payable* subsidiary ledger. It is not uncommon to come across officials who think and say that they have a GL with a comprehensive COA, but, in fact, it might only be partial where transactions are recorded in a variety of systems that do not roll up to the control accounts of the GL. In effect, this is a fragmented system which requires significant intervention to prepare useful financial reports and even then the accuracy of data may be questionable.

Account types (also called natural accounts). Revenue and expense accounts are netted off at year-end and the surplus/deficit is transferred to networth account. Asset and liability accounts balances are carried forward to next year. Revenue, expense, asset and liability accounts are further classified using the economic classification.

and structure. If a structure is too complex, it will require more time by users to identify the proper accounts. Creating too many specific account ranges can quickly limit open ranges of accounts. When the chart runs out of open ranges, users will be forced to abandon the structure and the basic logic will be lost. A simplified but structured numbering system of accounts can facilitate a COA that is easy to use and maintain.²¹ Eliminating redundant and

²¹Using a simple but consistent numbering system and structure helps make the COA user friendly and will reduce the chance of coding/recording errors. For example, all asset accounts may begin with the number 1, all liability accounts with the number 2, all equity accounts with the number 3, all revenue accounts with the number 4, and all expenditure accounts with the number 5. Another basic logic is to assign account ranges for specific activity types. For example, short-term asset accounts could be in a numbering range from 100 to 150, and long-term assets could have a range from 151 to 200.

duplicate accounts reduces the potential for confusion in transaction recording and reporting. Speed and efficiency is also improved if users have fewer accounts to post transactions or reconcile and explain variances at the end of the accounting/reporting period.

The exact number of COA segments, digits of each segment, numbering ranges and parent-child relationship can only be determined after a comprehensive business needs analysis is undertaken and system functionality is decided. Designers of a COA should resist deciding on these factors until after the business needs analysis is complete.

Configuring the COA in an IFMIS

Governments are increasingly using IFMIS to modernize their accounting and reporting systems. An IFMIS can improve the PFM framework by (i) providing real-time financial information that managers can use to formulate budgets, manage resources, and administer programs; and (ii) supporting the preparation of financial reports and statements. A well implemented IFMIS can help governments achieve effective control over public finances and enhance transparency and accountability. Therefore, it must be designed to support the function of the public sector and handle the complex structure of budget organizations as well as to ensure compliance with budget laws and public finance rules.²²

Configuration of the IFMIS is not limited to the GL module and the COA design should take account of the impact of using other IFMIS modules and subsidiary ledgers. The GL module is referred to as the backbone of an IFMIS and the COA provides the structure of the GL. An IFMIS usually includes the GL module and at least the *accounts payable* module. However, there are a number of other modules such as *accounts receivable*, *cash management*, *procurement* and *payroll* that are frequently used to enhance the system functionality. In any case, the linkage between the GL and subsidiary ledgers (associated with other IFMIS modules) should be clearly established. Subsidiary ledger configuration combines with the COA in the GL to provide a comprehensive mechanism to record, control and report on the activities of the government to concerned stakeholders.

Basic guidelines for a computerized COA

The way a COA is designed and the IFMIS configured is critical to the effectiveness of the accounting and financial reporting system. The COA is the hub of any IFMIS. While the business/user needs analysis is a critical element to developing a COA and several underlying principles should be followed (see Section III), the following issues need to be specifically considered in the context of developing/redesigning the COA for an IFMIS (i) establishing one global/unified chart of accounts; (ii) using simple and basic logic and limiting the number of accounts; (iii) deciding the accounting basis – cash, accrual or in transition (from

²²A. Khan and M. Pessoa (2010).

cash to accrual); (iv) understanding and using the vast functionality of modern computer systems; and (v) scalability to provide room for future growth.

Creating a global or a unified COA establishes a foundation for consistency in terminology and serves to eliminate redundant accounts. It provides a basis for consistency in budget and accounting policies and procedures, including terminology used across government. Moreover, IFMIS being an integrated system with various modules of software to cater to specific functional requirements, its functionalities are provided in a coordinated manner based on the same global/unified COA. The data captured in one module are used in others, thereby eliminating duplicate data entry and reducing the occurrence of errors. Moreover, consolidation of individual budget entities into one whole-of-government reporting entity can be largely automated and simplified if a global/unified COA is used.

