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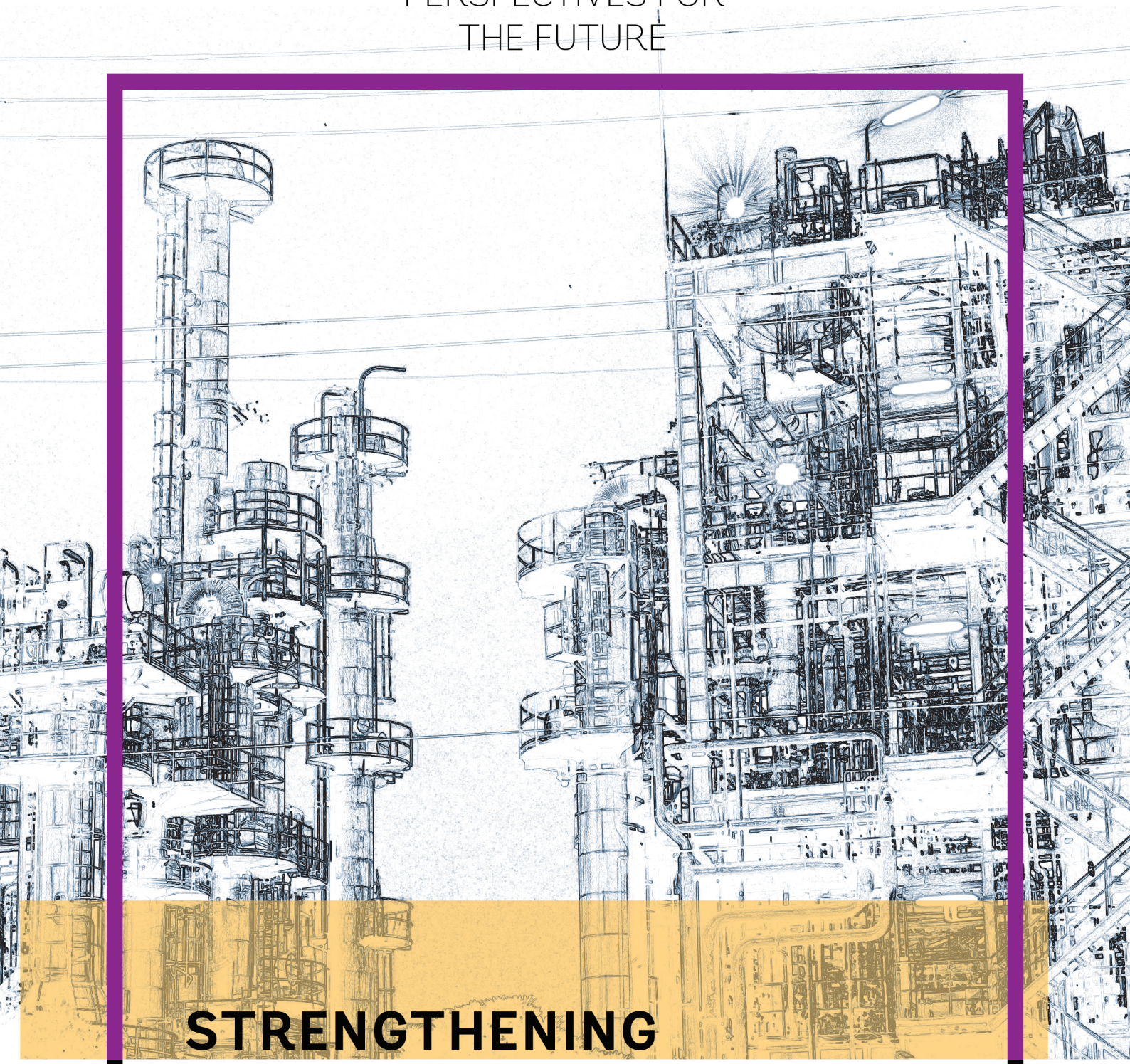

STRENGTHENING FIXED ASSET MANAGEMENT THROUGH PUBLIC SECTOR ACCOUNTING

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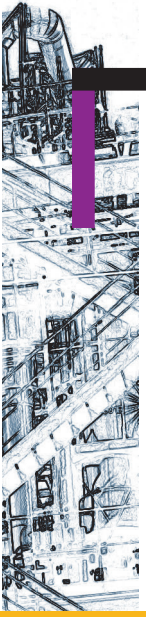
Glossary

CoA	Chart of accounts
ERP	Enterprise Resource Planning
Eurostat	Statistical office of the EU
FinCoP	Financial Reporting Community of Practice
GAAP	Generally accepted accounting principles
GFS	Government finance statistics
GFSM	IMF Government Finance Statistics Manual, 2014
GPFRs	General purpose financial reports
IPSAS	International public sector accounting standards
IPSAS CF	IPSAS conceptual framework
MTEF	Medium-term expenditure framework
PEFA	Public Expenditure and Financial Accountability framework
PPE	Property, plant and equipment
PSA	Public sector accounting
PSAA	Public sector accrual accounting
PSFAM	Public sector fixed asset management
PULSAR	Public Sector Accounting and Reporting Program of the World Bank
QC	Qualitative characteristic



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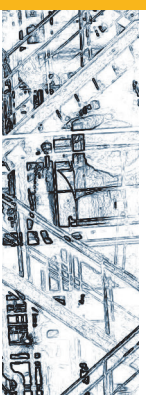

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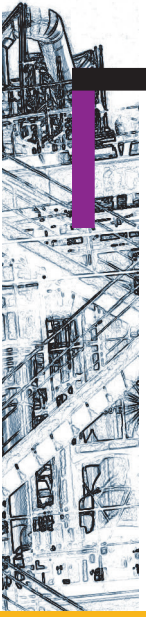
Preface

The Public Sector Accounting and Reporting (PULSAR) Program, launched in 2017, is a regional and country level program in 13 beneficiary countries of Europe and Central Asia.[1] Its objective is to support the enhancement of public sector accounting and financial reporting frameworks in line with international standards and good practices to improve government accountability, transparency, and performance.

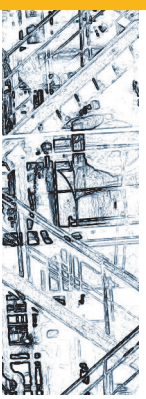
The objectives and scope of the PULSAR Program are jointly determined by the PULSAR Partners - Austria, Switzerland, and the World Bank – who also provide institutional support for its implementation and mobilize the resources needed for its activities. Beneficiary countries help shape the program through regional cooperation platforms and input to two Communities of Practice: Financial Reporting Frameworks (FinCoP) and Education (EduCoP).

More information about the PULSAR program and its publications is available online at **www.pulsarprogram.org**.

[1] Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Croatia, Georgia, Kosovo, North Macedonia, Moldova, Montenegro, Serbia, and Ukraine.



Executive Summary



Execution of core government functions and public sector service delivery crucially relies on the availability of effectively managed public sector assets. A well-informed and evidence-based management of financial and non-financial assets is crucial for governments and citizens. In this regard, Public Sector Accrual Accounting (PSAA) reforms create fruitful conditions for an efficient use of public sector resources and therefore are an important prerequisite for sound public sector fixed asset management (PSFAM).

This PULSAR knowledge product elaborates mechanisms through which asset accounting may contribute to optimize fixed asset portfolios of governments by providing scientifically sound and practical answers to the following main questions:

a. How are fixed assets recorded in an asset registry?

b. How is fixed asset information captured in financial reports?

c. How can the best use of asset information be made?

The paper further presents good practices rooted in international country experience and relevant standards, such as the International Public Sector Accounting Standards (IPSAS). It also discusses key issues and challenges related to fixed asset management through the lens of public sector accounting.

Recording fixed assets in asset registers

Asset registers form the basis for capturing technical, legal, and financial information of government assets and enable implementation of sound financial reporting practices. It is essential that initial set-up and ongoing maintenance of asset registers build on well-defined responsibilities and government-wide coordination measures. This is particularly important where public sector entities operate on different IT systems, different charts-of-account, and face different human capacities. This knowledge product's major recommendations with respect to fixed asset recording include:

- Develop a coordinated registry process through harmonized regulations across government entities to ensure a comprehensive and systematic registry process
- Collect sufficiently detailed asset information within the initial asset registry process to comply with IPSAS and GFS requirements and user needs
- Develop a systematic process to re-assess technical, legal and financial information of government assets to ensure sustained maintenance and updated balance sheet information

Capturing fixed asset information in Financial Reports

Accrual accounting facilitates capturing the financial implications of governments assets in a systematic manner through comprehensive recognition, measurement, and disclosure guidance. As such, it is important to strengthen public sector balance sheet management and to expand decision-making capacities. However, government asset accounting also imposes challenges and tradeoffs.

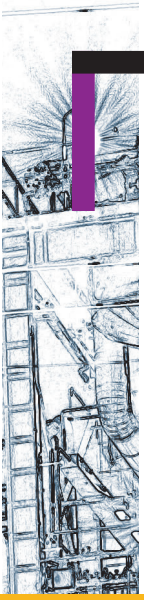
While the comprehensive recognition and measurement of government assets creates different opportunities for fiscal policy or investment planning, it requires significant resources. Hence, governments need a clear strategy on how to increase the scope and validity of asset information within their balance sheets and financial reports, while carefully weighing the costs and benefits. The following key recommendations may support governments in this endeavor:

- Establish capitalization thresholds in line with IPSAS materiality principles to minimize the need for recognition and measurement resources
- Increase financial reporting information gradually over time based on a clear roadmap to sequence the reform based on the predispositions and capacities
- Choose pragmatic measurement approaches when feasible to carefully balance costs and expected benefits

Making use of fixed asset information

Improving public sector asset management may provide a number of benefits in different areas such as fiscal governance (e.g., developing fiscal targets), fiscal policy (e.g., strengthening balance sheet information), and public policy and service delivery (e.g., optimization of asset portfolio). The availability of "better" data, however, will not automatically lead to "better" decisions and policy outcomes. Improved asset information will need to be linked and integrated into decision-making processes at different entity and policy levels. The following recommendations are vital to make better use of strengthened asset information:

- Integrate key performance indicators into existing management systems, processes, and instruments (e.g., maintenance and/or investment plans, performance budgets)
- Communicate financial information in an adequate form, aligned to different policy levels, information needs, and levels of financial literacy
- Support political decision-makers in the use of financial reports by harnessing resources of the parliamentary budget office



1.

Background and Rationale

Public sector assets are key to the delivery of public services and the execution of core government functions. Thus, their management and maintenance are crucial for governments and citizens alike and seen as a central institutional building block of modern societies.[2] With the proliferation of private sector-inspired managerial approaches in the public sector and following an increasingly stronger emphasis of considering assets rather than purely public debt in isolation in fiscal policy,[3] public sector fixed asset management (PSFAM) has become a more prominent public financial management (PFM) function.

Politicians and public managers face a wide range of complex decisions regarding the acquisition, operation, use, maintenance[4] and disposal of public sector assets. For this purpose, structured and detailed information about the nature, level, and physical condition and financial data on values, costs and returns of the current asset portfolio is required as basis of improved decision making. From a public policy perspective, such decisions relate to:

- The operation and maintenance of the existing asset portfolio to efficiently and effectively deliver high-quality public services
- The adjustment, adaptation, or expansion of the asset portfolio to address citizens' needs and to react to a changing environment
- The robustness of the asset portfolio, to ensure continued service delivery in times of crises

Public sector accrual accounting (PSAA) provides public sector managers and politicians with data required for sound and forward-looking decision making. It therefore plays a significant role in strengthening the PSFAM function as it captures both non-financial information and financial implications regarding the asset portfolio. Conversely, sound asset management practices and instruments, such as asset registers, greatly simplify accounting processes and facilitate a holistic view of financial consequences of government activity. Beyond responding to managerial and decision-making needs, comprehensive asset registers and accrual accounting for assets contribute to higher order benefits and values of a democracy such as transparency and accountability.

