



Benchmarking Guide: Integrating Public Sector Accounting and Government Finance Statistics

Addressing the differences between International Public Sector Accounting Standards, Government Finance Statistics, & the European System of Accounts

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International Bank for Reconstruction and Development / The World Bank

1818 H Street NW

Washington DC 20433

Telephone: 202-473-1000

Internet: www.worldbank.org

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Preface

The PULSAR Program, launched in 2017, is a regional and country level program for 13 beneficiary countries in Europe and Central Asia. Its objective is to support the enhancement of public sector accounting and financial reporting frameworks, in line with international standards and in accordance with good practices, in order to improve government accountability, transparency, and performance.

The objectives and scope of the PULSAR Program are jointly determined by the PULSAR Partners - Austria, Switzerland, and the World Bank – who also provide institutional support for its implementation and mobilize the resources needed for its activities. Beneficiary countries help shape the Program through regional cooperation platforms and input to two Communities of Practice focused on financial reporting frameworks and on education. The FINCOP supports government officials in developing reform strategies & roadmaps, and helps to define and implement improved legislation, standards, IT systems, and tools in the respective countries.

The Benchmarking Guide: Integrating Public Sector Accounting and Government Finance Statistics aims to inform practitioners and public sector accounting reforms by highlighting the similarities and differences between International Public Sector Accounting Standards and Government Finance Statistics reporting guidelines such as the Government Finance Statistics Manual of the International Monetary Fund (GFSM 2014) and the European System of Accounts (ESA 2010). This Guide facilitates an integrated view of the two sets of reporting guidelines and outlines a process to more closely align them. It also discusses fundamental challenges and corresponding mitigation strategies.

In the Guide's presentation of key conceptual issues, care was taken to maintain consistency with the technical guidelines of the reference frameworks. Nevertheless, it is recommended that the original sources are consulted with regards to specific technical questions related to recognition, measurement, and disclosure under IPSAS and ESA 2010 or GFSM 2014.



Executive Summary

Public Sector Accounting (PSA) and Government Finance Statistics (GFS) fulfil different purposes within a holistic public financial management cycle. PSA is focused on recording and presenting financial information on public sector entities' financial performance and position. GFS is primarily concerned with determining the general government's impact on the economy and serves as input for macroeconomic reporting. Accordingly, PSA and GFS have different paradigms determining their respective recognition and measurement/valuation principles, which are laid out in separate reference frameworks.

International Public Sector Accounting Standards (IPSAS), as the only globally accepted accounting standards tailored to the specifics of the public sector, constitute the de facto PSA reporting guidelines. IPSAS are suitable for the compilation of GFS under ESA 2010 and/or GFSM 2014, although reconciliation steps are necessary due to the different underlying paradigms. IPSAS, ESA 2010, and GFSM 2014 all use an accrual basis. As GFS uses PSA information as input, compilation of adequate statistical data is facilitated by the application of IPSAS.

IPSAS and GFS have different reporting boundaries. IPSAS uses the concept of control, requiring consolidation of all controlled entities including off-budget entities, state owned enterprises and, depending on the extent of delegation of power, also sub-national governments. The GFS reporting scope is determined by marketability, all entities dependent on state budget funding are classified within the general government sector. Recognition under GFS differs from IPSAS in that timing is determined by the actual time of an economic event. Measurement in GFS builds on current market values or an adequate proxy, while IPSAS allows for other bases. These differences make adjustments necessary in the GFS compilation process.

In order to bridge the IPSAS input data to GFS, data translation devices need to be developed as support tools for GFS data compilers. These could be simple bridging tables, guidelines in the form of a manual, or more sophisticated software applications. Additionally, the application of a unified chart of accounts (CoA) in PSA, which ideally is cross-referenced with the nomenclature of statistical reference frameworks, could facilitate GFS preparation.

Contents

Acknowledgement.....	4
Preface	5
Executive Summary	6
Glossary	9
Introducing the Guide.....	10
Introducing public sector accounting and government finance statistics	12
From public sector accounting towards government finance statistics – conceptual issues	16
Integrating public sector accounting and government finance statistics in a holistic public financial management cycle	27
From public sector accounting towards government finance statistics – reconciliation process	29
Practical challenges and mitigation strategies	34
List of References	37
Appendix	38

List of Figures

Figure 1: Overview of current reference frameworks	13
Figure 2: Delineating the general government sector	19
Figure 3: Consolidation perspectives and reporting boundaries	21
Figure 4: Public sector accounting and government finance statistics in a holistic public financial management cycle	27
Figure 5: Reference process model for government finance statistics compilation	29

List of Tables

Table 1: Comparison of current reference frameworks with regard to objective, scope, applicability and authority	13
Table 2: At a glimpse: Objectives and paradigms of Government Finance Statistics and International Public Sector Accounting Standards	17
Table 3: At a glimpse: Entity concept of Government Finance Statistics and International Public Sector Accounting Standards	18
Table 4: At a glimpse: Consolidation perspectives of Government Finance Statistics and International Public Sector Accounting Standards	20
Table 5: Recognition criteria: Conceptual differences	22
Table 6: Selected practical examples	22
Table 7: Measurement criteria: Conceptual differences	26
Table 8: Selected practical examples	26

Glossary

CoA	Chart of Accounts
COFOG	Classification of the Functions of Government
EDP	Excessive Deficit Procedure
ESA	European System of National and Regional Accounts
EU	European Union
EPSAS	European Public Sector Accounting Standards
Eurostat	Statistical Office of the European Communities
FINCOP	Financial Reporting Frameworks Community of Practice
GAAP	Generally Accepted Accounting Principles
GDP	Gross domestic product
GFS	Government Finance Statistics
GFSM	Government Finance Statistics Manual (of the IMF)
GGs	General Government Sector
GPFRs	General Purpose Financial Reports
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
IPSAS	International Public Sector Accounting Standards
IPSASB	International Public Sector Accounting Standards Board
MGDD	Manual on Government Deficit and Debt (Implementation of ESA 2010)
PFM	Public Financial Management
PPP	Public Private Partnership
PSA	Public Sector Accounting
PULSAR	Public Sector Accounting and Reporting Program
SNA	System of National Accounts
ZHAW	Zurich University of Applied Sciences

Introducing the Guide

Context

Managing and administering public finances requires an increased focus on key aspects of transparency, accountability, and performance. Accurate and properly documented financial and economic information allows administrative and political decision-makers to make well informed decisions for policy planning, budget preparation, controlling of budget execution, monitoring fiscal performance, and debt management.

Governments produce two key types of ex-post financial information, namely:

- **PSA** for *accountability* and decision making at an entity level, including the whole of government reporting. PSA was traditionally guided by national/local accounting legislation, which led to heterogeneous accounting practices around the globe. With the development of the IPSAS, as set out by the International Public Sector Accounting Standards Board (IPSASB), there is increasing harmonization of international accounting practices. The IPSAS are currently the only internationally recognized accounting standards tailored to the specifics of the public sector and are applied directly or indirectly by various supra-national organizations, and national and sub-national governments. IPSAS are therefore used in this benchmarking guide as the

key reference framework for PSA, acknowledging that governments might be required to comply with local accounting standards that differ (entirely or in part) from IPSAS. From the accountability perspective, PSA also incorporates budget execution reporting, which is usually ensured through the disclosure of budget comparison amounts within the fiscal year-end financial statements as stipulated by IPSAS 24¹.

- **GFS** on the general government sector (GGS) for the purpose of fiscal analysis and monitoring. GFS fit within the overarching accounting framework for macroeconomic statistics that is set out in the System of National Accounts 2008 (SNA), the international statistical standard for national accounts adopted by the United Nations Statistical Commission. The SNA provides a systematic and detailed description of the national economy and its components. Other internationally recognized macroeconomic statistical guidelines are harmonized with the SNA to the extent possible, while remaining consistent with their own specific objectives. These include the current version of the European Union (EU) promulgated guidelines for national accounts, the ESA, as well as the GFSM.

¹ IPSAS 24 stipulates the presentation of a comparison of budget and actual amounts either as additional column in the primary financial statement or through the disclosure of a dedicated separate statement within the complete set of financial statements.



There is a close relationship between PSA and GFS as they are linked procedurally within the public financial management (PFM) cycle and as their reporting guidelines are significantly converged. As the sole global public sector specific accounting framework, IPSAS facilitates the preparation of GFS. Using this comprehensive, public sector specific accrual accounting framework greatly improves the source data needed to compile GFS reports. While there is a close relationship and considerable overlap between IPSAS and GFS reporting guidelines, there are also some important conceptual differences between them, although these are bridgeable.