In cases where individual government organizations are allowed to implement their own systems, there should still be a unified COA framework. Some countries choose to have one IFMIS implemented country-wide while others allow individual government organizations to have their own systems to meet their specific needs. The lower levels of government in a federal set up may not use the same system as the central/national government. Although different COAs may be used by the individual entities if necessary, they should be integrated in a unified COA framework so that the government is able to consolidate all the transactions into one set of financial statements.

The vast functionality available in an IFMIS should be leveraged to simplify the COA. A key decision issue is how many and which of the IFMIS subsidiary modules are essential and need to be implemented. Properly designed segments and logical coding structures can be used with system functionality to produce a vast range of standard reports without the need for extensive customization. Given the sophistication of most modern systems, it may be possible to develop a single GL that can meet the needs of all stakeholders, but a balance needs to be struck between the level of detail contained in the GL COA and the level of detail in subsidiary ledgers of other modules.²³ For an effective and efficient GL COA, as much detail as possible should be held in subsidiary ledgers. For example, names of suppliers and revenue providers should not be held in the GL. These details can and should be held in the *accounts payable* and *accounts receivable* modules. Similarly, details of assets could usefully be held in an asset register and not in the GL. This is an important issue because an overly complicated COA may entail significant problems with generating reports from the system.

To make the best use of the reporting functionality of an IFMIS, data normalization is essential. In the design of a relational database management system (RDBMS) such as an

²³Appropriate subsidiary ledgers should be used to track detailed level of information for in-depth analysis and monitoring, while the GL being the central books for the government remains limited to meeting the broad reporting and analysis needs.

IFMIS, the process of organizing data to minimize redundancy is called “normalization”.²⁴ If data normalization techniques are not used, the reporting functionality may become complicated and the redundancy of data structure may impact the reliability of the data and therefore the reporting framework. For most users’ reporting needs, standard reports which are run directly from the IFMIS using the coding structures without the need for customized programming should be the first option.²⁵ Reporting functionality should provide access to separate sets of data (in related tables) for comparison of budgeted and actual amounts.

Amending (if necessary) the underlying legal and regulatory framework

One of the frequent reasons behind preparing a new COA is to unify the disparate accounting and reporting structures that have evolved over time.²⁶ However, even a well structured and configured COA will from time to time require changes to meet new and emerging business requirements.

It is essential to have in place clear institutional, legal and procedural frameworks to prevent the COA structure from becoming fragmented. Clear assignment of institutional authority to approve any changes to the COA structure (e.g., a single point of authority such as the Minister of Finance/Accountant General) and a clearly defined legal/regulatory framework that defines the roles and responsibilities of different actors and specifies the procedure for adopting changes to the COA structure are essential to ensure that the effectiveness and the original integrity of a well designed COA are not lost over time.

The following principles should be followed to ensure that the COA continues to be used as a unified and agreed structure.

- Designated process and timeframes (i) to propose changes; (ii) to have them reviewed by key stakeholders; and (iii) to signoff and publish changes, so that all users are advised. Any cyclical process for updates should be no more frequent than quarterly.
- Identifying the impact of any proposed changes to the COA, including whether they fit with the core principles and agreed structure of the COA.
- Clear institutional allocation of authority for authorizing changes to the COA.
- All changes to the COA must be consistent with the configuration, i.e., there will be no departure from how the segments are defined or the parent-child relationship.

²⁴Normalization is the process of organizing data to ensure data integrity and efficient database management. There are two goals of the normalization process: eliminating redundant data (e.g., storing the same data in more than one table) and ensuring data dependencies make sense (only storing related data in a table). A redundant and complex data structure affects not only data integrity but also the efficiency of the reporting framework (e.g., it increases the time it takes to generate reports from the system).