[2] Detter and Fölster (2015) argued that better management of public wealth (i.e. government assets) boosts growth and can yield increased social value and living standards.
[3] The International Monetary Fund (IMF, 2018) advocated that understanding the size and nature of public assets is key to their management, and made the case for adopting a balance sheet approach to fiscal governance. Similarly, Levy-Yeyati and Sturzenegger (2007) argue that evaluating fiscal sustainability requires matching liabilities and assets to understand a jurisdiction's fiscal vulnerability.
[4] Blazey, Gonguet and Stokoe (2020) highlight that infrastructure maintenance spending prolongs asset life spans, reduces fiscal costs in the medium to long run and increases social and economic benefits to users. Following these rationales, they conclude that governments need strong maintenance mechanisms, which, inter alia, depend on the ability of governments to assess maintenance needs.

This knowledge product aims at illustrating how PSFAM can be strengthened through public sector accrual accounting based on international standards and good practice. It provides practical guidance rooted in international country experiences and propositions of relevant standards and issue papers,[5] on capturing information on fixed assets and on transferring it to financial reports. The paper further discusses how PSAA contributes to decision-making regarding the public asset portfolio and how this translates into sound fiscal policies.

This knowledge sharing product is structured in the following way: First, it provides an integrated perspective on PSFAM as a key government function at the interface of public administration and political decision-makers, and examines relevant administrative, governance and management aspects. Second, the paper discusses how to take stock of the government's asset portfolio and establish a balance sheet containing financial data on assets. Finally, the paper treats the question of how to make use of the acquired information in the management of public sector assets with emphasis on improved public service delivery.

[5] Given that that this knowledge product considers accrual accounting as a core premise of PSFAM, IPSAS stipulations and the EPSAS working group's "*guidance for the first-time implementation of accrual accounting*" are considered. The latter particularly highlights key accounting aspects for the establishment of a balance sheet.

2. Introduction

Public sector fixed asset management (PSFAM) can be defined as a systematic approach to the governance of public sector assets and the process of optimizing their use over their lifecycle in terms of public service delivery and financial return for the benefit of citizens.[6] Managing fixed assets generally implies making decisions on acquisition, construction and development, operation, maintenance, disposal, and replacement.

In this knowledge product, *fixed assets* refers to tangible assets held for long-term purposes by a government or public sector entity such as: property, plant and equipment (including infrastructure, heritage and military assets[7]); assets subject to a service concession arrangement; biological assets (e.g., government-held plantation forests or forestry); and investment property. Figure 1 provides an overview of the universe of public sector assets and sets the scope of this paper – asset categories depicted in purple are part of the scope of this knowledge product.[8]

Public sector asset management policies and practices can vary considerably among countries depending on accounting practices, size and composition of the asset portfolio, and organizational and legal aspects of public administration (Grubišić, Nušinović & Roje, 2009). Public policy fundamentally defines the functions and responsibilities of a government and therefore the level of public services, which in turn determines the actual need for fixed assets in the delivery of policy goals. Political and administrative bodies are typically involved in the decision-making process along an asset's lifecycle (see Figure 2).

In recent years, PSFAM has greatly benefited from the increasing adoption of public sector accrual accounting as countries introduced comprehensive balance sheets covering all types of governmental assets. The information obtained spurred the professionalization of the asset management function by shedding light on financial realities and consequences, which allows both administrative and political decision-makers to reflect past actions and utilization of public assets.

[6] See, for example, Kaganova and Telgarsky (2018), who defined advanced asset management practice as one including normative principles of good governance, such as transparency and accountability, adopting a strategic and lifecycle perspective and covering all main types of assets (i.e., buildings, land, and infrastructure).
[7] According to IPSAS, military equipment will normally meet the definition of property, plant and equipment (Cf. IPSAS 17.20). Heritage assets of cultural, environmental and historical significance can electively be recognized with appropriate disclosures (Cf. IPSAS 17.8-11).
[8] Note that heritage and military assets are not depicted separately in Figure 1, since they are considered part of property, plant and equipment according to IPSAS (Cf. 17.8-11; 17.20).

Figure 1. Universe of public sector assets

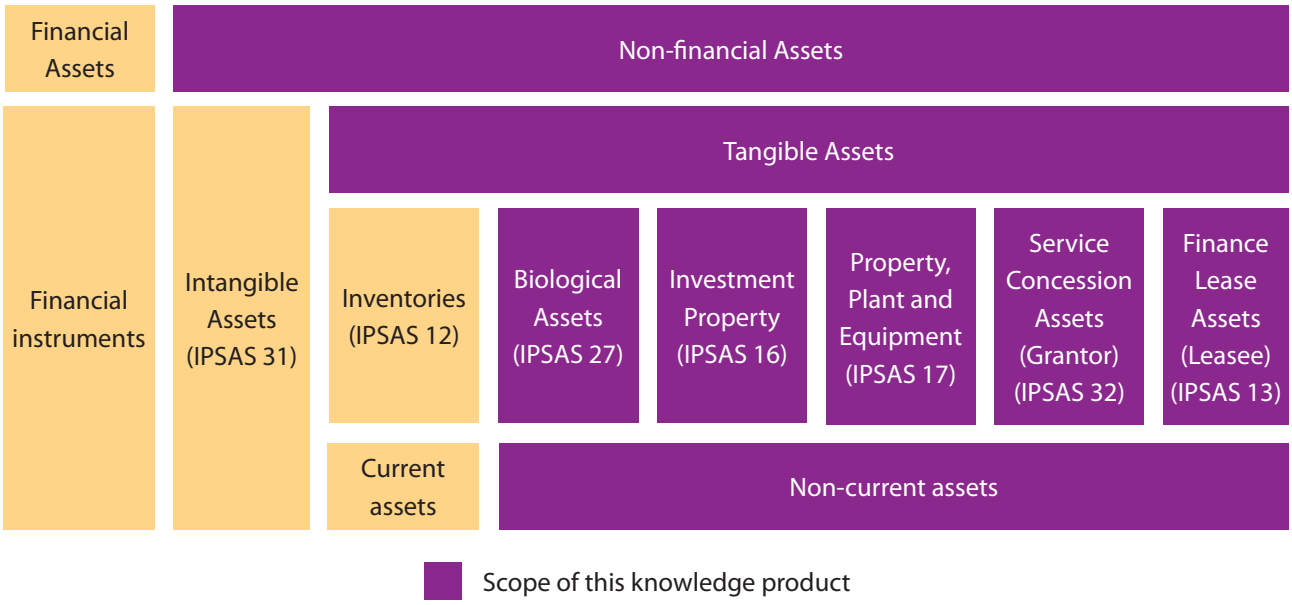
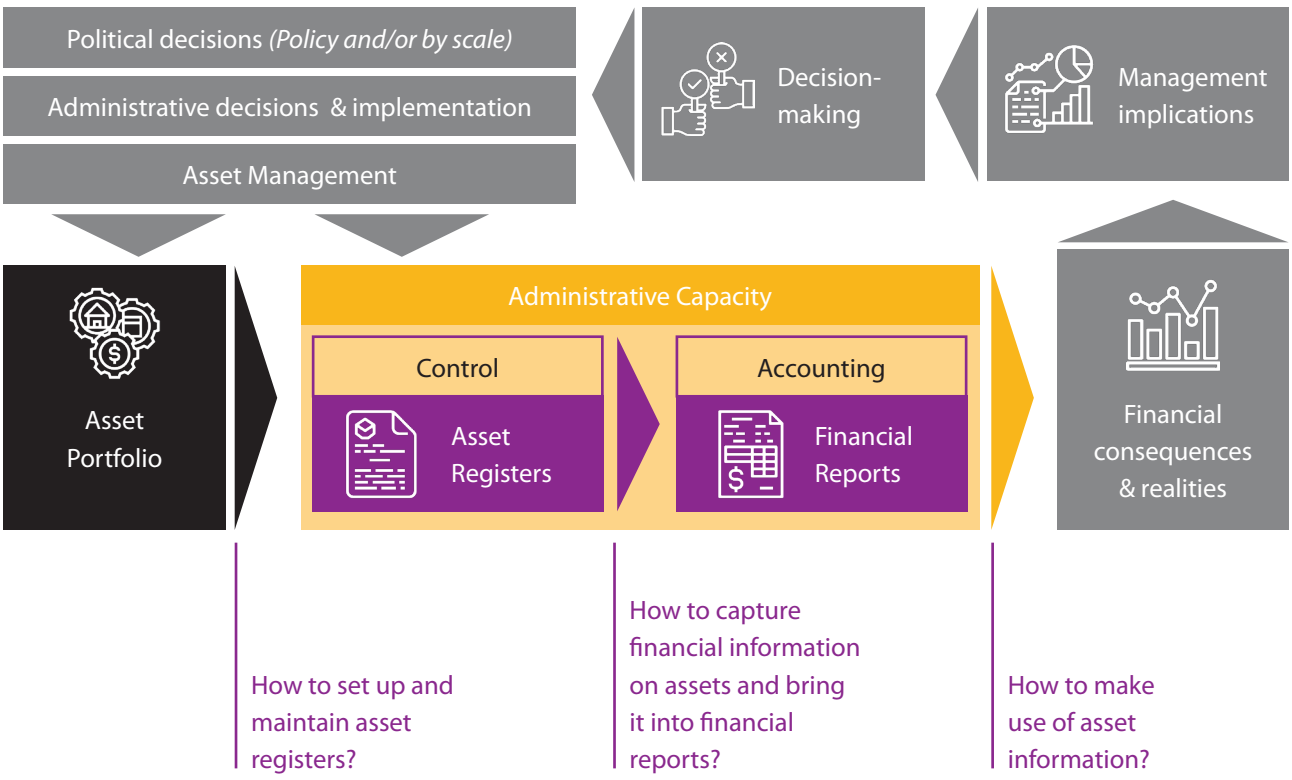


Figure 2. Integrated perspective on PSFAM



Available literature and guidelines on the topic of this paper point out that the fixed asset management process relies on the accuracy and availability of comprehensive operational and management data, and suggest setting up and maintaining a complete asset register.[9] The creation of a cadaster of publicly owned assets would, among other advantages, considerably facilitate the preparation of the balance sheet and the translation of operational and non-financial management data into financial information.[10] Reliable financial data on public assets is vital for determining their societal value, evaluating portfolio performance, budgeting for maintenance and cost of use, and quantifying their potential to generate revenue.

Asset registers provide important non-financial information for internal decision-making, such as type, nature or physical condition, and replacement schedule. Because asset registers are considered an instrument for internal management purposes, governments rarely make their asset register information publicly available. As such, governments contribute neither to transparency nor accountability from the point of view of an external user, in contrast to the availability of accounting information.

Well-maintained asset registers form the basis for comprehensively capturing the financial implications of the current asset portfolio, both in terms of stocks (government balance sheets) and flows (performance statement, cash flow statement). Assets with higher service delivery capacities should, in theory, be associated with higher financial values, while assets with lower service delivery capacities should be assigned lower values in a public sector balance sheet.

Performance and cash-flow statements capture economic costs and revenues related to the asset portfolio. These examples reveal that there is a logical link between the information captured in asset registers and financial statements, and both represent sides of the same coin, destined to better inform the decision-making process.