- This Benchmarking Guide seeks to facilitate an integrated view of PSA and GFS, with a focus on IPSAS, ESA (2010), and GFSM (2014). It highlights underlying paradigms, linkages, and conceptual similarities and differences. It also outlines a process to reconcile these different reporting guidelines and discusses fundamental challenges and corresponding mitigation strategies.
- It will assist PULSAR beneficiary countries that are planning or undertaking PSA reforms to better understand the interplay between IPSAS and GFS and to use potential synergies and overlaps to better configure their public accounting frameworks and reporting systems.

Introducing public sector accounting and government finance statistics

Overview of current reference frameworks

There exists a wide landscape of reference frameworks, all directed towards increasing the validity, reliability, and usefulness of public financial information in a global context. Current reference frameworks can be broadly classified into three main clusters:

- *Statistical frameworks for national accounts* (i.e. SNA 2008 and ESA 2010) build overarching frameworks for macroeconomic statistics, thereby focusing on the national economy and its actors, including the GGS and other sectors of the economy².
- *GFS frameworks* (i.e. GFSM 2014 and ESA 2010 including MGDD) compile systemized and harmonized data for the GGS to support fiscal surveillance and policy analysis.
- *Public Sector Accounting Standards* (i.e. IPSAS) address the financial reporting needs of public sector entities around the world.

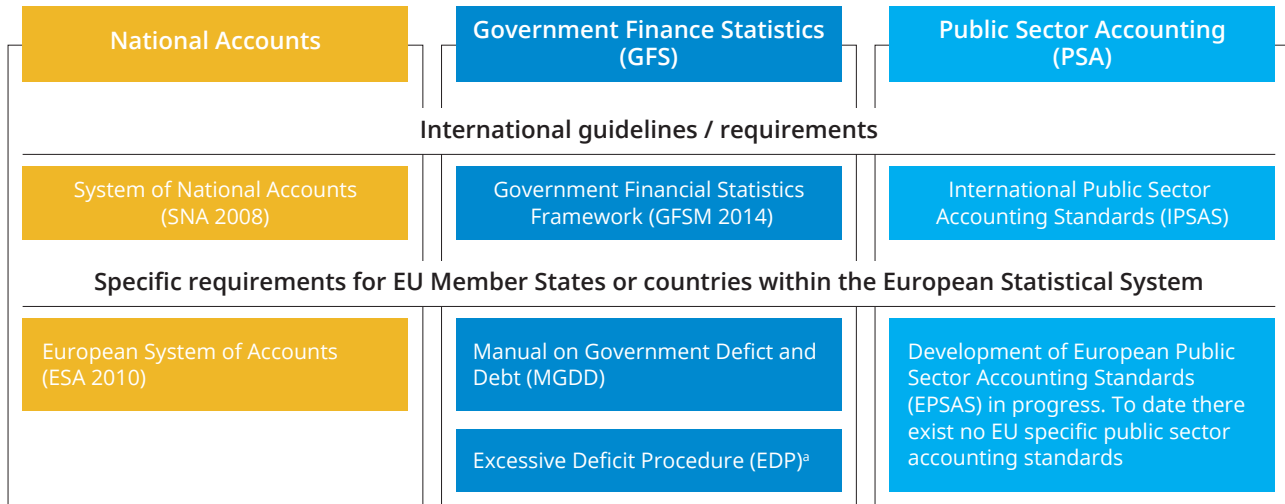
The respective standards and guidelines of these three clusters differ not only with respect to their underlying purpose, but also with respect to scope and authority. Binding arrangements for statistical reporting exist particularly for EU Member States in the context of EU fiscal surveillance, as discussed in the following paragraphs³.

Not all countries are currently using the most recent statistical reference frameworks, although most PULSAR beneficiary countries and regional neighbors are in the process of implementing ESA 2010 and/or GFSM 2014. With respect to accounting frameworks, most PULSAR beneficiary countries and regional neighbors rely on their own national legislation/standards. These differ in the extent of alignment with IPSAS compliant recognition, measurement, and disclosure practices. Figure 1 presents an overview of current reference frameworks, differentiating between international requirements/guidelines and specific requirements applicable to the European Statistical System community. A broader analysis of the historical developments including earlier versions of statistical reporting frameworks can be found in Appendix 1.

² SNA 2008 (para 1.10) divides the total economy into: non-financial corporations; financial corporations; Government units, including social security funds; non-profit institutions; and households.

³ However, with regard to public sector accounting no binding arrangements and regimes exist within the EU and Member States are free in the elaboration of their accounting principles and policies. The process of developing harmonized European Public Sector Accounting Standards (EPSAS) is still ongoing. As of April 2019, the envisaged EPSAS consist only of a draft conceptual framework providing a set of concepts and definitions.

Figure 1: Overview of current reference frameworks



a) Excessive deficit procedure reporting is only applicable for countries under the EU fiscal surveillance regime (i.e. EU Member States). It is essentially only a specific statistical output of GFS and does not depict a reference framework in its own right.

Source: ZHAW, 2018

Comparison of current reference frameworks

Table 1 introduces current reference frameworks and notes their objective, scope, applicability, and authority. This forms an important first step in order to analyze, compare, and differentiate National Accounts, GFS, and PSA at a more detailed, technical level in the following sections.

Table 1: Comparison of current reference frameworks with regard to objective, scope, applicability, and authority

	Objective and Scope	Applicability and Authority
National Accounts		
SNA 2008	SNA 2008 is the internationally agreed statistical framework that provides a comprehensive, consistent, and integrated set of macroeconomic accounts for policymaking, economic analysis, and decision taking. The recommendations are expressed in terms of a set of concepts, definitions, classifications, and accounting rules that comprise the internationally agreed standard for measuring such items as gross domestic product (GDP), the most frequently quoted indicator of economic performance. (cf. SNA 2008 para 1.1)	SNA 2008 was produced and released under the auspices of the United Nations, the European Commission, the Organization for Economic Co-operation and Development, the International Monetary Fund (IMF), and the World Bank Group. The 2008 SNA is intended for use by all countries, having been designed to accommodate the needs of countries at different stages of economic development. All countries are encouraged to compile and report their national accounts on the basis of the 2008 SNA as soon as possible.

	Objective and Scope	Applicability and Authority
National Accounts		
ESA 2010	The ESA 2010 is an internationally compatible statistical framework for a systematic and detailed description of a total economy. As such, ESA 2010 is broadly consistent with the SNA 2008 with regard to concepts, definitions, accounting rules, and classifications. While internationally compatible, ESA 2010, inter alia, plays a vital role in monitoring and guiding euro area macroeconomic and monetary policymaking, and defining convergence criteria for economic and monetary union in terms of national account figures, granting financial support to regions in the EU, or determining the own resources of the EU budget. (cf. ESA 2010 para 1.19)	ESA 2010 was produced and released by the Statistical Office of the European Communities (Eurostat). To ensure that the concepts, methodologies, and accounting rules set out in ESA 2010 are strictly applied, ESA 2010 was adopted in the form of a regulation of the European Parliament and of the Council in 2013 (Regulation [EU] No 549/2013). Thus, ESA 2010 regulates a methodology to secure comparability of national accounts aggregates, and a compulsory data transmission program for all EU Member States as well as Members of the European Statistical System.
Government Finance Statistics		
GFSM 2014	GFSM 2014 provides a harmonized analytical framework for reporting and analyzing government finances, following an accrual perspective. The GFS framework is designed to provide a comprehensive conceptual and reporting framework suitable for analyzing and evaluating fiscal policy, especially the performance of the GGS and the broader public sector of any economy (GFSM 2014 para 1.2). GFSM 2014 harmonizes the system used to report fiscal statistics with other macroeconomic statistical systems most notably with the overarching SNA 2008 (GFSM 2014 para 1.8) and its coverage relates to the therein defined GGS (GFSM 2014 para 1.26).	GFSM 2014 was prepared and published by the IMF. It forms the basis for presenting member country fiscal data, fiscal policy analysis, developing and monitoring sound fiscal programs, and conducting surveillance of economic policies. IMF member countries are urged to adopt the guidelines of the manual as the basis for compiling and disseminating GFS data, and for reporting this information to the IMF.
MGDD	The MGDD provides guidance on the appropriate treatment of GFS issues and is an indispensable complement to ESA 2010 and an important tool for statisticians and specialists dealing with public finance issues. MGDD supports better understanding of the methodology applied to government finance data for the EDP, originally defined by the Maastricht Treaty and currently defined in the 2012 consolidated version of the Treaty on the Functioning of the European Union (Article 126).	In addition to ESA 2010, Eurostat publishes the MGDD – ESA implementation. It contains binding methodological rules to compile government debt and deficit data as requested under the EDP. Council Regulation (EC) No 479/2009, as amended by Council Regulation (EU) No 679/2010 and Commission Regulation (EU) No 220/2014, requires that EU Member States report EDP-related data to Eurostat twice per year at end-March and end-September.