²⁵This is not to say that customized reports will not be necessary as from time to time this will be the case.

²⁶When each unit uses its own classification/coding structure without reference to others, the result is a disparate accounting/reporting structure. Changes appear to be ad hoc and not communicated across all users.

Data migration

A plan for data migration needs to be developed to ensure that historical data is not lost or corrupted when a new or updated COA is implemented. Effective and efficient migration of existing data from the old to the new COA is one of the cornerstones for the success of the new COA and its improved reporting capability. This process may take a considerable amount of planning and is often not given its due.²⁷ As a result, poor quality data may undermine the usefulness of the new/updated COA. It is important for both the technical and functional users of the IFMIS to be involved in this process.²⁸ This process would also allow reconfiguring the historical financial reports to align them with the new structure, thus providing useful historical data for comparison purposes.

Capacity building of COA users and change management

For the COA to achieve its desired impact of facilitating improved budget management and financial reporting, all users across government should be adequately trained.

Training staff is a fundamental requirement when introducing any modification to procedures and processes. The introduction of changes to the COA must be communicated effectively to the relevant staff throughout the government.

An effective change management strategy also needs to be developed to implement the new COA and associated reforms in the accounting and reporting system. As all changes bring uncertainty and could potentially provoke powerful opposition/resistance from key stakeholders, a change management strategy should be developed to explain why the change is necessary and what objectives are sought to be achieved. Any perceived risks and/or uncertainties should also be adequately addressed. The development of the change management strategy should involve the following key steps:²⁹

- securing explicit support from the highest levels of government at an early stage of reform;
- identifying the organizational changes necessary to implement the new processes and changed rules and procedures, clearly articulating the benefits of the changes;
- identifying documentation changes, including input (e.g., payment vouchers) and output documents (e.g., management reports, budget monitoring reports, etc.);
- identifying human capacity development needs and developing a plan, including a training program, to address existing capacity constraints;
- identifying key change agents in the ministry of finance and line agencies; and
- developing a plan for sensitizing various users to the new systems and procedures.

²⁷This also involves taking account of data migration requirements in designing a new (or updating a) COA.

²⁸The functional users will be able to correctly identify which new codes the old ones should be mapped to and the technical support providers will be able to provide the technical solution.

²⁹If the new COA is to be implemented as part of an IFMIS, some of these steps might be partly reflected in the IFMIS implementation plan.