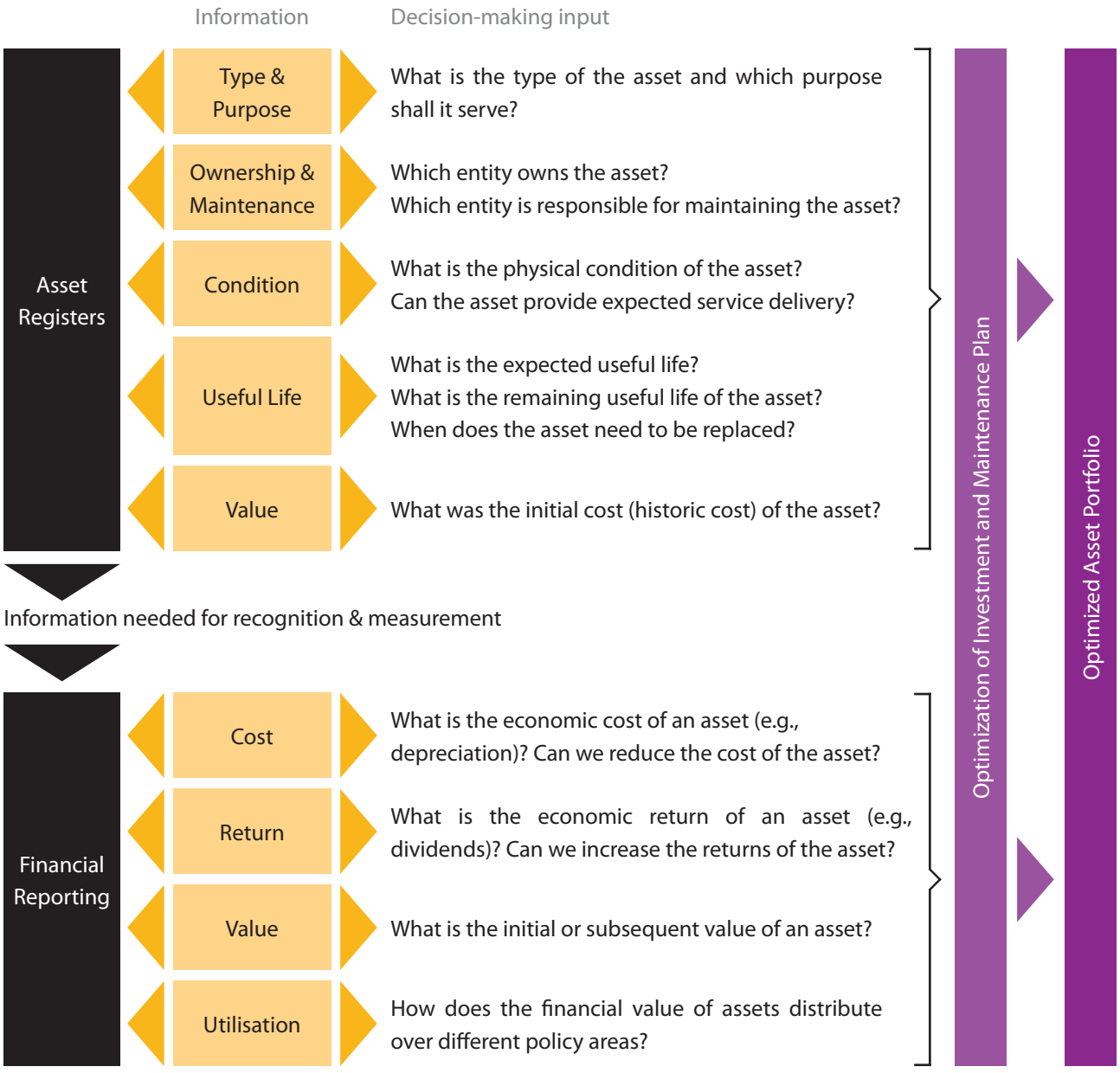
In the context of a logical link, Figure 3 illustrates that:

- Financial and non-financial information contribute equally towards the goal of an optimized asset portfolio
- Comprehensive asset registers are the basis for sound financial reporting practices
- The combination of non-financial and financial asset information gives rise to a broader and more balanced basis for decision-making capabilities than standalone tools

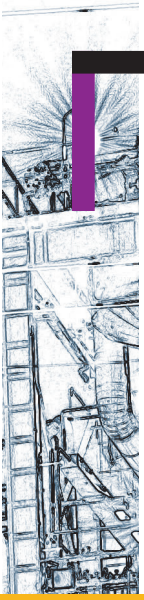
Through the channel of political and managerial decision-making, PSFAM can benefit from the availability of more comprehensive and valid information on assets. However, PSFAM is not just concerned with the current asset portfolio, but equally keeps a forward-looking eye on the development of the portfolio. Typically, PSFAM is a cross-cutting governmental function with significant linkages to public procurement and investment. Additions, replacements and upgrades of fixed assets require vendor and/or project selection considering economic analysis, prioritization, projections of the total life-cycle costs, and monitoring of implementation/construction (see Public Expenditure and Financial Accountability (PEFA) framework indicator PI-11[11] (PEFA Secretariat, 2019)). Striving for value for money in procurement and infrastructure construction is important and could be ensured through sound public procurement and investment mechanisms, a topic which is however not within the scope of this knowledge product.[12] Procurement decisions should nevertheless take advantage of information on use (deployment and purpose), usage (wear and tear) and usability (practicability) of existing assets and consider respective learnings.

[9] Cf. Kim, Fallov and Groom, 2020; Grubišić, Nušinović and Roje, 2009; Bavin, 1999; SVKI, 2014.
[10] Cf. Grubišić, Nušinović and Roje, 2009; Tanzi and Prakash, 2000.
[11] PEFA framework indicator PI-11 "assesses the economic appraisal, selection, costing, and monitoring of public investment projects by the government, with emphasis on the largest and most significant projects."
[12] For guidance on public investment management including techniques and key issues for the management, implementation and monitoring of individual projects, please refer to the World Bank "Public Investment Management Reference Guide" (Kim, Fallov and Groom, 2020).

Figure 3. Asset information and decision-making purpose



Source: Authors, based on Phelps (2010)



3.

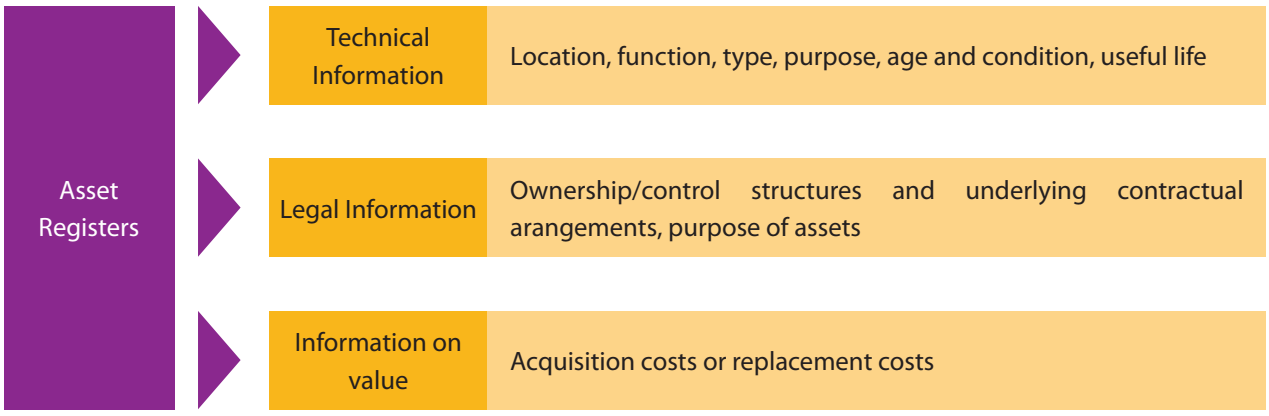
Recording Assets: Asset Registers

How to set up and maintain asset registers?

The identification and recording of assets is a foundation of good practice PSFAM.[13] Without knowing what is owned and without having a registry with relevant information, it is impossible to effectively manage assets. However, asset registers should be considered not just as a basic list of all existing assets, but should also include more detailed information such as the following:

Setting up comprehensive asset registers is the first step towards accounting recognition and preparation of a balance sheet.[14] Thus, there is a strong relationship between asset registry and asset accounting, which is why these two administrative functions are integrated in some jurisdictions.

Figure 4. Asset registers as an information basis for PSFAM



Source: Authors, based on PEFA Secretariat (2019), SKVI (2014), and Kim, Fallov and Groom (2020)

[13] PEFA framework dimension 12.2 sets a good practice benchmark in the area of public asset management, expecting countries to maintain a fixed asset register that includes information on usage and age, and should be published at least annually (PEFA Secretariat, 2019).
[14] Cf. for example, Grubišić, Nušinović and Roje, 2009

3.1. Activities of setting up and maintaining asset registers

From a procedural perspective, asset registry is the groundwork required for accounting recognition, which is why its activities should ensure the collection of all relevant information (i.e., technical, legal, and valuation). Thereby, the following instruments serve as enablers and structure the process:

- **IT systems** facilitate structured data entry and are key to the maintenance of asset registers. Apart from the details of the IT landscape, the asset registry application/module should provide guidelines for data entry and ideally include automatic completeness checks to prevent insufficient data entry. If IT-systems used for asset registry are heterogenous across governmental entities, structured data entry and connectivity of systems to the treasury general ledger should be ensured to establish an automated information flow.[15] This can be achieved by issuing guidelines and system specifications through the central government / treasury for asset registry modules/applications and might require the development of functioning system interfaces. Alternatively, governments could opt for an integrated financial management information system (IFMIS) and approach an entity-wide and functional integration with the purchase of an off the shelf Enterprise-Resource-Planning (ERP) system.
- **Chart of Accounts (CoA)** should provide a basic asset classification structure for the asset registration process or serve as reference. Because asset registry and its associated asset classification is the first step towards accounting recognition, the classification scheme applied during registry should ideally conform to presentation requirements stipulated in internationally generally accepted accounting principles (GAAP) and reporting standards such as International Public Sector Accounting Standards (IPSAS) (or a jurisdiction's adaptation thereof). While several IPSAS provide guidelines for the accounting treatment of different types of assets,[16] IPSAS does not explicitly stipulate the maintenance of certain specific asset classes and does not provide a CoA with a generic asset classification to be applied. Therefore, most jurisdictions applying IPSAS develop their own individual CoAs.[17]

Asset categorization within registers may follow the regular information needs of managerial and operational personnel. However, to serve as a purposeful basis for accounting recognition, registry should collect sufficiently granular and relevant information to fulfill financial reporting requirements (downstream the workflow). Thus, registry should follow an asset classification grid that is based on the CoA or that is at least cross-referenced to its nomenclature in the backend.

IPSAS contains a series of recognition, measurement and disclosure stipulations that necessitate the collection of the following information as part of the registry process:

- Distinction between investments and non-investment assets (acc. to IPSAS 16)
- Distinction of property, plant and equipment (PPE) and parts of it according their nature or function (acc. to IPSAS 17.13)[18]
- Distinction of components of systemic assets (acc. to IPSAS 17)[19]
- Distinction between biological assets and agricultural products, and between consumable assets and those held for sale and/or distribution (acc. to IPSAS 27)

[15] See for example, Uña, Allen and Botton (2019); Dorotinsky, Watkins and Dener (2011); or Khan and Pessoa (2010).
[16] IPSASs with specific requirements regarding asset classification include IPSAS 1, 12, 16, 17, 27, 31 and 32. While other IPSASs refer to assets in general, only those above listed above include specific guidelines for the recognition, measurement and disclosure of fixed assets.
[17] For guidelines on the development of a CoA that integrates requirements for multiple reporting purposes (i.e. Government Finance Statistics (GFS) and presentation of IPSAS compliant financial statements) please refer to the PULSAR program's *A good practice outline of the multipurpose chart of accounts* (URL: https://cfrr.worldbank.org/publications/good-practice-outline-multipurpose-chart-accounts)
[18] Property, Plant and Equipment (PPE) includes assets such as land, infrastructure, vehicles or heritage assets. This standard does provide some guidance towards classification as it also groups assets into classes. Such classes are defined as *'… a grouping of assets of a similar nature or function…'* (IPSAS 17.13). The standard provides some examples of separate classes of assets such as: Land, Operational Buildings, Roads, Machinery, Weapon Systems or Oil rigs (IPSAS 17.52). There is, however, no strict rule on how to structure such classes.
[19] IPSAS 17 stipulates that an entity has to depreciate each part of an item separately. This means, for example, that for example in case of a road system, it is necessary to depreciate separately pavements, channels, footpaths, bridges, etc. separately. Thus, there is a need to categorize such assets into different components.

- Distinction of intangible fixed assets according to their nature for disclosure purposes (e.g., computer software, licenses, copyrights, publishing titles, patents) (acc. to IPSAS 31)
- Distinction of assets being part of a service concession arrangement (acc. to IPSAS 32)[20]

Complementary to IPSAS requirements, the Government Finance Statistics Manual (GFSM2014) provides a classification system for fixed assets (see Figure 5).

To facilitate compilation of government finance statistics, the asset classification system should consider both IPSAS requirements and the GFSM asset structure.[21]

It is recommended to apply a more detailed classification during asset registry, since categories can always be aggregated later (e.g., for reporting purposes). Adding more detail and breaking-down asset classes to a finer granularity is more challenging afterwards. However, having too many asset classes might be impractical, which is why a good balance should be found between information needs and effort necessary for implementing a fine-grained differentiation. Therefore, the requirements of IPSAS and GFSM2014 (as summarized in Figure 5) and information needs of political and managerial decision makers should both be considered.