	Objective and Scope	Applicability and Authority
Public Sector Accounting Standards		
IPSAS	IPSAS are developed specifically to address the financial reporting needs of public sector entities around the world. As such, IPSAS provide internationally accepted guidelines on the recognition, measurement, and disclosure of economic transactions and events in general purpose financial statements. A number of the IPSAS have been developed using International Financial Reporting Standards (IFRS) as a starting point. However, an analysis is undertaken to identify public sector specific issues and address them in order to ensure that the standards reflect public sector circumstances. For relevant issues which are not covered by IFRS, public sector specific standards are developed by the Board from scratch. As of 2018, 41 accrual based IPSAS (including 5 that have been superseded) and 1 cash basis IPSAS have been enacted. Furthermore, 3 recommended practice guidelines have been developed and approved by the IPSASB. In 2014 the IPSASB also approved the Conceptual Framework for General Purpose Financial Reporting by Public Sector Entities.	IPSAS are developed by the IPSASB, which was established in 2004 (former Public Accounting Committee). The IPSASB is an independent board founded by the International Federation of Accountants to develop and publish IPSAS. While the IPSASB strongly encourages the adoption of IPSAS and the harmonization of national requirements with IPSAS, it acknowledges the right of governments and national standard-setters to establish their own national accounting standards and guidelines for financial reporting in their jurisdictions. Standing alone, neither the IPSASB nor the accounting profession has the power to require compliance with IPSAS.

Source: Own compilation based on SNA 2008, GFSM 2014, ESA 2010, MGDD, IPSAS.

From public sector accounting towards government finance statistics – conceptual issues

This section focuses on key conceptual differences between IPSAS and GFS reporting guidelines (including both GFSM 2014 and ESA 2010). Although substantial progress has been made to harmonize and align statistical reporting and IPSAS over the last decade, there still exist a few conceptual differences between IPSAS and macroeconomic statistical frameworks⁴. A clear and comprehensive understanding of conceptual differences between these guidelines is very important when envisaging an effective and efficient reconciliation process from IPSAS data towards compiling GFS. Where relevant, this benchmarking guide will identify key differences between GFSM 2014 and ESA 2010.

The information in this Guide is at an aggregate level and focuses on identifying conceptual differences between the outlined frameworks. It is not designed to provide detailed information about either IPSAS or GFS reporting guidelines. For detailed information on specific issues please refer to IPSAS (Handbook 2018 edition), ESA 2010, MGDD, and GFSM 2014. It should also be recognized that both IPSAS and GFS reporting guidelines are dynamic and change over time.

The conceptual differences between IPSAS and GFS reporting guidelines are discussed in the subsequent sections under the following headings:

- Objectives and paradigms;
- Entity concept;
- Consolidation;
- Recognition criteria for some assets, liabilities, revenue, and expenses;
- Measurement criteria for certain types of assets and liabilities.

Each section outlines a generalized description of key differences, with additional illustrations and practical application examples where necessary and relevant to underpin the explanation of key conceptual issues.

⁴ A comprehensive *Comparison of Recognition and Measurement Requirements* prepared by the IPSASB (2016) identified three main categories of differences to GFS. They are distinguished into differences (i) that could be resolved through adoption of an IPSAS option aligned with GFS; (ii) that could be resolved in the future through an existing IPSASB work-plan project; and (iii) that need to be managed through reconciliation and could only potentially be resolved through future development in IPSAS and/or GFS or even do not appear capable of resolution.

Objectives and paradigms

GFS reporting guidelines and IPSAS have different objectives for the two sets of financial information produced. Despite substantial harmonization progress and many similarities, the different objectives result in some fundamental differences on how and what information is reported.

Table 2: At a glimpse: Objectives and paradigms of Government Finance Statistics and International Public Sector Accounting Standards

GFSM 2014 / ESA 2010 (MGDD)	IPSAS
Provide a basis to evaluate the economic impact of the GGS: Government finance statistics are used to analyze and evaluate the outcomes of fiscal policy decisions, to determine the impact on the economy, and to compare national and international outcomes (GFSM 2014 A6.11). The focus is on evaluating the impact of the general government and public sector on the economy, and the influence of government on other sectors of the economy. As such, the GFS reporting frameworks (GFSM 2014 / MGDD) were developed specifically for public sector input to other macroeconomic datasets such as SNA 2008 and ESA 2010.	Provide a basis to evaluate the financial performance and position of governments⁵: General purpose financial statements are used to evaluate the financial performance and financial position of an entity, hold its management accountable by users of the general purpose financial statements, and inform decision making. It combines a management and user perspective, allowing for inter-entity comparison. The government perspective is achieved by consolidating the controlled entities, eliminating intra-group transactions, resulting in consolidated general purpose financial statements for the government as a whole.

Source: Adapted from GFSM 2014 A6.10.

Entity concept

One of the fundamental differences between GFS reporting guidelines and IPSAS relates to the entity concept. GFS uses the institutional unit as the statistical unit in institutional sector classification. Key types of institutional units build the following institutional sectors of the economy: *households, financial corporations, non-financial corporations, non-profit institutions serving house-*

holds, and government units. Government units (i.e., the GGS) build the main focus of GFS reporting. IPSAS takes a more user-centric approach, focusing on “reporting entities” whose main characteristic is that there are users who depend on general purpose financial reports (GPFRs) for information about the entity (IPSAS Conceptual Framework para 4.3).

⁵ GFS are a source of information on the financial performance and position of the GGS and its subsectors through reporting of stock and flow positions, even though this is not explicitly stated in GFSM 2014 A6.11.

Table 3: At a glimpse: Entity concept of Government Finance Statistics and International Public Sector Accounting Standards

GFSM 2014 / ESA 2010 (MGDD)	IPSAS
Institutional units and sectors: The statistical reporting unit is an institutional unit, defined as an entity that is capable, in its own right, of owning assets, incurring liabilities, and engaging in economic activities in its own name. The reporting entity may be an institutional unit, but the primary focus is on a group of institutional units (consolidated sector or subsector). Control and the nature of economic activities determine consolidation and the scope of the reporting entity. The GGS does not include institutional units primarily engaged in market activities. (GFSM 2014 A6.10).	Reporting entity concept: Key characteristics of a public sector reporting entity are that it is an entity that raises resources from, or on behalf of, constituents and/or uses resources to undertake activities for the benefit of or on behalf of those constituents. Furthermore, there exist service recipients or resource providers who are dependent on GPFs of the entity for information for accountability or decision-making purposes. (IPSAS Conceptual Framework para 4.3).

Source: Compilation from GFSM 2014 A6.10 and IPSAS Conceptual Framework para 4.3.

The GGS is the main focus of GFS reporting. It is therefore important to understand the delineation of the GGS from other institutional sectors. The GGS is a subsector of the public sector. The public sector covers all units controlled by the government, whereas the GGS covers only non-market units within control of the government (this key issue will be further elaborated in the subsequent paragraphs and is illustrated in figure 2). The GGS consists of resident institutional units that fulfil the functions of government as *their primary activity* (nonmarket producers). These institutional units perform the principal economic function of governments, e.g., redistribute income by means of transfers, engage primarily in non-market production, or finance their activities primarily out of taxation or other compulsory transfers. A nonmarket producer provides all or most of its output to others for free or at prices that are not economically significant. To assess whether a producer is a non-market producer, it is necessary to carry out a comparison between the receipts from sales and

the production costs of the goods and services sold. Any institutional unit with sales (market revenues) below 50 percent of the production costs⁶ belongs to the GGS. This definition also implies that market producers – even when controlled by a government unit – are not treated as general government units. Market producers are institutional units, for example legally constituted public corporations, that provide all or most of its output to others at prices that are economically significant (e.g., market revenues which make up more than 50 per cent of the production costs) (GFSM 2014 para 2.65).