Conclusion

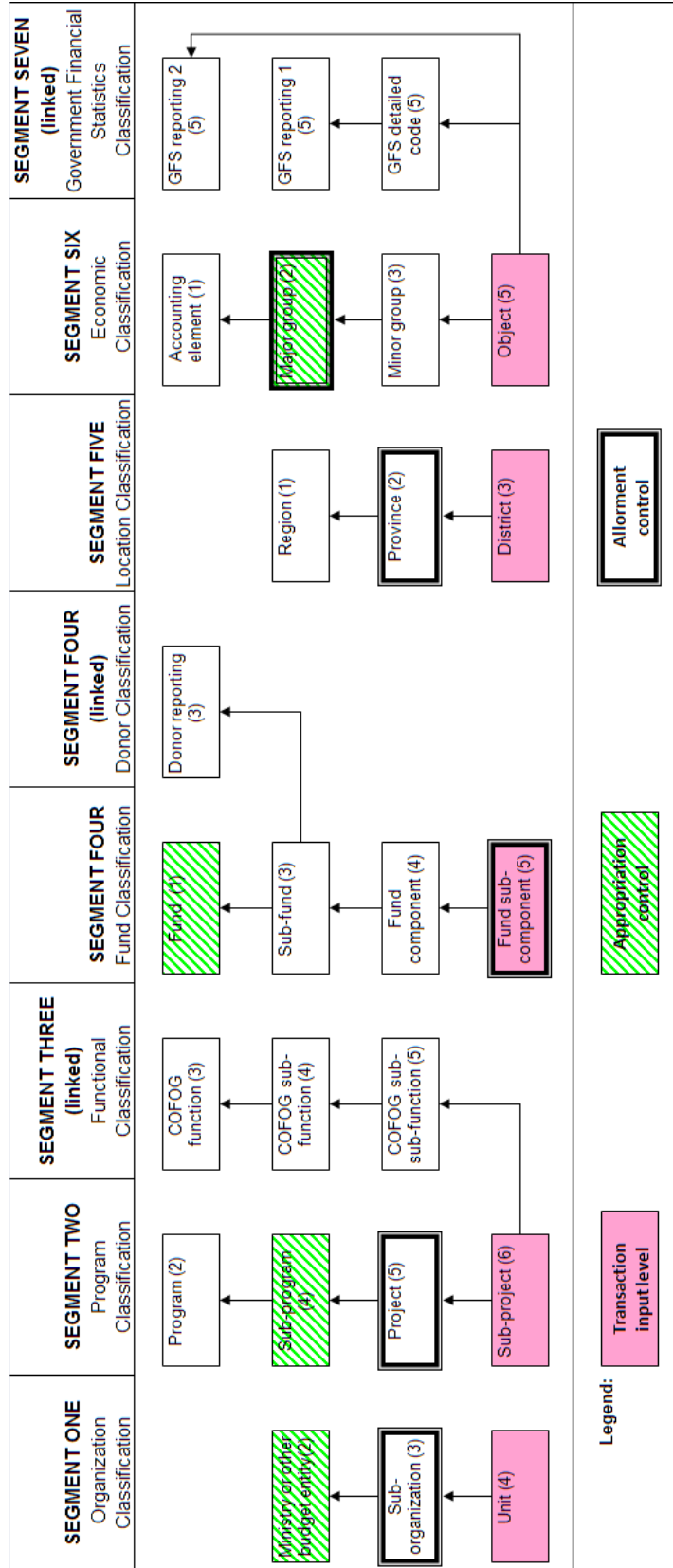
The chart of accounts (COA) is the lynchpin of a government accounting and reporting framework for classifying, recording and reporting information on financial transactions and balances. The COA is also the hub of any computerized accounting and reporting system (IFMIS). The development of a COA, therefore, should receive adequate attention and be a central element of any PFM reform plan. Although the concept of a COA is not unknown, particularly in the context of commercial accounting, its design for government systems should address the specificities and various stakeholder needs in a given PFM framework.

A COA provides the structure and classification systems for organizing, recording and reporting financial information. It defines the organization of the books of accounts to be maintained to support the needs of users/stakeholders and provides a coding structure for the classification and recording of relevant financial information (both flows and stocks) within the accounting system. There are several core principles and factors that need to be taken into account in developing a COA. The budget classifications define the structure of the codes or sub-codes of the COA that are related to government budgetary operations. When the underlying accounting bases are different for budgeting and financial reporting, the later may require additional information to comply with relevant standards. In spite of the apparent distinction between the two, however, there can and should be a common and integrated account coding structure for both budgetary and financial accounting.

The definition, use and maintenance (over time) of the COA segments are critical to ensure data integrity and usefulness of reports coming out of the financial accounting and reporting system. One of the frequent reasons behind preparing a new COA is to unify the disparate accounting and reporting structures that have evolved over time. A well sequenced plan to develop and implement a COA should involve the following key steps: (i) carrying out a comprehensive business needs assessment; (ii) harmonizing the budget classification and the COA; (iii) structuring the data attributes and developing various segments of the COA; (iv) following basic guidelines for configuring the COA if it is to be implemented as part of an IFMIS; (v) amending, as necessary, the underlying legal and regulatory frameworks; (vi) addressing data migration issues; and (vii) developing and implementing a plan for capacity building of COA users as well as a change in management strategy to effectively implement the COA and associated reforms.

It may be necessary to implement the new COA in stages reflecting the sequencing of other PFM reforms, e.g., updating the economic classification to implement *GFSM* 2001, transition to accrual accounting, adding a source-of-fund segment to integrate donor financing, and implementing a program structure for results-based budgeting.

Diagram. Linked Hierarchical Data Structure



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