The setup and maintenance of asset registers typically include the following activities:

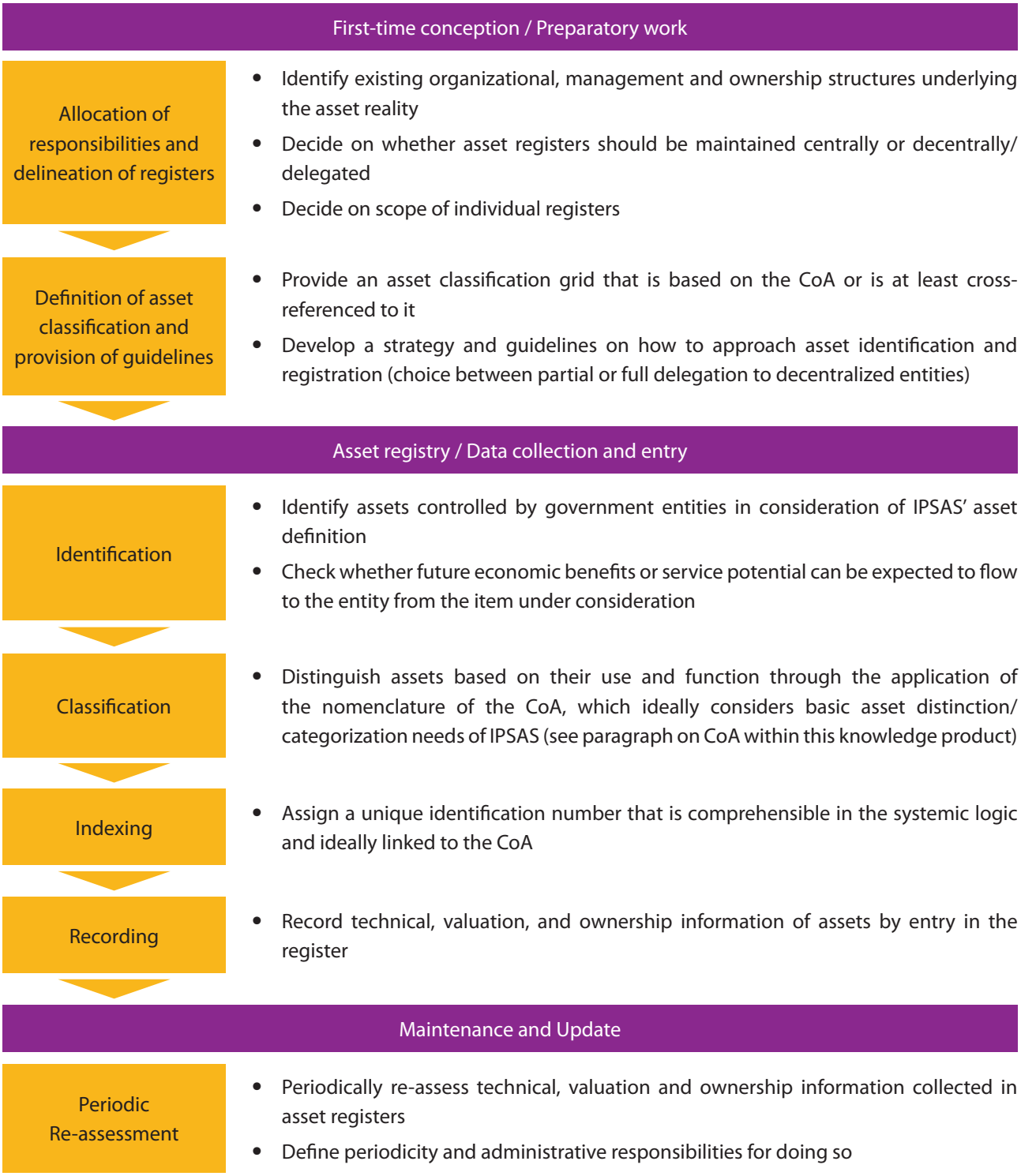
Figure 5. GFSM2014 classification of fixed assets

611 Fixed assets
- **6111 Buildings and structures**
  - *61111 Dwellings*
  - *61112 Buildings other than dwellings*
  - *61113 Other structures*
  - *61114 Land improvements*
- **6112 Machinery and equipment**
  - *61121 Transport equipment*
  - *61122 Machinery and equipment other than transport equipment*
    - 611221 Information, computer, and telecommunications (ICT) equipment
    - 611222 Machinery and equipment not elsewhere classified
- **6113 Other fixed assets**
  - *61131 Cultivated biological resources*
    - 611311 Animal resources yielding repeat products
    - 611312 Tree, crop, and plant resources yielding repeat products
  - *61132 Intellectual property products*
    - 611321 Research and development
    - 611322 Mineral exploration and evaluation
    - 611323 Computer software and databases
    - 611324 Entertainment, literary, and artistic originals
    - 611325 Other intellectual property products
- **6114 Weapons systems**

Source: GFSM2014 (IMF, 2014)

[20] IPSAS 32 describes the relevant accounting treatment of service concessions, or (as more commonly known), Public-Private-Partnerships (PPP). Although this standard does not focus on any specific tangible or intangible assets, it is of relevance to an IPSAS-compliant classification system, since PPPs always entail some type of asset, (tangible or intangible).
[21] Cf. Bergmann, Fuchs, Horni, Kizilbash, Schwaller, and Vatyan (2019).

Figure 6. Generic process for the establishment and maintenance of asset registers



Source: Authors, based on interviews with international practitioners and experts (2020), selected information from the infrastructure management handbook of the Swiss association of municipal infrastructure (2014), and the World Bank study on the management, control, and recording of fixed assets in Latin America and the Caribbean Region (Gourfinkel, 2017).

Box 1. Case study on the initial registration of assets during the course of IPSAS implementation

The starting point for the Austrian federal government's endeavor of identifying and registering governmental assets within its IPSAS implementation were the pre-existing asset registers. All cadasters were updated and complemented decentral by the entities following centrally issued guidelines of the Ministry of Finance.

However, a substantial part of the federal asset portfolio was out of scope of the registry process, because major governmental infrastructure assets, such as railway or highway infrastructures, are controlled and managed by separate dedicated government agencies or state-owned enterprises (SoEs) and not directly by the government itself. Following this legalistic logic, ultimately the federal government simply recognizes its shares and interest in these entities/public agencies and not the assets controlled by them (except when preparing IPSAS consolidated financial statements), which is why there is no immediate interest and ownership of the asset registry process for their assets.

It might be worthwhile to reflect and become aware of existing organizational, management and ownership structures of the asset reality before embarking on setting up or reviewing state asset registers, as these aspects dictate responsibilities for asset registry (and could beyond that also carry the potential to strengthen asset management as a whole). In the case of the Republic of Austria, the state asset reality was captured through two different channels (see below).

Asset reality in Austria (Central government level)

Government Assets
Decentrally managed and maintained (Entity level)

- Land
- Historical buildings
- Inventories
- Biological assets
- Heritage assets
- Military assets

These assets built the main focus of the IPSAS reform: Decentralized responsibilities of initial asset registration, recognition, and measuremen feeded into a centralized IT system (SAP).

Central coordination activities under the guidance of the Ministry of Finance (e.g., development of central guidelines, capitalizaiton thresholds, registration forms, participatory registration process, etc.).

Government Assets
Centrally managed and maintained (SOEs, agencies)

- Property, plant and equipment (significant shares)
- Infrastructure (significant shares)
- Investment property (significant shares)

Due to overall asset management considerations, large shares of the government asset portfolio were outsourced into SOEs and agencies before the IPSAS reform. These entities bear broad responsibilities to manage their asset portfolios as well as to operate and maintain asset registers and financial reports. This circumstance heavily facilitated the initial asset registration process of the government, because significant shares of the government's asset portfolio had already been centrally registered, reported and managed through these entities.

Source: Based on interviews with international practitioners (2020)

3.2. Institutionalizing asset registry in government entities

After a successful initial setup of asset registers, their sustained and systematic maintenance should be institutionalized (if not already contained in the jurisdiction's administrative framework).[22] This can be achieved through the regulation of responsibilities and a clear task allocation, and by providing enabling instruments.

The above-described generic process for setting up and/or maintaining asset registers could be performed centrally (e.g., within a state property directorate) or decentrally within the entity owning the assets. As exemplified in the case of the Republic of Austria (see box above), a jurisdiction might opt for a differentiated or mixed approach evolving along typology, use, and/or control of assets. For example, specific types of assets that are centrally procured and used across a variety of entities or government agencies are best registered centrally (e.g., IT infrastructure).

Other criteria relevant for the organization of the asset registry function are ownership structures. These are however to large extent determined by a jurisdiction's administrative system and structures. Some countries have established separate asset management agencies for specific types of assets. For example, in Switzerland and Austria, the management of government buildings is assigned to a public real estate agency. This approach is advantageous considering the fact that certain assets such governmental premises are often used by multiple entities and/or given the special nature of certain types of assets (e.g., infrastructures such as highways or railways), whose effective management requires vast technical know-how. Movable assets, whose use is specific to a single entity (e.g., appliances for spatial measurement), should be captured in decentralized asset registers within the entity using them, as key information on the assets' condition is readily available to those entities.

Given the procedural link between procurement activities for acquisition, construction or maintenance and asset registration, a steady information flow between these two administrative functions should be ensured to achieve continued maintenance and updating of registers. Procurement officers equipped with the respective financial competencies usually specify the order and release the asset for use after receipt. Effective control includes a series of checks and balances at this stage (i.e., inspection of newly acquired assets prior to clearance for settlement of corresponding payments).[23] Before putting an asset into use, however, it should be tagged with an identification number for indexing purposes. The tag should ideally follow a logical numbering system that links to the asset classification of the chart of accounts (CoA) (e.g., through inclusion of two or three characters corresponding to the asset class).

However, the choice of how these administrative functions are to be organized in a government can be dictated by historical or legal predispositions, the fiscal governance regime, or the administrative and organizational culture of a jurisdiction. On a conceptual level, continuation of systematic maintenance and update of asset registers can be attained through different approaches, of which all are equally possible and feasible. Table 1 provides an objective overview of the possible approaches.

[22] As identified in the PULSAR stocktaking-study of public sector accounting and reporting environment, most PULSAR beneficiary countries can build on well-maintained asset registers. The study is available in the PULSAR online repository: https://cfrr.worldbank.org/publications/stocktaking-public-sector-accounting-and-reporting-environment-pulsar-beneficiary

[23] For a more detailed discussion on how internal control can support PSFAM and respective recommendations, see the World Bank study on the management, control, and recording of fixed assets in Latin America and the Caribbean Region (Gourfinkel, 2017).

Table 1. Institutionalizing and supporting the asset registry in government entities

	Responsibilities		
	Central authority	**Entity level**	**Joint / combined**
Administrative tasks			
Procurement	Central procurement entity (e.g., agency)	Procurement at entity level (e.g., budget entities)	Differentiation according to: • Financial competencies and governance arrangement of the entity • Asset type • Asset purpose
Asset registry	Centralized maintenance of asset registers (e.g., state asset committee or agency)	Decentralized maintenance of asset registers (e.g., budget entities / line ministries)	Differentiation along: • Ownership structures • Type of asset • Purpose/use of asset
Enabling instruments			
IT System	Uniform, government-wide IT system (i.e., IFMIS)	Individual IT systems across governmental entities	Differentiation of IT system according to: • Type / purpose of entity • Data collection needs
Chart of Accounts (CoA)	Harmonized/Unified CoA (e.g., issued through Ministry of Finance)	Multiple entity specific CoAs (e.g., local governments, SOEs)	

4.

Capturing Fixed Asset Information in Financial Reports

How to capture financial information on assets and bring it into financial reports?

After having captured technical, valuation and ownership information within the asset registers, the financial dimension can be recognized through accounting. This includes valuation and capitalization of assets for presentation in the balance sheet and recognition of consumption of fixed assets (/depreciation) and any financial consequences of economic events occurring along the asset management cycle in financial reports and its reporting components/accounting outputs. Figure 7 provides a conceptual overview of how accounting inputs (i.e., information captured in asset registers and/or stemming from period-specific economic events) render the financial/managerial situation ultimately reported in the accounting outputs (i.e., financial statements).