As such the GGS comprises:

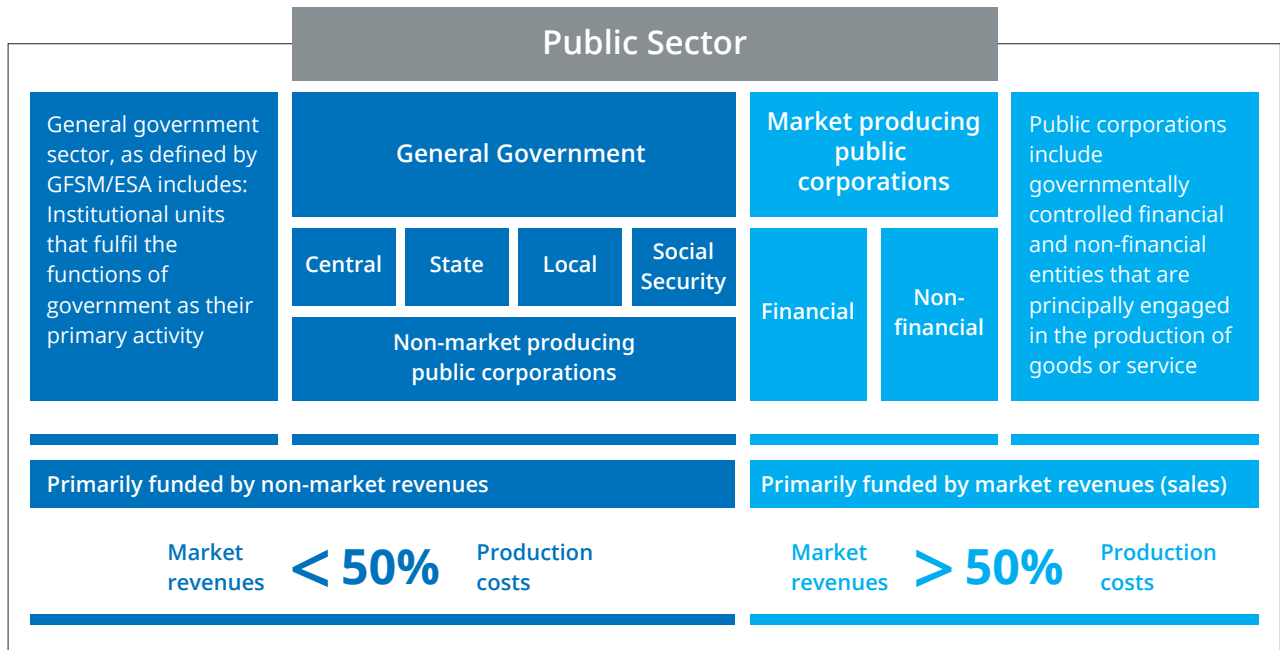
- All government units of central, state, provincial, regional, and local government, and social security funds imposed and controlled by those units;
- All nonmarket institutions/producers that are controlled by government units

⁶ The 50% rule is a European rule adopted by Eurostat to facilitate the delimitation in practice. ESA 2010 para 20.29 explains this the other way around: “To be a market producer, the public unit shall cover at least 50% of its [production] costs by its sales over a sustained multi-year period”. By implication units that don’t make this threshold are nonmarket producers.

The GGS includes public corporations which are non-market producers, i.e. they do not cover operating costs through sales. In many EU Member States, for example, some public transport companies (i.e. railway companies) are deemed to be GGS as they rely heavily on state budget support and do not cover their operations fully

through ticket sales. Public corporations deemed as market producers, given their primary funding source is market revenues, are out-scoped of the GGS even when all the equity of such corporations is owned by government units. Figure 2 outlines the delineation of the GGS according to GFS.

Figure 2: Delineating the general government sector



Source: ZHAW, 2018

In contrast to the entity concept under GFS, IPSAS has a less static definition of a reporting entity. IPSAS takes a user-centric approach as GPFs are prepared to report information useful to users for accountability and decision-making purposes (IPSAS Conceptual Framework para 4.5). In IPSAS, the “reporting entity” is defined as a

government or other public sector organization, program, or identifiable activity that prepares GPFs (IPSAS Conceptual Framework para 4.1)⁷. The different entity concept under GFS and IPSAS leads to different reporting boundaries, particularly at a consolidated / sectoral level, as outlined within the next section.

⁷ Beyond that key definition, public sector reporting entities in line with the definition of IPSAS are characterized by the activities of raising and/or using resources to undertake activities for the benefit of or on behalf of constituents (i.e. citizens) and the dependence of service recipients or resource providers (i.e. citizens / taxpayers) on the GPFs information for accountability or decision-making purposes (IPSAS CF para 4.3).

Consolidation

Under GFS reporting guidelines, institutional units are aggregated and consolidated into statistical sectors and subsectors. The focus of GFS reporting is primarily the consolidated GGS and its consolidated subsectors, albeit its guidelines also make clear provisions for the compilation of the superordinate public sector (GFSM 2014 para 2.63; ESA 2010 para 1.35). The reporting boundary mainly arises from the type of economic behavior of an institutional unit (i.e. the distinction between market producers vs. nonmarket producers). In contrast to GFS, IPSAS follows the economic entity concept, which requires the

consolidation of all publicly controlled entities. Governments following IPSAS may present both separate financial statements (typically corresponding with budgetary boundaries) and consolidated financial statements (including all controlled entities). This clearly corresponds with the IPSAS goal to provide a basis to evaluate the financial performance and position of governments as well as of single governmental entities, while the main focus of GFSM 2014 and ESA 2010 (including MGDD) implementation is building the GGS. Hence distinct consolidation perspectives arise.

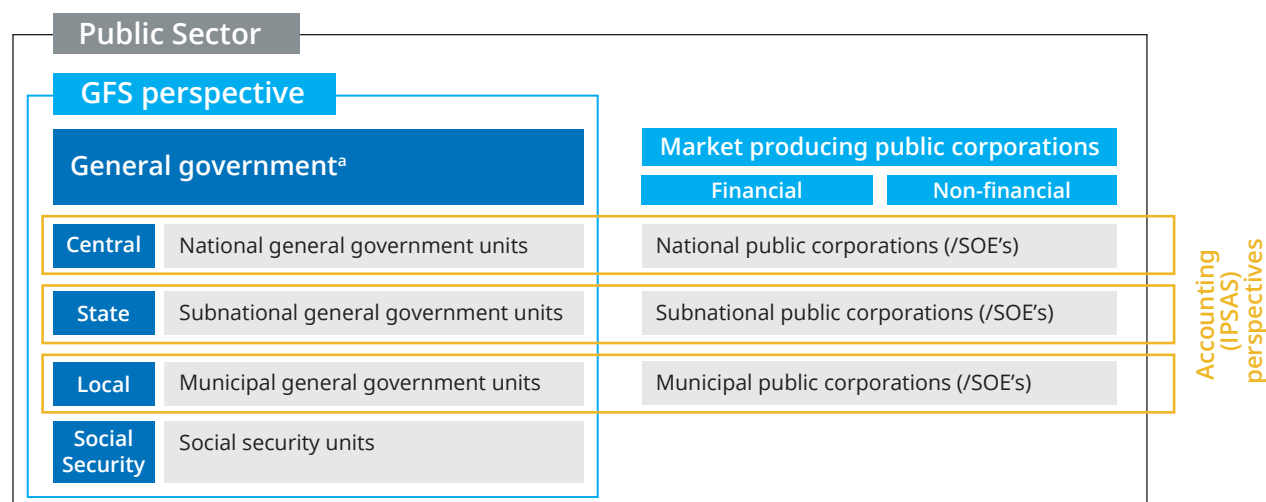
Table 4: At a glimpse: Consolidation perspectives of Government Finance Statistics and International Public Sector Accounting Standards

GFSM 2014 / ESA 2010 (MGDD)	IPSAS
General government concept: GFS primarily focuses on the compilation of the GGS consisting of all general government units throughout all layers of government.	Economic entity concept: IPSAS requires the full consolidation ⁸ of any controlled entities, even when its activities are dissimilar to those of the other entities within the economic entity.

Figure 3 illustrates the distinct consolidation perspectives of IPSAS and GFS and associated reporting boundaries.

⁸ Even though IPSAS stipulates full consolidation, many countries having implemented IPSAS as their primary accounting framework do deviate from this in practice and only apply equity consolidation.

Figure 3: Consolidation perspectives and reporting boundaries



a) The GGS is part of the public sector and may include public corporations at central, state, or local level if they are deemed as non-market producers (GFSM 2014 para 2.1 / ESA 2010 para 2.111).

Source: ZHAW, 2019 adapted from Swiss Federal Finance Administration (2011).

While the reporting boundaries of GFS and IPSAS show considerable overlap, particularly with respect to budgetary entities, there exist substantial deviations due to the different consolidation perspectives and concepts. The horizontal consolidation frames in Figure 3 refer to the **IPSAS (PSA) consolidation boundary/principles** (i.e. the perspective of consolidated financial statements according to IPSAS 35), typically including budgetary units (e.g. ministries) and any other controlled entities regardless of whether they are

market producers or non-market producers. The decision on consolidating lower governmental levels within GPFRs will depend on determining whether central government controls them. The UK, for example, consolidates all local governments into “whole-of-government-accounts”⁹ at national level. The vertical consolidation frame represents the **GFS reporting boundary**, usually referred to as the GGS - as defined within the previous section.

9 Whole-of-government accounts is a reporting concept that includes all entities controlled by the government. Depending on the jurisdiction's constitutional setting and extent of devolution, the central government's control of subnational governmental entities might be given or not. In federal states, lower governmental levels are typically not consolidated since they are not controlled.

Recognition principle

GFS reporting guidelines and IPSAS both aim to recognize economic events in the period in which they occur thus following an accrual perspective. However, they differ in their recognition of

- certain assets and liabilities and – in consequence
- – of its corresponding revenues and expenses.
- Table 5 discusses key conceptual differences.
- Table 6 outlines selected practical examples.

Table 5: Recognition criteria: Conceptual differences

GFSM 2014 / ESA 2010	IPSAS
Economic events recognized: GFS recognize economic events on the accrual basis of recording when economic value is created, transformed, exchanged, transferred, or extinguished. In macroeconomic statistics, an event is not recognized until an asset/liability by the counterparty exists. Maintaining symmetry in the macroeconomic statistical system is a fundamental principle. To maintain symmetry for both parties to the transaction, some assets/liabilities recognized in IPSAS reporting may not be recognized under GFS reporting and vice versa. While not recognized, those events may instead be disclosed as GFS memorandum items as is the case, for example, with exposures to explicit one-off guarantees and provisions for doubtful debts. (GFSM 2014 A6.10)	Past events with probable inflows/outflows recognized: IPSAS recognize assets and liabilities, including provisions, when: • A past economic event has taken place; • The amount can be reliably estimated; and • Future inflows/outflows are probable. In addition an asset shall be recognized only in case of existence of a resource and given it is controlled by the entity (cf. IPSAS Conceptual Framework para 5.6). These factors allow, in certain cases, recognition of items that do not involve a counterparty recognizing a symmetrical amount. For example, so long as criteria are met, IPSAS require recognition of restructuring provisions (cf. IPSAS 19).

Source: Compilation from GFSM 2014 A6.10 and IPSAS.

Table 6: Selected practical examples

	GFSM 2014 / ESA 2010	IPSAS
Assets		
Assets arising from oil and gas exploration (subsoil assets)	Both GFSM 2014 and ESA 2010 stipulate recognition of proven reserves of subsoil assets at their present value of expected net returns after commercial exploitation.	IPSAS does not intend recognition of extractive natural resources as an asset. Forward sales arrangements linked to future extraction of natural resources that can be settled net in cash or another financial instrument, or by exchanging financial instruments, should be recognized at their fair value (IPSAS 29.4, 29.45).

	GFSM 2014 / ESA 2010	IPSAS
Research and development costs	Expenditure for research and development is treated as capital formation leading to assets of intellectual property. In other words, a store of value representing the benefits accruing to the R&D entity over a period of time.	IPSAS distinguishes research (aimed at the acquisition of new scientific or technical knowledge) and development (application of research findings) with the consequence that only development shall be recognized as an intangible asset. Research shall not be recognized as an intangible asset and rather treated as expenditure. So there is no capitalization of research expenditure under IPSAS. (IPSAS 31 para 52 and 55).
Subscriptions to international organizations	Subscription fees and membership dues to international organizations could be recognized either as payment for a service or as a financial asset (interest in equity) depending on the nature of the transaction. In contrast to ESA 2010, GFSM 2014 allows to treat such transactions also as transfers if they qualify as such.	Subscription to international organizations are not treated explicitly under IPSAS, but eventually they could be recognized as an asset supposing they meet the recognition criteria (see table 5).
Heritage assets	GFSM 2014 defines heritage assets as assets intended to be preserved indefinitely (para 7.11) ¹⁰ , but does not make any specific reference on the valuation. However, in the absence of observable market values (which is likely in case of heritage assets) GFS stipulates recognition at written-down replacement cost (para 7.31).	IPSAS does not require the recognition of heritage assets which would otherwise meet the recognition criteria (IPSAS 17.9). The IPSASB has an active project potentially developing further guidance.
Assets involved in Public Private Partnerships (PPPs)	GFSM 2014 and ESA 2010 apply a risks and rewards analysis in order to determine the recognition of PPP assets. Assets subject to a PPP arrangement are classified as non-governmental assets if the private sector partner bears the majority of the risks and rewards of the assets and if vice-versa as governmental assets (MGDD VI.4.1.4).	IPSAS 32 (Service Concession Arrangements) applies the control criteria to determine the recognition of an asset. An asset is recognized by the grantor (i.e. public entity) if: - the grantor controls or regulates the services the operator (i.e. private partner) has to provide with the asset; to whom they have to be provided, and the price of them. - the grantor has a beneficial entitlement or a residual interest in the asset at the end of the contract term. (IPSAS 32.9).

¹⁰ ESA 2010 (para 20.144) conceives historic monuments as heritage assets but does not contain any definition nor specific guidelines for their recognition.

	GFSM 2014 / ESA 2010	IPSAS
Liabilities		
Provisions	Since provisions do not necessarily have a counterparty (i.e. provisions for environmental restoration), they are not immediately recognized in GFS. As soon as a corresponding outflow is administered, an expense will be recognized. The SNA as well as GFSM 2014 and ESA 2010 only consider provisions arising from constructive obligations in case they could be categorized as standardized guarantees.	IPSAS stipulates the recognition of a provision when there is a present obligation as a consequence of a past event (other than employee benefits); the outflow of resources is probable and it may be reliably measured. (IPSAS 19.22).
Liabilities to deliver or produce goods or services, e.g. based on prepayments or grants	GFS guidelines do not deal with this in such an explicit manner as IPSAS. However, GFSM 2014 para 3.16 suggests that recipients of grants / transfers with performance criteria attached recognize, in addition to the revenue, also an increase in other accounts payable. If the obligation is fulfilled piecemeal, then the other accounts payable is reduced accordingly. Similarly, GFSM 2014 para 5.16 outlines that conditional transfers (e.g. for the provision of goods/services or the construction of fixed assets) are recognized once the unconditional claim or amount is acquired.	Revenue from non-exchange transactions (i.e. a grant or donation) associated with conditions giving rise to a performance obligation, are to be reflected as a liability to the extent the present obligation has not been satisfied according to IPSAS 23. Revenue from exchange transactions (e.g. service contracts) defining a performance obligation is recognized based on the percentage of completion according to IPSAS 9.
Employee benefits: Pensions	Employee benefits relating to pensions are recognized as liabilities of the employer in statistics only as far as they are recognized as a claim (financial asset) in the balance sheet of the pension fund. Other Employee benefits linked to labor contracts like deferrals for work overtime or not taken holidays are considered as other accounts payable. (Institutional unit approach looking primarily at the pension fund, GFSM 2014 A2.43).	Employee benefits relating to pensions (post-employment benefits) are recognized as liabilities of the employer, in the case of defined benefit plans, provided that they are not covered by plan assets (IPSAS 39.65, employer liability approach). In the case of defined contribution plan, the liability is determined by amounts to be contributed for each period. (IPSAS 39 para 52).

	GFSM 2014 / ESA 2010	IPSAS
Employee benefits: Other than pensions	Other employee benefits linked to labor contracts like deferrals for work overtime or not taken holidays are considered as other accounts payable of the employer.	The accounting treatment of other long-term employee benefits is similar to post-employment benefits in a defined benefit plan. For its part, termination benefits arise as the result of an entity's decision to terminate an employee before the normal retirement date; or an employee's decision to accept an offer of benefits in exchange for the termination of employment (IPSAS 39 para 162). Regarding short-term employee benefits (e.g. overtime, holidays not taken), the liability arises when an employee has rendered service to an entity during an accounting period (IPSAS 39 para 11).

Source: Own compilation based on IPSASB (2016) and reference frameworks GFSM 2014; ESA 2010; SNA 2008; IPSAS.

Measurement principle

The measurement principles in GFS and IPSAS provide scope for the majority of assets and liabilities to be valued on the same basis, that is at current market values, except where IPSAS require the use of historic cost or some other measurement basis¹¹. The general valuation principle of GFS is to use current market prices for all assets, liabilities, and related value changes. For assets and liabilities that are not traded in

markets, are traded only infrequently, or where prices are not observable alternative valuation methods are recommended: nominal value¹², historical cost¹³, or written-down replacement cost for fixed capital as second best if no other information exists. IPSAS allow, but in many cases do not require, the use of "fair value" as outlined in Table 7. Selected practical examples are set out in Table 8.