Figure 7. From asset registry and accounting inputs to financial reporting

	Economic events along the Asset Management Cycle	Acquisition	Operation	Maintenance	Disposal
Accounting Inputs	**Asset Registers**	**Initial Registry:** Type, Purpose, Ownership, Initial Value, Expected and remaining useful life	**Update Register:** Condition, use and remaining useful life	**Update Register:** Maintenance activities, condition and remaining useful life	**Update Register:** Disposal of assets
Accounting Outputs	**Balance Sheet**	Recognition & measurement of non-financial assets		Depreciation & impairment of non-financial assets	Derecognition of non-financial assets
	Statement of Financial Performance		Operating expenses & revenues (accrual)	Maintenance expenses, depreciation, impairment (accrual)	Expenses & revenues from disposal (accrual)
	Cash Flow Statement	Cash outflows from non-financial asset acquisition	Operating costs & revenues (cash)	Maintenance costs (cash)	Cash inflows from disposal
	Notes	Disclosures	Disclosures	Disclosures	Disclosures

Building on this figure, the following paragraphs take on an accounting output-/product-oriented perspective and elaborate on how to capture the respective information within financial reports.[24] This involves accounting recognition, measurement, and disclosure of economic situations and events. In doing so, a consistent approach using the same principles and guidelines across a jurisdiction's public sector entities must be ensured to enable intertemporal and cross-entity comparisons (such as benchmarking) for managerial purposes. Adoption and (direct or indirect)[25] application of IPSAS help advancement to an internationally accepted construction of the financial reality underlying a jurisdiction's assortment of fixed assets.

4.1. Balance sheet

Following the basic logic of a double-entry accounting system, public sector balance sheets serve as a presentation of stock positions of assets and liabilities. From an asset management perspective, they portray information on a jurisdiction's or entity's capacity to implement government functions and/or its potential to render public services using fixed assets.[26]

Determining the scope of capitalization of assets

According to IPSAS (IPSAS CF 5.6-5.13), an asset is a resource that:

- Is presently controlled by an entity
- Results from a past event (e.g., transaction)
- Bears service potential or the ability to generate economic benefits

This fundamental definition encompasses sine-qua-non conditions for accounting recognition of assets and their capitalization/presentation in public sector balance sheets. The fulfilment of these criteria should ideally already be taken care of during asset registry (i.e., as part of asset identification), so that accountants can readily work with information captured in the asset registers. IPSAS stipulations force capitalization of all assets that meet these criteria, irrespective of their value. However, public sector entities possess some very lowvalue items that do not have a service potential of more than one year. Their capitalization is, however, not material and would be neither practicable nor proportionate given the efforts necessary for their registry.

Thus, most jurisdictions have established capitalization thresholds and only recognize material assets in the balance sheet, whereas those below the defined materiality threshold are simply recognized as an expense in the statement of financial performance. Such capitalization thresholds draw an explicit and monetary value-oriented line between assets and expenses. While the IPSAS conceptual framework encourages consideration of materiality and costbenefit issues, IPSAS does not provide detailed guidelines for the determination of capitalization thresholds.

Considerations relevant for the definition of capitalization thresholds include the following:

a. **Efficiency considerations.** Fixed assets recognized in the balance sheet need to be inventoried and managed. Similarly, asset registers need to be maintained and regularly updated, and therefore incur cost. The more assets capitalized in a balance sheet, the more resources will be needed to maintain the asset registers. Therefore, due to efficiency and cost-benefit concerns, certain entities might choose to set higher capitalization thresholds to reduce costs of maintaining and managing the level of assets registered.

[24] While the IPSAS CF considers service recipients and resource providers as main users of general purpose financial reports (GPFRs) (para. 2.4) and strongly highlights the therewith associated accountability function, it also emphasizes the potential to inform decision-making.
[25] IPSAS can either be directly or indirectly applied, whereby a jurisdiction either designates IPSAS as its main accounting standard or develops its own standard based on them, respectively (Bergmann, 2009).
[26] In this regard, IPSAS issues and inherently uses the term 'service potential', which is defined as *'the capacity to provide services that contribute to achieving the entity's objectives'* (IPSAS CF para. 5.8).

b. **Financial sustainability and intergenerational equity considerations.** The capitalization of assets in a balance sheet enables entities to reduce short-time (upfront) expenditures and to smooth short-term budget deficits and/or the compliance with fiscal rules. However, assets recognized in a balance sheet will need to be depreciated over their useful life. This leads to accumulated depreciation expenses over time, and therefore affects the financial performance in the medium and longer term. Capitalization and subsequent depreciation further allow shifting costs for the acquisition of an asset and charging its value consumption to the next generation of taxpayers.

c. **Essence and purpose of IPSAS.** The IPSAS conceptual framework (IPSAS CF) provides overarching guidelines for the development of capitalization thresholds. In particular, the qualitative characteristics, pervasive issues, and constraints of the IPSAS CF should be considered, as they have implications on the determination of capitalization thresholds:

   - **Faithful representation (IPSAS CF 3.10-3.16)**

     To comply with the requirement of faithful representation, capitalization thresholds may not conceal the underlying substance of a position or a transaction. In general, capitalization thresholds reduce completeness of the assets presented. If thresholds are high they are in conflict with faithful representation. High capitalization thresholds might be favorable from a cost-benefit perspective but might conceal the real substance of a position or transaction.

   - **Comparability (IPSAS CF 3.21-3.25)**

     To comply with the requirement of comparability, capitalization levels must be consistently followed throughout the entity (i.e., at least at the level of separate financial statements). While different capitalization thresholds for different fixed asset classes might be defined, it shall be ensured that all entities comply with these thresholds. Further, capitalization thresholds past and projected future value developments should be considered. Where fair value measurement applies, the definition of capitalization thresholds can lead to inconsistent recognition and derecognition of assets which interferes with comparability over time (because of fluctuation in value).

   - **Pervasive issues and constraints of financial accounting and reporting**

     In addition to the qualitative characteristics, the IPSAS CF considers materiality (IPSAS CF 3.32-3.34), cost-benefit (IPSAS CF 3.35-3.40) and the establishment of a sound balance between all qualitative characteristics (IPSAS CF 3.41-3.42) as relevant.

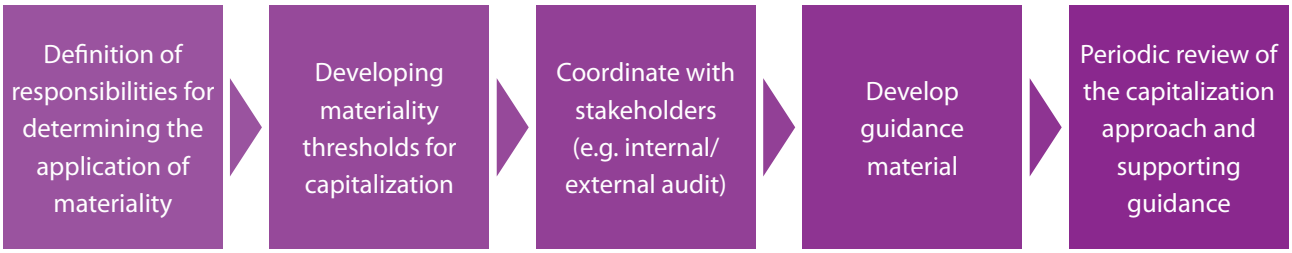
To comply with the requirement of materiality, capitalization thresholds should not conceal material positions or transactions. However, it is acceptable for such thresholds to lead to the omission of non-material positions or transactions. As the level and quality of fixed assets usually correspond with the underlying service potential, information on assets might give useful indications about the future ability of service delivery. This information can only be obtained if assets are capitalized and recognized in a balance sheet.

From the perspective of materiality, certain entities might consider establishing different capitalization thresholds for different fixed asset classes. In any case, assessments of materiality need to be made in the context of the legislative, institutional, and operating environments of an entity, including the nature, number and amount of major assets classes.

In sum, to contain administrative effort within reasonable bounds, low-value assets should be scoped out of capitalization if they are not material. However, the application of materiality and capitalization thresholds should not detract from the responsibilities of entities to maintain complete accounts and records. It is also recommended that entities use lower (but not higher) thresholds if this is needed to represent the service potential of their assets.

Practical steps for planning development and implementation of capitalization thresholds are illustrated in Figure 8:

Figure 8. Approaching implementation of capitalization thresholds



Box 2. International practices in balance sheet recognition

Following the previously mentioned rationales for issuing capitalization thresholds, jurisdictions that adopted standard-based accrual asset accounting have opted for different approaches of differentiating initial expenditures for the acquisition of assets by materiality. Table 2 below summarizes the approaches/ practices adopted by a sample of countries and their respective thresholds:

Table 2. Selected countries' capitalization approaches and thresholds

Country	Approach	Capitalization Thresholds	
Australia	Unified capitalization threshold for certain types of assets and professional judgement on materiality	Acquisition expenditures for buildings, leasehold improvements and computer software (if they form not part of a group of similar items / group of assets which are significant in total)	> AUD 5,000 (approx. USD 3,460)
		Other assets	Application of materiality considerations
New Zealand	Differentiated mainly according to nature of assets	Tangible Assets (PPE)	> NZD 5,000 (approx. USD 3,250)
		Intangible Assets	> NZD 50,000 (approx. USD 32,250)
Switzerland (federal level)	Differentiated according to asset classes	Intangible Assets	> 100,000 CHF (≈USD)
		Buildings, Infrastructure Assets	> 1,000,000 CHF (≈USD)
		Furniture, fixtures, office equipment, motor vehicles	> 5,000 CHF (≈USD)

Compared to Australia and New Zealand, Switzerland has relatively high materiality thresholds for capitalization of assets. Again, from the perspective of fiscal sustainability, high capitalization thresholds lead to higher short-term expenditures/expenses, but at the same time reduce accumulated depreciation expenses in subsequent periods. The decision to adopt relatively high capitalization thresholds in Switzerland was driven by the historical and socially rooted principle of prudence.

However, given that IPSAS neither stipulates specific value-based capitalization thresholds nor prohibits issuing such thresholds, a jurisdiction can set these thresholds low or high as long as overarching principles of IPSAS (i.e., the qualitative characteristics as contained in the IPSAS CF) and pervasive issues of financial accounting and reporting such as faithful representation (in particular, completeness) and materiality are maintained. Thus, the definition of capitalization thresholds is ultimately a matter of professional judgement and demands establishment of multiple different capitalization thresholds for different types/classes of fixed assets to acknowledge the pervasive issues.

Source: Authors, based on publicly available documents of the jurisdictions

Initial measurement of assets

IPSAS provides clear stipulations for capturing and constructing the financial reality of fixed assets.

If a jurisdiction is in pursuit of the **first-time development of a balance sheet** and has to recognize assets for the first time, acquisition costs should be considered wherever available. However, if these are not available, a fair value should be determined using deemed cost, which reflects a surrogate value at the measurement date (Cf. IPSAS 33.06).

Table 3 below provides an overview of IPSAS initial measurement approaches for preexisting assets under the first-time application of IPSAS:

Table 3. IPSAS initial measurement approaches for pre-existing assets under the first-time adoption of IPSAS

		Cost	Fair value	Reference
Assets <u>not</u> recognized under the previous basis of accounting		**X** (Historic costs)	**(X)** Deemed cost/in absence of reliable cost information (e.g., depreciated replacement costs or reference values)	IPSAS 33.64
Assets already recognized under the previous basis of accounting	Property Plant and Equipment	**X** (Cost or depreciated cost)	**(X)** Deemed cost (e.g., the revaluation amount of the previous basis of accounting)	IPSAS 33.67
	Inventory that is of a specialized nature	**X**	**X** Current replacement cost	IPSAS 33.70

		Cost	Fair value	Reference
	Investment property that is of a specialized nature	**X**	**X** Depreciated replacement cost	IPSAS 33.70
	Assets acquired through non-exchange transactions	n/a	**X** Deemed cost if reliable cost information is not available	IPSAS 33.71

Source: Authors based on IPSAS

Given that first-time recognition and measurement of assets requires substantial effort, IPSAS first-time adopters can take advantage of a three-year transitional relief period and opt out of recognition of fixed assets (Cf. IPSAS 33.36; 33.38), which allows sequenced introduction of standards-based accrual accounting for assets and balance sheet development. Depending on the predispositions and extent of assets registered and already recognized, and capacities for reform implementation, sequencing according to type of assets or along the jurisdictions entities is advisable.[27]

Complementary to IPSAS 33, Eurostat (2017) has developed a firsttime implementation guidance for the adoption of accrual accounting, which takes a pragmatic approach to the first-time development of a balance sheet.[28] While it proposes the same measurement hierarchy as IPSAS 33 and prioritizes the use of historic values, it provides pragmatic solutions for determining deemed costs for land, buildings, and infrastructure where historic costs are not available.