11 The IPSASB has an active project potentially developing further guidance on public sector measurement.

12 There are different interpretations of nominal value in the statistical community. In GFSM 2014 the definition of nominal value is defined in the Public Sector Debt Statistics Guide of the International Organizations (2013 Ed.). In this definition nominal value corresponds apart from one small detail, the valuation at amortized cost in IPSAS. The nominal value is defined as the value that a debtor owes to a creditor and reflects the value of a financial instrument at creation including subsequent economic flows (i.e. transactions or exchange rate changes), but without market price changes.

13 Historic costs reflect the cost incurred at acquisition date.

Table 7: Measurement criteria: Conceptual differences

GFSM 2014 / MGDD (ESA 2010)	IPSAS
Current market prices: Current market prices are used for all flows and stocks of assets/liabilities, but allowance is made for the use of alternative valuation methods where an active market does not exist.	Fair value, historic cost, and other bases: Fair value, historic cost, or other bases are used for the measurement of assets and liabilities. Similar assets and liabilities must be valued consistently and the bases disclosed. Where an entity reports an item using historic cost, IPSAS often encourage disclosure of fair value if there is a material difference between the reported cost and the item's fair value. Often IPSAS also allow entities to choose between fair value and historic cost.

Table 8: Selected practical examples

	GFSM 2014 / ESA 2010 (MGDD)	IPSAS
Assets		
Property, plant, and equipment	GFS valuation of stock positions is done on the basis of current market values i.e. as if acquired on reporting date considering relevant factors such as condition and age of an asset (GFSM para 7.20). In the absence of observable market values, other estimation techniques are used.	IPSAS allows choice of valuation model for an entire class of property, plant, and equipment and permits the use of historic cost or the revaluation method (based on fair values) for measurement subsequent to acquisition.
Liabilities		
Financial instruments	Liabilities shall be valued at their current market prices. If a liability is not traded on a market or only infrequently, nominal values shall be used as they are considered as an adequate proxy for market value (GFSM 2014 A1.272). ¹⁴	IPSAS stipulates measurement of financial instruments by using the fair value, amortized cost approach ¹⁵ , or cost depending on the category they belong to (IPSAS 29.48 and 29.49).

¹⁴ With regard to EDP purposes the MGDD states that it considers the nominal value as equivalent to the face value of liabilities [sic] (MGDD VIII.1 para 2). However, in the context of EU national accounts, the nominal value includes accrued interest (ESA 2010 para 7.39) and thus differentiates nominal value from face value. This somewhat imprecise formulation and inconsistency can lead to differing interpretations.

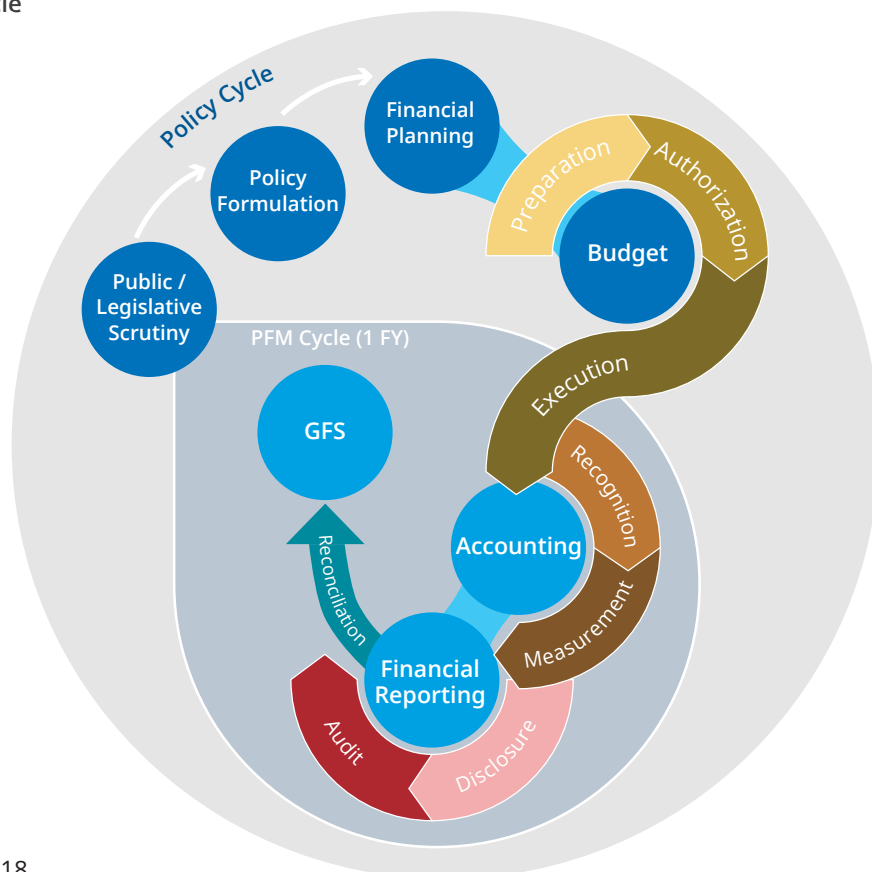
¹⁵ Amortized cost is a measurement practice that subtracts principal repayments and cumulative amortization from the amount of initial recognition.

Integrating public sector accounting and government finance statistics in a holistic public financial management cycle

PSA and GFS have different underlying key rationales and paradigms and their own individual reference frameworks for practical implementation and execution. This section therefore aims to elaborate the conceptual interplay of the two distinct reporting tasks and their embedding in a holistic PFM cycle.

In most jurisdictions, the fiscal cycle is closely regulated by the budget law establishing overarching governance principles and processes for resource allocation and budget execution. A medium-term economic framework for the purpose of multiyear fiscal planning may include further direction for budget preparation. The budget as an outflow of policy dialogue and formulation is to be considered as the legal spending authorization for public sector entities.

Figure 4: Public sector accounting and government finance statistics in a holistic public financial management cycle



Source: ZHAW, 2018.

PFM as an administrative activity, detached from the policy cycle and political rationale, aims to ensure the effective and efficient use of public funds in budget execution. Tasks such as liquidity and debt management or internal control are as mission-critical as the note-taking activity of reflecting transactions and economic flows¹⁶ compliant to generally accepted accounting principles (GAAP). Specifically designed for the public sector, the IPSAS in most countries constitute the main basis for its individual public sector GAAP, unless IPSAS is directly applied. Ultimately, the general aim of accounting is to provide an overview of the financial performance and position of an entity and to disclose detailed managerial information supporting the conduct of the aforementioned PFM tasks but serving accountability and decision-making purposes (cf. IPSAS Conceptual Framework para 2.1). Preliminary financial statements are audited at the end of a fiscal year in most jurisdictions by an independent external body (i.e. supreme audit institution). Besides

financial reporting, governments around the globe are entrusted with the task of statistical data preparation and reporting for the purpose of international comparability and to identify the impact of government spending on the whole economy. The last task in the PFM cycle is statistical reporting on the GGS. This builds on financial reporting by using financial statements (ideally audited financial statements as these are externally validated) of government entities as source data. Due to conceptual differences, this source data has to be specifically converted and reconciled with the statistical reporting guidelines so that it appears in accordance with the respective reference framework (GFSM 2014 or ESA 2010/MGDD). However, IPSAS compliant recognition and measurement practices provide a good basis from which to depart and translate data into the GFS format, as IPSAS and GFS are significantly converged (although the previously mentioned differences remain).