Anecdotal evidence from countries that successfully completed IPSAS-based accrual accounting implementation suggests that a trade-off is faced between completeness (having recognized all material assets – i.e., those above the capitalization threshold) and measurement precision in the process of first-time balance sheet development given resource intensity and constraints. In awareness that precise measurement might be costly (i.e., obtaining an expert opinion or object valuation), most jurisdictions prioritize completeness over precision.

When approaching the first-time measurement of public sector fixed assets, one cannot avoid having to rely on pragmatic solutions and measurement approaches, which is considered completely reasonable if it does not compromise validity of the information presented. Opting for pragmatic initial measurement approaches is reasonable also in view of the IPSAS CF's cost-benefit notion.

To ensure validity of measurement approaches especially for specialized/complex assets, such as networked infrastructure (for which individual components must be measured separately), it is advisable to involve external auditors.

Within the **acquisition of assets**, initial measurement is dependent on the substance of the underlying transaction. It is first to differentiate whether it is an ordinary exchange transaction (e.g., a purchase in which goods or services are acquired against a payment) or a non-exchange transaction that is unidirectional (e.g., a donation).

[27] On sequencing of the development of the balance sheet, see further Cavanagh, Flynn and Moretti (2016).

[28] In contrast to IPSAS, Eurostat's *first-time implementation guide* takes an inclusion approach, which calls for that determines inclusion of assets in the balance sheet based on a set of qualitative criteria that are more detailed than the IPSAS qualitative characteristics but link to the pervasive issues of financial accounting and reporting highlighted in the IPSAS CF.

In the former case (exchange transaction), the asset acquired is recognized simply at the cost incurred. This should not pose any difficulties in case of a transaction that is settled in exchange for monetary assets (e.g., cash payment or against invoice). However, if the acquisition involves exchange of non-monetary assets (against other goods or services/within a barter trade agreement), the fair value of the transaction should be identified based on comparable market transactions and available price indices.

In case of asset acquisition within a non-exchange transaction, determination of an asset's value equally requires the collection of additional information, such as market prices. For example, a public school that gets a donation of textbooks recognizes these at the amount that it would have had to pay for them in absence of the donation, which requires it to identify the market price for these textbooks.

Table 4 summarizes the key issues and differentiations to be made in initial measurement of newly acquired assets as stipulated by IPSAS:

Table 4. IPSAS initial measurement approaches for newly acquired assets

		Cost	Fair value	Reference
Within exchange transactions	Property Plant and Equipment	**X** (Purchase price less any transportation, installation and disposal costs - Cf. IPSAS 17.30-36)	**(X)** (In case of acquisition in exchange for non-monetary assets, e.g., based on comparable market transactions – Cf. IPSAS 17.38)	IPSAS 17.26
	Investment Property	**X** (Costs less any transaction costs)	**(X)** (In case of acquisition in exchange for non-monetary assets – Cf. IPSAS 16.36 et seq.)	IPSAS 16.26
	Biological assets and agricultural produce[29]	**(X)** (In case the fair value cannot be measured reliably: cost less any accumulated depreciation and any accumulated impairment losses – Cf. IPSAS 27.34)	**X** (fair value less costs to sell, whereby fair value is determined based on its attributes by quoted prices from a respective active market and, in absence of a such by other market indices - cf. IPSAS 27.19 et seq.)	IPSAS 27.16 / IPSAS 27.18
	Service Concession Asset (Grantor)	n/a	**X** (Measurement as in IPSAS 17 or IPSAS 31 depending on the nature if the specific recognition criteria are met)[30]	IPSAS 32.9 et seq.

[29] Agricultural produce that is harvested from biological assets classify as inventories and are thus to be measured according to the stipulations of IPSAS 12 at their fair value less costs to sell (IPSAS 17.36).)

[30] Specific recognition criteria for assets subject to a service concession arrangement are control of the services the operator must provide with the asset (IPSAS 32.9a) and, if applicable, control of any significant residual interest in the asset at the end of the term of the arrangement (IPSAS 32.9b). However, together with the asset the grantor recognizes a corresponding liability, that, depending on the contract, either reflects the payments due to the operator (for the development, construction, acquisition or upgrade of the asset) (i.e. the financial liability) or the unearned revenues as a consequence of granting the right to earn revenue from third-party users to the operator as mode of compensation (i.e. grant of a right to the operator model) (IPSAS 32.17).

		Cost	Fair value	Reference
Within non-exchange transactions	Property Plant and Equipment	n/a	**X** (based on reliable cost information, e.g., market value)	IPSAS 17.27
	Investment Property	n/a	**X** (cost of the property, cf. IPSAS 16.32/33)	IPSAS 16.27
	Biological assets	n/a	**X** (Fair value less costs to sell, whereby fair value is determined as in exchange transactions)	IPSAS 27.17

Source: Authors based on IPSAS

Box 3. The role of external audit in setting up asset accounting and beyond

Although Supreme Audit Institutions (SAIs) in most jurisdictions are traditionally mainly concerned with the ex-post evaluation of year-end financial statements, their ex-ante involvement in the process of establishing a balance sheet is considered beneficial. Countries that successfully completed accrual accounting reforms and implemented an IPSAS compliant asset accounting engaged with the SAI throughout that process. Besides its involvement in the establishment of the accounting framework, the SAI acted as a sparring partner in determining the relevant accounting estimates and measurement parameters. Ideally, it is agreed on capitalization thresholds and measurement approaches prior to their application to a whole class of assets. A consensus on the measurement approach is of increased importance for assets for which no historic values or depreciated replacement costs are available. A gradual testing strategy for auditing the balance sheet positions is considered key, so that the whole opening balance sheet is audited with project completion.

After initial audit of the newly established balance sheet, SAIs continue to support PSFAM with their evaluations and audits:

- **Financial Audit:** Within the audit of the year-end financial reports, the SAI checks new acquisitions through sampling and performs inventory observations and physical inspections to verify existence and valuation.
- **Performance Audit:** Assessment of usage of assets (e.g., room occupancy and utilization); value for money evaluations through establishment of the audit trail (including documentation on price negotiations for economic justification of concept and awarding decisions)[31]
- **Compliance Audit:** Verification of whether an asset is used for its intended purpose; assessment of compliance to public procurement directives.

Source: Based on semi-structured interviews with international practitioners and experts (2020)

[31] EU Contact Committee (2018)

4.2. Statement of financial performance

A jurisdiction's or public sector entity's statement of financial performance should capture the financial consequences resulting from the use of assets (i.e., depreciation) and of any economic events affecting their substance along their lifecycle.

Determining consumption of fixed assets and the depreciable amount

The economic fact that the use of a fixed asset leaves some wear and tear over time is reflected under accrual accounting with yearly depreciation charges in surplus or deficit. Depreciation charges basically reflect the systematic recognition of the decrease/loss in an asset's future economic benefit or service potential. In order to determine the depreciation amount, IPSAS requires determining the future economic benefits embodied in an asset and to estimate its useful life in terms of the asset's expected utility to the entity over the subsequent periods. Guiding principles in determining the useful life of an asset are as set out in IPSAS (Cf. 17.72), are among others:

- Expected usage of the asset (e.g., expected capacity);
- Expected physical wear and tear (e.g., depending on operational factors and maintenance);
- Technical or commercial obsolescence;
- Legal limitations and the like (e.g., expiry dates).

Box 4. Estimating the useful life of an asset

Since the determination of an 'appropriate' useful life is an accounting estimate that can differ among different kinds of fixed assets, it should be considered as a matter of judgement rather than a strict accounting policy. It is advisable to provide different ranges/bandwidths of useful life for different asset classes. Even with respect to a given asset (e.g., a road system), different useful lives may apply for different components of that asset, as illustrated below based on the country example of Swiss subnational governments.

Swiss subnational governments apply an IPSAS-based public sector specific GAAP (the so-called harmonized accounting model 2) that provides different useful lives for different asset classes. The table below summarizes these stipulations:

Table 5. Useful lives of distinct asset classes at Swiss subnational level

Asset class	Sub-category	Useful life (in years)
IT	Software	5
IT	Hardware	3
Property, Plant and Equipment	Land	Permanent
Property, Plant and Equipment	Buildings	25-60

Asset class	Sub-category	Useful life (in years)
Property, Plant and Equipment	Roads	40-60
Property, Plant and Equipment	Bridges	40-60
Property, Plant and Equipment	Sewer systems	40-60
Property, Plant and Equipment	Wastewater systems	15
Property, Plant and Equipment	Machinery and other	4-10

Source: Swiss Public Sector Financial Reporting Advisory Committee (2019)

Identification of gains and losses through subsequent measurement of assets

IPSAS provides a series of stipulations for the measurement of different types of fixed assets after their initial recognition. IPSAS provides two main approaches: the cost model and the revaluation model. Jurisdictions or entities can choose either, except for biological assets and agricultural produce. Biological assets and its harvest/produce must be measured at fair value, unless a market determined prices or values are not available (Cf. IPSAS 27.34). For all other types of fixed assets, regardless of the measurement approach, the chosen approach has to be applied consistently for the entire class of assets (Cf. IPSAS 17.42). Any gains or losses arising from changes in fair value shall be recognized in surplus or deficit (Cf. IPSAS 16.44; IPSAS 17.54 et seq.) and thus presented in the statement of financial performance. A box on a later page discusses the subject of choosing between the cost and revaluation models.

If the revaluation model is chosen, an entity should conduct revaluations on a regular basis (Cf. IPSAS 16.44), whereby the frequency shall be determined depending on expected changes in fair value (IPSAS 17.49). It is recommended to state clear revaluation periods for different types of assets in a jurisdiction's accounting policy.

Table 6 provides an overview of IPSAS measurement approaches for determining the carrying amount of an asset (for presentation in the balance sheet) and identification of any gains and losses resulting from potential value fluctuations (for presentation in the statement of financial performance).

Table 6. IPSAS approaches for determining the carrying amount

	Cost Model	Revaluation Model	Reference
Property Plant and Equipment **/ Service Concession Asset (Grantor)**[32] **/ Finance Lease Asset (Lessee)**	Cost less any accumulated depreciation and impairment losses (Cf. IPSAS 17.43)	Fair value at the date of the revaluation less any accumulated depreciation and impairment losses (Cf. IPSAS 17.44), whereby the fair value is determined by one of the following: • Market values (e.g., land); • Reproduction cost (e.g., unique asset such as the parliament building); • Depreciated replacement cost (e.g., price of a similar asset with similar remaining service, e.g., cars); • Service unit approach (e.g., assets for which wear and tear could be linked to services such as takeoff / landing of planes on an airport runway)	IPSAS 17.42 / IPSAS 32.13 IPSAS 13.2; 17.6
Investment Property	Cost less any accumulated depreciation and any accumulated impairment losses (Cf. IPSAS 16.65)	Fair value determined by the price at which the property could be exchanged (IPSAS 16.45) without any deduction for transaction costs (IPSAS 16.46)	IPSAS 16.39 et seq.
Biological assets	Cost less any accumulated depreciation and impairment losses only if the fair value could not be measured reliably at initial recognition - Cf. IPSAS 27.34	Recognition of changes in fair value	IPSAS 27

Source: Authors based on IPSAS

Box 5. Deciding between the cost and the revaluation model

Since IPSAS contains the option of choosing either the cost or the revaluation model for subsequent measurement, deciding between them is a fundamental accounting policy decision. In making the decision, cost-benefit considerations based on user needs (i.e., level of accuracy, usability/compatibility) will need to be made.

[32] IPSAS 32 considers assets subject to a service concession as a special case of property, plant and equipment that has to be accounted as a separate class. However, for subsequent measurement the same principles apply as in IPSAS 17 (in the case of a tangible asset).

Measurement at fair value based on the revaluation approach allows drawing an accurate picture of the current service potential or economic benefit of fixed assets. Despite being more relevant for decision-making purposes, it is beneficial for GFS compilers since statistical reporting builds on current market values and/or adequate proxies. However, fair value measurement induces increased costs for conducting revaluations (e.g., through independent external valuers) and can lead to fluctuations in the value of assets.

Internationally, different jurisdictions opted for different subsequent measurement regimes. Although Switzerland applies the cost model, New Zealand has chosen the revaluation model for a significant number of asset classes of property, plant and equipment, because it wants to reflect the complete service potential of assets. Table 7 summarizes the subsequent measurement regimes of the two countries.

Table 7. Measurement approaches of selected countries

Country	Approach	IPSAS Measurement Model	Asset classes
New Zealand	Differentiated mainly according to type and purpose of assets	Cost Model	• Rail infrastructure for metro services • Electricity distribution • Other plant and equipment (e.g. motor vehicles and office equipment)
		Revaluation Model • Market values	• Land and buildings (independent valuations) • History and Library Collections (based on market assessment for similar assets and/or independent valuations)
		• Depreciated replacement cost	• Specialist military equipment • State highways • School property
Switzerland (federal level)	Prioritization of cost model	Cost Model (Cost less any accumulated depreciation and impairment losses)	In principle, the Swiss federal government valuates all balance sheet items at historical acquisition / production costs or at amortized cost, unless a standard or legal provision stipulates a different measurement basis.

Source: based on the note disclosures within the financial statements of the jurisdictions

Testing for impairment

Other than through the normal/ordinary use, an asset can also suffer from a decline in utility as a result of extraordinary circumstances (e.g., an asset becomes obsolete or diminished due to technological advances, a change in public policy, or physical damages). Thus, from an accrual perspective and following IPSAS, jurisdictions and public sector entities should assess whether there are any indications that an asset may be impaired (Cf. IPSAS 21.26; IPSAS 26.22), whereby both internal and external information sources shall be considered (Cf. IPSAS 21.27; IPSAS 26.25). However, testing for impairment is not necessary for investment property that is recognized at fair value following IPSAS 16 and for assets that are carried at the revalued amount following the revaluation model, because any impairment is already considered within subsequent measurement (Cf. IPSAS 21.10; 21.54 / IPSAS 26.73). Thus, testing for impairment and recognition of possible impairment losses is of particular relevance for property, plant and equipment for which the cost model is chosen for subsequent measurement.

A generic process for the conduct of an impairment test following IPSAS includes the steps, outlined in Figure 9.

Figure 9. Impairment Testing Process

Identification of assets that are possibly impaired

Assess whether there are any indications of impairment

- Identify whether there are any indications that an asset might be impaired in consideration of both internal and external sources of information (Cf. IPSAS 21.27; IPSAS 26.25):
  - External sources of information:
    - Cassation of the demand or need for services provided (example: school enrolment figures)
    - Significant long-term changes with an adverse effect on the entity (retrospective & prospective) in the entity's environment
  - Internal sources of information:
    - Physical damage of an asset
    - Asset becoming idle, plans to discontinue or restructure the operation, plans to dispose of an asset before the previously expected date, reassessment of the useful life of an asset as finite
    - Construction halt before completion
    - Internal reporting evidence that indicates poorer service performance of an asset than expected

Identification of an asset's recoverable (service) amount

Identify the recoverable (service) amount

- An asset's recoverable (service) amount is defined as "*the higher of an asset's fair value, less costs to sell, and its value in use*" (IPSAS 21.35; 26.31). However, it is not always necessary to determine both, as if just one of them exceeds the carrying amount (as contained in the balance sheet) an asset is not impaired and the impairment test is complete.

Identification of the Fair Value less costs to sell

- Measure the fair value based on price indices from an active market (e.g., market prices, bid, prices, sale agreement, recent transactions of similar assets) – Cf. IPSAS 21.40-43; 26.38-42.

Measurement of the value in use	• For a non-cash-generating asset, choose the best-suited approach for measurement of the value in use in consideration of data availability and nature of the impairment (Cf. IPSAS 21.50). The approaches available are: a. Depreciated Replacement Cost Approach (IPSAS 21.45 et seq.) b. Restoration Cost Approach (IPSAS 21.48) c. Service Units Approach (IPSAS 21.49) • For a cash-generating asset, the value in use is measured by discounting estimates of future cash flows in consideration of any expectations affecting these – Cf. IPSAS 26.43-45, whereby reasonable and supportable assumptions must be applied (IPSAS 26.46 et. seq.).
Ascertainment of impairment and recognition	
Compare the recoverable (service) amount with the asset's carrying amount	• To identify whether an asset needs to be impaired and to determine the amount of the impairment, the recoverable (service) amount shall be opposed to the asset's current carrying amount (Cf. IPSAS 21.52; 26.72).
Recognition of impairment	• Immediate recognition of impairment loss in surplus or deficit (Cf. IPSAS 21.54; 26.73) • Recognition of a liability if the impairment amount is greater than the carrying amount to which it relates only if required by another standard such as for example IPSAS 19, *Provisions, Contingent Liabilities and Contingent Assets*.[33] (Cf. IPSAS 21.55; 26.74)
Adjustment of depreciation charges	• Adjust the depreciation charge and ensure that the new, revised carrying amount resulting after recognition of the impairment is allocated over the remaining useful life (Cf. IPSAS 21.57; 26.75)

Source: Authors, based on IPSAS

4.3. Note disclosures

Complementary to the balance sheet and statement of financial performance, note disclosures are a key component of GPFRs and provide their users with additional information. They particularly establish transparency on the underlying assumptions of accounting estimates and methods applied in advancing to the financial reality that is being presented. Additionally, they provide further details through disaggregation of information contained in the balance sheet and statement of financial performance. Finally, disclosure notes also serve the purpose of presenting supplementary information that is not contained in the other reporting outputs but is equally necessary to advance to a comprehensive picture of financial realities.

[33] One notable example that may be cited in this matter is the one mentioned in IPSAS 21.56. Purpose-built assets such as military installations might be associated with the obligation to remove them if they are no longer used. In this case, costs for dismantlement should be recognized as a provision following IPSAS 19.

Accounting for fixed assets following IPSAS includes, inter alia (but most crucially) the disclosures listed in Table 8.

The provision of a table of changes and therewith the disclosure of any changes resulting from acquisitions and disposals provides additional transparency. Following good practice as defined and postulated by the PEFA framework (Dimension 12.3), information on transfers and disposal of assets shall be included in the budget documents and/or financial reports. Adoption of IPSAS disclosure principles and provision of respective notes to the financial statements certainly establishes the required information to the legislative branch.

Table 8. Summary of key disclosure notes complementing financial reporting on fixed assets

	Transparency and comprehensibility	**Provision of details**	**Provision of additional information**
	Methods, policies, choices and assumptions[34]	Disaggregation of information contained in the balance sheet or statement of financial performance	Disclosure of information not contained in the balance sheet or statement of financial performance
Investment Property *(IPSAS 16.85 et seq.)*	• Measurement bases used for determining the carrying amount • Asset classification criteria (i.e., those applied for distinguishing investment property from owner-occupied property and from property held for sale)	• Reconciliation of the carrying amount at the beginning and end of the reporting period including any changes and their composition[35]	• Contractual obligations related to the procurement, construction or development • Contractual obligations related to repairs, maintenance or enhancements (IPSAS 16.86)
Property Plant and Equipment *(IPSAS 17.88 et seq.)*	• Measurement bases used for determining the carrying amount • Depreciation methods including the underlying estimates and assumptions and any changes thereof (i.e., useful lives and/or depreciation rates, residual values and whether depreciation expense is recognized in surplus/deficit or in a revaluation account)	• Reconciliation of the carrying amount at the beginning and end of the reporting period including any changes and their composition • Capitalized expenditure for construction (IPSAS 17.89)	• Any contractual issues associated with an asset (restrictions, pledges, commitments for acquisition) – Cf. IPSAS 17.89

[34] Any changes in accounting policies and estimates should be disclosed according to IPSAS 3.
[35] E.g., decompose and disclose changes resulting from acquisitions and subsequent expenditure, disposals and/or gains and losses in fair value adjustment.

	Transparency and comprehensibility	Provision of details	Provision of additional information
Biological assets *(IPSAS 27.38 et seq.)*	• Measurement practice/ details of biological assets for which fair value cannot be measured reliably (Cf. IPSAS 27.52)	• Distinction according to the nature of biological assets in form of a quantified description (IPSAS 27.41), namely between (IPSAS 27.39): consumable and bearer biological assets; and those held for sale and for distribution at no or nominal charge • Reconciliation of changes in the carrying amount	• Nature of the entity's activities involving each group of biological assets (Cf. IPSAS 27.44)
Service Concession Assets *(IPSAS 32. et seq.)*	n/a	• Classification of service concession assets according to the nature of the service (Cf. IPSAS 32.33)	• Rights and obligations of the service concession arrangement (Cf. 32.32)

Notes: This table summarizes the main disclosure requirements for the fixed assets considered in this knowledge product, but should not be considered as an exhaustive list, as IPSAS provides further, more detailed stipulations.[36]
Source: Authors, based on IPSAS

[36] For a comprehensive disclosure checklist, please refer to the IPSAS Disclosure Checklist of Ernst and Young (2018) contained in the online repository of the World Bank PULSAR program: URL: https://www.pulsarprogram.org/sites/pulsar/files/libdocs/EY%20IPSAS%20Disclosure%20Checklist%202018_FINAL.pdf

5.

Making Use of Asset Information

How to make use of asset information?

Governments are accountable for the transparent and efficient use of public resources and for providing high-quality services to the broader public. Implementing good governance in the public sector creates positive spillover effects for citizens, businesses, and the environment they live in. As such, improving public sector asset management generates several benefits:

- Improvement of citizens' well-being by providing required social infrastructure for services such as health, education, housing, and social welfare
- Sustainable growth by providing essential economic infrastructure such as roads, telecommunication networks, internet connectivity, and access to electricity or potable water
- Macroeconomic stability by softening adverse effects from external shocks (e.g., natural disasters, economic downturns, health crisis) through providing well-structured and robust infrastructure and ensuring service continuity in times of crisis
- Sustainable use of natural resources through green investments which account for environmental aspects
- Generation of reliable revenue streams, capital income and return on investment

The availability of data alone, however, will not automatically lead to the policy outcomes described above. Financial and non-financial aspects must be leveraged to effectively improve decision-making.

To seize the opportunities created through the availability of comprehensive asset information, existing management instruments and systems (e.g., maintenance and/or investment plans, performance budgets) must be enriched with relevant key performance indicators (KPIs) (e.g., costs per service unit, return on investment). Any internal planning templates and guidelines should be adjusted so that current management information on assets is considered by default/automatically.

5.1. Using information to increase asset performance

Properly maintained asset registers and sound financial reporting practices are prerequisites for better informed decision-making, because they provide important financial and non-financial information regarding the nature, condition or purpose of the current asset portfolio, and associated liabilities, costs or revenues.

To leverage these information capabilities, governments need to develop a strategy for how to fruitfully integrate such measures into public policy cycles and performance management systems. Table 9 illustrates the channels through which comprehensive asset information may be leveraged to enhance various performance dimensions.

Table 9. Increasing public sector asset performance in various dimensions

	Performance Dimension
Efficiency	Increase value for money; optimize life-cycle costs; reduce asset costs; increase asset revenues
Effectiveness	Ensure/increase service delivery potential; prepare/align asset portfolio to sustainably deliver intended policy outcomes
Robustness/Resilience	Ensure/increase robustness of critical infrastructure systems to cope with unexpected events; ensure service continuity plans in the event of disruption of critical infrastructure assets
Environmental sustainability	Align/ensure asset portfolio to meet environmental policy objectives; reduce adverse impacts of public assets on environment
Use and utilization	Clarify how assets contribute to policy outcomes, citizen well-being and/or intergenerational equity; increase transparency of asset distribution over policy areas

5.2. Using information to improve PSFAM

Comprehensive asset information can also be leveraged to strengthen the basis for decision-making with respect to asset lifecycles or project stages as outlined in Table 10. To consider overall lifecycle costs or total cost of ownership, governments need to understand how the physical condition of an asset correlates with financial revenues or costs to operate and maintain them. In the case of more complex assets such as roads, bridges or telecommunication networks (which consist of various components with various useful lives and lifecycle costs), governments may find the optimal timing for maintenance or replacement to reduce overall lifecycle costs. This can only be achieved by combining financial and non-financial information on the asset.