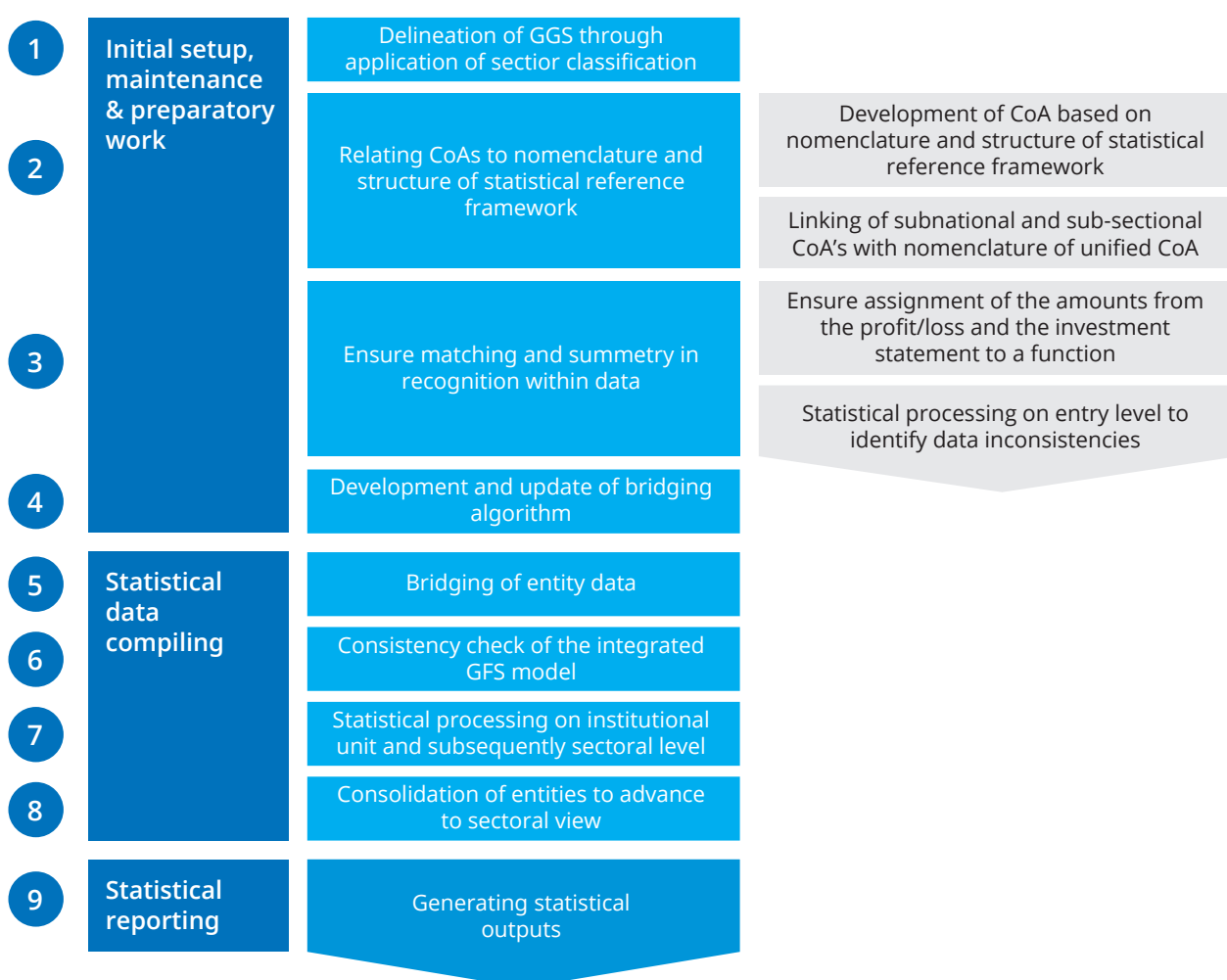
¹⁶ Economic flows include cash out and in, but also cash-neutral (/non-cash) flows such as depreciation or deterioration of assets, provisions, and cut-offs.

From public sector accounting towards government finance statistics – reconciliation process

Compiling statistical data from IPSAS input and producing GFS reporting outputs demands several conceptual set-up and maintenance steps as well as operational activities. This section gives a generic overview of the process of statistical data compiling and its activities, outlined in Figure 5.

The specific administrative context and PFM environment should obviously be considered in any practical implementation and fine-tuning is of utmost importance (see also the following section on practical challenges and mitigation strategies).

Figure 5: Reference process model for government finance statistics compilation



Source: ZHAW, 2018.

Initial setup, maintenance, and preparatory work

1. Delineation of GGS through application of sector classification

In a first step, the entities to be covered must be identified and defined in line with the GFS/ESA sector classification principle (see Figure 2 within this benchmarking guide). Units are classified as part of the wider public sector (and its subsectors) and as part of general government (and its subsectors).

2. Relating CoAs to nomenclature and structure of statistical reference frameworks

Upstream of bridging IPSAS data to GFS, the nomenclatures and structures of the CoA should be linked to the statistical reference frameworks. If possible, a unified CoA is developed to cover all public sector units at national and subnational levels. Sometimes it is useful to have distinct codes for budgetary units from production units. However, government units should apply the same CoA, if possible, given a jurisdiction's authority to prescribe the CoA of subnational entities and sub-sectoral units. Ideally, the CoA applied in PSA corresponds in parallel to the nomenclatures of statistical reference frameworks (GFSM 2014 / ESA 2010) or contains respective codes for linking. The more this is the case, the less statistical processing is required in the later steps.¹⁷

3. Ensure matching and symmetry in recognition within data

A crucial preparatory step to avoid data clutter is to test entity level data for consistency by cross-checking symmetry in recognition (which underlies the systemic macroeconomic reflection pursued by GFS and SNA/ESA). This kind of statistical processing aims to identify data inconsistencies between entities, such as a mismatch in the recognition of transfers or of functional categorization.

- It must be ensured for the purposes of consolidation (step 8) that the amounts on the expense side of the payer and the revenue side of the beneficiary are identical. This applies both to the coding by economic type and by function¹⁸. In practice, there are differences in the functions rather than in the species classification. The same also applies to the balance sheet, where, for example, the financial assets of a general government unit must correspond to the liabilities on the liabilities side of another general government unit. If the amounts differ (this can also be the case for reasons of annual accrual), it is normally assumed that the paying unit shows the correct amount in its invoice.

¹⁷ If a jurisdiction does not have the authority to prescribe the CoA applicable for subnational entities and sub-sectoral units and they are using their own CoA's, they should be provided with the codes of the national, structure-lending CoA. They should adopt the first digits of the structure lending CoA and further expand it to their individual needs by adding digits at the end.

¹⁸ For the purpose of consistency check, it could be beneficial to code also the revenues (and disposal of non-financial assets) by functional classification.

- Further, if all units have been coded uniformly with the economic classification of the national CoA, it must be ensured that the individual amounts of the income statement and the investment statement – acquisitions, disposals, and consumption of fixed capital – can be assigned to a function. If no information is available, the function of the administrative unit, which is often included in the financial statements, can be used for assignment.

4. **Development and update of bridging algorithm**

Bridging information from IPSAS to GFS demands a close analysis of the available source data and identification of differences. On the basis of that, a bridging algorithm or table can be developed, whereby this bridging

key has to match the CoA so that it is able to capture all PSA information necessary. After initial development, the bridging key has to be maintained and continuously updated. As the structure of source data can be heterogeneous depending on the type, characteristics, and accounting model of an entity, it might be necessary to maintain different keys for distinct types of GGS entities. Hence, most countries rely on several bridging keys, if not a re-coding of PSA data to a unified national CoA is performed and alignment of data structure is achieved (see figure 5, step 2). A separate designated bridging key for classifying the different governmental activities (programs/projects) to render the classification of the function of government (COFOG) is necessary.

Statistical data compiling

5. **Bridging of entity data**

There are two different approaches to GFS statistical data compilation, the choice of which is used depends on the institutional set-up, capacities, supporting tools applied, and the degree of automation. Most PULSAR beneficiary countries follow the parallel approach, which in the absence of sophisticated supporting tools and with a low degree of automation is deemed to reduce the amount of errors.

A. Step-by-step processing

Public sector entities' balance sheets and profit/loss statements are fed through the algorithm or into the bridging tables, so that the information appears in the format of the targeted statistical reporting reference framework (in most jurisdictions GFSM 2014). EU Member States or accession candidates might proceed directly to bridging with ESA 2010, instead of GFSM 2014, at this stage of the reconciliation process. Depending on whether an automated software based algorithm or a bridging table is deployed, more or less statistical processing work becomes necessary in the later steps.

B. Parallel processing approach

Public sector entities' balance sheets and profit/loss statements are fed through all specifically designated bridging instruments in parallel, so that at this stage of the process the data appears in the respective format of all statistical reporting framework applicable within the jurisdiction.

6. Consistency check of the integrated GFS model

- After bridging to GFS, operating revenue and expenses are reconciled with balance sheet data to ensure that the consistency in the financial accounting data is maintained in the GFS framework.
- Methodological adjustments are recorded, conceptual differences between accounting (IPSAS) guidelines are adjusted to align with ESA 2010 and GFSM 2014 guidelines. Following a double accounting procedure is key to this, whereby a debit adjustment leads to a credit adjustment elsewhere in the accounting framework, and vice versa.

7. Statistical processing at institutional unit and subsequently sectoral level

Statistical processing at sectoral level includes derivation of current values for assets and liabilities, if historic cost is applied in accounting or the preparation of a tax breakdown. If PSA uses historic costs, and in the absence of observable market values for valuation of stock positions, identification of current values demands use of statistical estimation techniques such as sampling or indexing to inflation, which will be applied for an entire class of assets.

8. Consolidation of entities to advance to sectoral view

Statistical data of the entities is consolidated so that the GGS can view the results. Data are presented at both the gross and consolidated levels for general government.

Statistical reporting

9. Generating statistical outputs

A. Step-by-step processing

As conversion of IPSAS input to GFS has already taken place additional statistical reporting duties, complementary to the preparation in accordance with the primary applied reference framework (step 5), could be met without major effort. Accordingly, sectoral level GFS data could be bridged to the complementary statistical reference framework through the application of another specifically designed key. If GFS data has been derived in accordance with GFSM 2014 in the first instance, this step would be about the translation to ESA 2010 – or vice versa. This complementary step is only relevant for countries subject to EU statistical reporting duties as part of the European Statistical System (due to membership, potential accession, or bilateral treaties).

B. Parallel processing approach

On the basis that processed statistical data would now be in line with the targeted reference framework, GFS reports can be derived for reporting purposes to international organizations such as the IMF or Eurostat.



Box 1: Integrate GFS compilation with the fiscal surveillance and national accounts

It is recommended, where feasible, to integrate GFS compilation with fiscal surveillance and national accounts. In the EU context, the Directorate-General for Economic and Financial Affairs of the European Commission uses official Eurostat reporting in its macroeconomic and aligned fiscal surveillance. For IMF reporting, fiscal surveillance reporting is often separate from statistical reporting. To ensure consistency and efficiency, integrating these compilation processes is recommended. A similar motivation applies to integrating GFS compilation with national accounts compilation.

Practical challenges and mitigation strategies

Compiling accurate statistical data and preparing adequate statistical reports as demanded by the international community and its supranational organizations can be challenging in practice. The main challenges and respective mitigation strategies will be discussed in the following paragraphs. These relate to a PFM environment with a solid accounting system producing accurate source data for GFS. In case of a weak accounting system not capable of capturing all relevant data, additional challenges arise.

Challenge 1: Exogenous changes affecting the general government sector delineation

Description: Identification of public sector entities within the GGS is not always straightforward and could hypothetically vary from fiscal year to fiscal year¹⁹, in particular entities that could be considered as government business enterprises, but GFSM 2014 (para 2.69) and ESA 2010 (para 20.29) require that the market/nonmarket classification should sustain over a multi-year period. Policy changes could also affect the market revenue funding ratio – the primary delineation criteria of the GGS. For example, the introduction or increase of a fee for a service rendered (e.g. toll charge for highways) or the increase in state budget funding of an entity's activities (e.g. public broadcasting or retirement home) could significantly change the degree to which an entity is funding its activities through market revenues.

Mitigation strategies: An adequate strategy to implement a multi-year sustaining market/nonmarket classification would be to define a comprehensive and exhaustive list of GGS entities derived from the commercial register and inventory of governmental entities and periodically conduct a market/nonmarket test. It would be good practice to analyze from time to time the classification in or outside GGS according to COFOG and to monitor policy changes affecting the funding composition.

¹⁹ The delineation criterion evolving around the primarily funding source of a public sector entity is reliant on the amount of market revenue achieved in a reporting period, which could however fluctuate for exogenous reasons. This could lead to the odd situation in which an entity would have to be reclassified every year when market revenues account for more than half of the funding in the current year and less in the succeeding one.

Challenge 2: Development of an integrated and harmonized chart of accounts

Description: Since accounting information serves as source data for statistical reporting, the CoA should be harmonized to have a solid, well-structured, and reliable basis for bridging.

Mitigation strategies: Definition, use, and maintenance of a harmonized CoA facilitates data integrity and usefulness of PSA as source data for statistical reporting. Its unified use across public sector entities and alignment to international good practice is vital for effective and efficient bridging from PSA to GFS. In the absence of a CoA or its consistent application, development and maintenance of bridging keys (tables or algorithm) would be cumbersome. Ideally the CoA is capable of distinguishing domestic and foreign transactions and stocks, includes the COFOG and

the economic classifications as well as capturing transactions of non-financial assets (investments, disposal and depreciation).

For countries building their CoA from scratch it is recommended to start with the most detailed level of ESA 2010 or GFSM 2014 analytic framework for the classification of stocks and flows in their PSA. The classifications used for the balance sheet (stock positions) and as well for the transactions (statement of operations, flows) and the other economic flows can easily be expanded to include and encompass national needs and requirements for the bridging / mapping of individual PSA positions into the GFSM and ESA framework.

Challenge 3: Initial development and annual review of bridging tables and keys

Description: Because of the different underlying paradigms and resultant conceptual differences, compiling statistical data from accounting requires reconciliation and makes adjustments of the source data necessary. Manual line-by-line deliberation and adjustment would be time-consuming, prone to error, and constrain consistency.

Mitigation strategies: A close analysis of the available source data of all GGS entities as well as of its categorization through the underlying CoA and the applied accounting policies should

be performed in order to identify the gaps between the data stemming from PSA and GFS. Based on the identified gaps, bridging keys that serve as a translation device can be developed for each type of GGS entity. These should be jointly developed between accountants and statistical data compilers to ensure integration of expertise from both reporting systems. Once developed, the bridging key should be kept up to date with changes to the statistical reporting reference frameworks (GFSM 2014 / ESA 2010 / MGDD).

Challenge 4: Simultaneous recognition of corresponding flows and stocks

Description: Following the systemic logic of “quadruple recognition” within an economy, stocks and flows are reflected in the double-entry accounting system of both the entity concerned and the counterparty of a transaction. The integrity of the reported statistical data can be readily checked as changes in stocks should equal flows and every recognized position should match to a counterparty. After statistical data compiling activities and adjustments, the numbers should not reveal inconsistencies.

Mitigation strategies: Solid and well-structured source data, ensured through a comprehensive CoA, and effective bridging keys contribute to a sound reconciliation process that allows GFS data to meet these checks. Capacity to adequately record acquisitions, disposals, and depreciation of nonfinancial assets is considered as crucial to derive the value of stock positions. Performing a validation test by briefly checking whether stocks and flows are corresponding is another mitigation measure downstream of the reconciliation process.

Challenge 5: Rule based statistical adjustments of accounting information

Description: The validity and reliability of statistical data might be constrained if compiling is unstructured and guided by undefined manual procedures.

Mitigation strategies: A clear rule-based description on how to advance from accounting data to statistical data should be provided as a guideline for each type of public sector entity within the GGS, ensuring validity and reliability in the

statistical data compiling process. Such guidelines could take the form of a bridging manual, used as reference, or concrete supporting tools, such as a bridging table (i.e. excel template) or an algorithm implemented in a software application (i.e. in the open source statistical computing environment of R programming language or a server-based structured query language (SQL) database management solution).

Challenge 6: Establishing a coordinating working group to implement accounting and government finance statistics reforms

Description: Most countries work according to hierarchal institutional structures, whereby accounting, budgeting, Treasury, statistics, fiscal policy, etc. operate according to narrowly defined remits and report vertically through their respective departments to their minister, director general, managing director, CEO, or similar. These remits, as well as the administrative operating culture, are not designed to cooperate and coordinate on project implementation. However, accounting and GFS reforms cover a wide variety of units and require a unified and coordinated approach to implementation.

Mitigation strategies: Establishment of a designated project team represented by all impacted units, led by a certified project manager. A permanent working group should coordinate concepts and issues during implementation and operation of accounting & GFS reforms. The working group should be set up with clear terms of reference and be provided with a clear remit from senior management to coordinate on issues.

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Appendix

Appendix 1: Historical developments of reference frameworks

System of National Accounts (SNA)	European System of accounts (ESA)	Government Financial Statistics Manual (GFSM)	International Public Sector Accounting Standards (IPSAS)
SNA 1968			
	SNA 1978		
		GFSM 1986	
SNA 1993			
	ESA 1995		
			1997: Establishment of Public Sector Committee; pronouncement of first set of accrual public sector accounting standards
		GFSM 2001	
			2004: Establishment of IPSASB; pronouncement of first set of IPSASs
SNA 2008			
	ESA 2010, MGDD (EDP)		
		GFSM 2014	
			2014: Final pronouncement of IPSAS Conceptual Framework; ongoing pronouncement, update and revision of IPSASs

Accruals Based	Modified Cash/Accruals	Cash based
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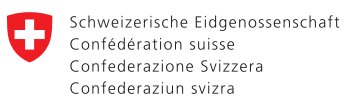
Source: ZHAW, 2018.

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