Table 10. Increasing public sector asset performance over the lifecycle

	Project stage/lifecycle
Planning	Ensure credible project pipelines; increase financial affordability and sustainability; optimize funding sources; align funding structures with asset lifecycle
Developing	Optimize project appraisal and selection, based on cost-benefit analysis; ensure value-for-money assessment; optimize risk allocation and mitigation
Implementing	Optimize financial monitoring and project progress through rapid feedback loops; reflect changing financial needs in budgets and medium-term financial plans; adjust funding structures; build a sound basis for re-negotiation

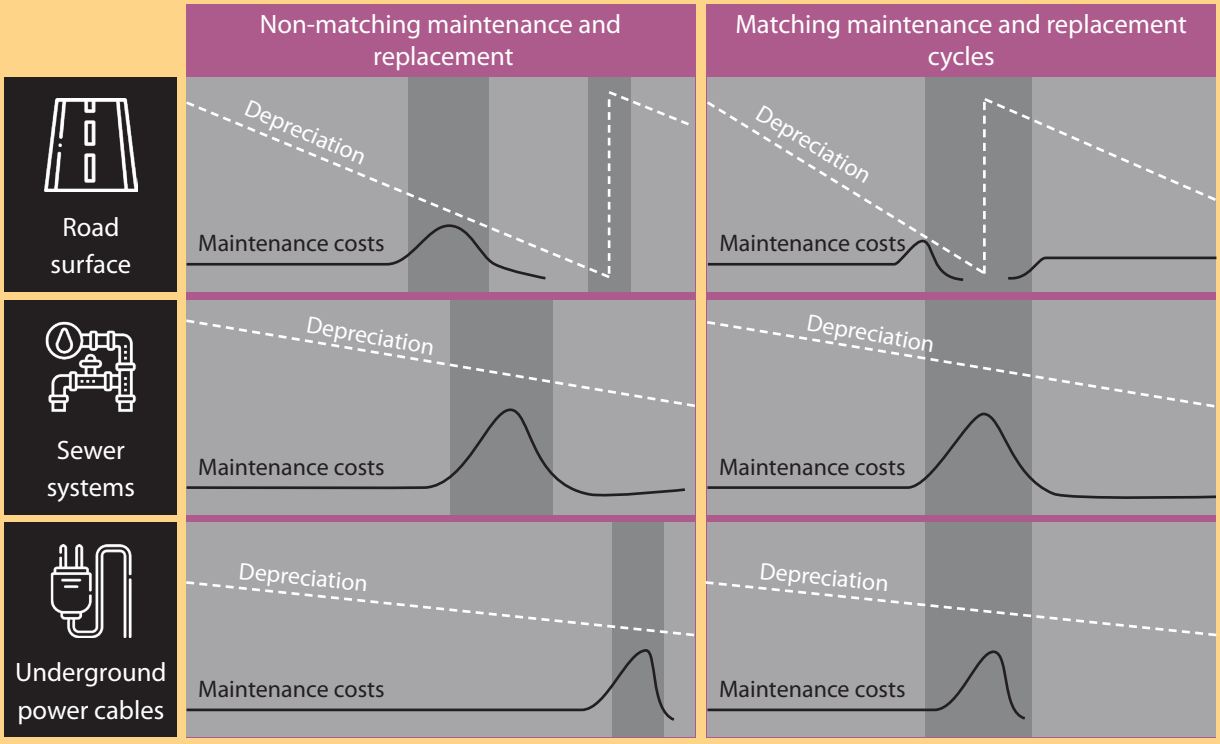
	Project stage/lifecycle
Operating and maintaining	Increase value for money; optimize lifecycle costs; reduce asset costs; increase asset revenues; adjust and monitor depreciation or impairment of assets
Disposing	Increase proceeds from asset disposal; reduce costs for asset disposal

Source: Authors based on OECD, 2020; PIMA, 2019

Box 6. Aligning maintenance and replacement cycles

Increasing the performance of public sector assets along the different lifecycle phases (from acquisition to disposal and replacement) demands adoption of a strategic approach on the operational level. To respond to current demands and to future-proof service delivery capacity, administrative and operational entities are required to track condition and deterioration of the assets in the provision of services or public goods. Under a standards-based accrual accounting system with valid estimates of the useful lives and resulting depreciation rates, key management information for the planning of maintenance activities is readily available. However, rather than planning maintenance activities for individual types of assets or components separately, an integrated perspective or a portfolio view ameliorates efficiency and bears substantial savings potential, since maintenance and replacement cycles do not necessarily correspond between interlinked assets. An example is road systems (see Figure 10), that typically consist of different components – inter alia the road surface and sewer systems / drainage.

Figure 10. Alignment of maintenance and replacement cycles



Depending on environmental conditions and use, a road may need smaller regular maintenance such as the reparation of potholes, but ultimately, after the end of its useful life, a complete resurfacing. However, maintenance of other components of a road system, such as the drainage, and of public sector infrastructure beneath the road (wastewater systems, underground power or telecommunication/ internet cables) does often not correlate in time and their respective maintenance and replacement cycles may differ substantially. After maintenance work at underground infrastructure beneath a road, a resurfacing of the road is necessary. In the stylized example above (Figure 10), where substantial maintenance of sewer systems becomes necessary in between maintenance and replacement of the road surface, it could be considered shift forward the major maintenance of the sewer system and proceed with the complete resurfacing at once.

This simple example illustrates why maintenance activities of different components and infrastructure assets should be planned on a portfolio level. However, beyond adoption of a portfolio view, an inter-organizational planning and/or information exchange is required so that the entity in charge for the road system agrees on a maintenance cycle with the entities managing other infrastructure linked to the road system (e.g., power grid).

5.3. Using asset information as basis for policy decisions

Better asset management information may not solely serve the purpose of strengthening the asset management function itself at an entity level, but serve as the basis for broader, government-wide use cases. Asset information may serve as basis for improved (fiscal) policy design and has the capacity to strengthen overall fiscal governance institutions at both the central government and entity level (see Table 11).

The New Zealand Investment Statement provides a good example of how government balance sheet management can be linked with broader policy objectives (see box below). The box illustrates how government assets and liabilities can be leveraged to contribute to citizen well-being.

Table 11. Use Cases of better asset information

	Use Cases
Central Level	
Fiscal Governance	• Strengthening of fiscal governance institutions (e.g., accrual budgeting, accrual accounting); • Monitoring of fiscal targets (e.g., enshrined in fiscal rules or frameworks) through the integration of balance sheet information (e.g., net assets/equity)
Fiscal Policy	• Assessing and shaping more resilient balance sheets; • Assessing fiscal sustainability and intergenerational equity concerns; • Strengthening of debt management and liability structure through linking assets with debt maturities; • Ensure needs-based development of infrastructure spending programs

	Use Cases
Public Policy	• Strategic optimization of asset allocation; • Maximization of value for money in the use of fixed assets; • Optimization and revision of current service delivery models/structures (e.g., make-or-buy decisions); • Challenge legacy policy objectives and instruments and rethink public duties/responsibilities;
Entity Level	
Service Delivery	• Planning and Management of maintenance activities; • Assessing the robustness/usefulness of public assets for future service delivery; • Calculation of full costs of service delivery - e.g., for monitoring and/or benchmarking purposes and pricing of service delivery (i.e., determination of fees)

Box 7. Linking citizen well-being and government balance sheet in New Zealand

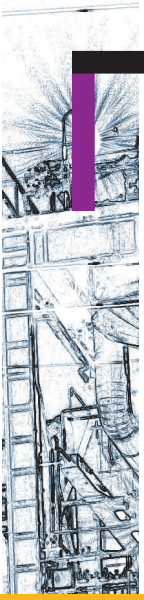
New Zealand's Public Finance Act requires the Treasury to publish an investment statement to describe and state the value of the assets and liabilities, how it has changed from the past and how it is expected to change in the future. By publishing such an investment statement, authorities acknowledge that managing the balance sheet is important for delivering public services in a way that maximizes value for money and for sustainable, resilient and adaptable public finances that will support living standards for future generations. The New Zealand Investment Statement is a strong signal that government balance sheets represent important information on welfare, which, among other resources (e.g., human, social or natural), underpin well-being over the long term. The Investment Statement covers the following main sections:

Section one – Managing the balance sheet: Sets out key principles for government balance sheet management (i.e., aligning asset portfolio with policy objectives, managing risk efficiently, sustainable financing, robust/strong systems), sets out balance sheet by numbers and provides a balance sheet stress-test against three scenarios (i.e., severe earthquake, outbreak of foot-and-mouth disease, major international economic downturn).

Section two – Assessing the performance of government investment: Introduces five performance dimensions (i.e., effectiveness, efficiency, sustainability, resilience, adaptability) which are then applied to social, financial, and commercial portfolios within the government balance sheet. Each portfolio analysis provides performance observations and a detailed commentary against the five performance dimensions.

Section three – Pursuing distant horizons: Explores and discusses important issues and challenges in further broadening the approach to assessing the effectiveness of government balance sheet management.

Source: Treasury New Zealand. 2018 Investment Statement



6.

Practice Implications and Recommendations

Asset registry and accounting are key to the conduct of PSFAM since financial reporting outputs provide decision makers with a complete picture of the financial reality and implications. This founds the basis for advancing to sound managerial and political decisions on acquisition, construction and development, operation, maintenance and disposal and replacement of assets and for optimization of value for money.

Organizational, technical, and human capacities, as described in this note, must be developed and maintained to take advantage of the full potential of public sector fixed asset management. Public sector organizations will particularly need to develop "*decision-making capacity*" by understanding information needs of public sector leaders and linking technical (asset) management information to these needs in a user-friendly manner.

Building on the results of the three sections above and the key issues and challenges discussed therein, international country experiences and good practice propositions, the following paragraphs (a.-p.) issue practice-oriented recommendations for the strengthening of PSFAM:

Record fixed assets

a. Ensure a coordinated registry process through harmonized standards and adequate enabling instruments (i.e., IT system and CoA) across government entities

b. Ensure collection of sufficiently detailed asset information within the initial asset registry process, considering IPSAS and GFS requirements and internal user needs

c. Consider type, purpose, and nature of assets in allocating asset registry and management responsibilities

d. Ensure continuous maintenance of asset registers through the periodic re-assessment of technical, legal and valuation information including, if necessary, physical inspections

Capture financial information in financial reports

a. Establish capitalization thresholds in line with IPSAS, thereby considering materiality principles with respect to different types, purpose and expected fluctuation in the value of assets

b. Ensure that capitalization thresholds match transparency, accountability, and decision-making usefulness (i.e., by revealing service potential)

c. Gradually increase financial reporting information by sequencing based on a clearly defined rationale (i.e., information needs, cost-benefit concerns, capacities)

d. Opt for consistent and efficient measurement approaches by balancing out costs and expected benefit (e.g., the desired level of accuracy) when various valuation techniques are available

e. Develop and maintain a depreciation policy aligned with the expected pattern of the consumption and expected physical wear and tear for different types of assets (e.g., provide different bandwidths of useful lives for different assets classes)

f. Establish information and monitoring systems allowing for timely and regular identification of events (e.g., policy changes, disasters) which affect reported asset values (e.g., impairment)

g. Align the impairment process and methodology with characteristics of distinct asset classes as required by IPSAS (i.e., for non-cash generating assets)

h. Harness notes to the financial statements and complement them with additional information potentially relevant for users

Make use of asset information

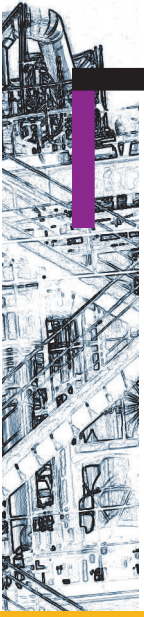
a. Build and maintain decision-making capacity by reducing the complexity of information and linking technical information to the information needs of public leaders

b. Seize controlling opportunities and develop relevant key performance indicators (KPIs) (e.g., costs per service unit, return on investment, etc.)

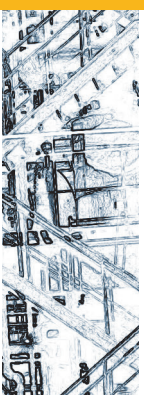
c. Integrate newly developed KPIs into existing management instruments and systems (e.g., maintenance and/or investment plans, performance budgets)

d. Enable political scrutiny through appropriate financial communication targeted to the financial literacy and information needs of users

e. Support political decision-makers in using financial reports through harnessing organizational resources, for example, the parliamentary budget office or corresponding units



Literature



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