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Practical Methodological Issues in the Valuation of Stock Positions in Nonfinancial Assets: Country Case—Uruguay

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VALUATION OF

NONFINANCIAL ASSETS

Country Case: Uruguay

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Glossary

CBU	Central Bank of Uruguay
CG	Central Government
DFA	Department of Fiscal Analysis
FB	Fiscal Balance
GFS	Government Finance Statistics
GFSAC	Government Finance Statistics Advisory Committee
GFSM 1986	Government Finance Statistics Manual 1986
GFSM 2014	Government Finance Statistics Manual 2014
GRP	Government Resource Planning
GSO	General Secretariat Office
MA	Macroeconomic Advisory
MEF	Ministry of Economy and Finance
NAO	National Accounting Office
NSPI	National System of Public Investment
NT	National Treasury
PBO	Planning and Budget Office
PE	Public Enterprises
PS	Public Sector
SIB	State Insurance Bank
SNA	System of National Accounts
SSI	Social Security Institute
TAFA	Text of Accounting and Financial Administration of Uruguay

1.   INTRODUCTION

This document has been prepared to be discussed in the Government Finance Statistics Advisory Committee (GFSAC) meeting that will take place next September about the challenges that Uruguay will have to overcome for the valuation of the stock positions of its nonfinancial assets. The content of this paper reflects the investigation and opinion of its author.

It includes a brief description of the compilation process of the government finance statistics (GFS) in Uruguay, an overview of the Project of Modernization of the GFS that has been launched recently, where the strengthening of the information systems will provide high quality source data and provide greater possibilities for an adequate valuation of the stocks of nonfinancial assets. The paper also presents the main challenges that Uruguay will have to go through to migrate towards the recommendations of the international standards, including the compilation of a full balance sheet and the valuation of nonfinancial assets.

While the paper takes stock of the current practices and the main challenges that Uruguay faces in valuating nonfinancial assets, it lists some recommendations and way forward and seeks the GFSAC views and eventual solutions that could apply to other countries undertaking this step.

2.   CONTEXT: WHY VALUATION OF NONFINANCIAL ASSETS IS IMPORTANT FROM THE POINT OF VIEW OF URUGUAY

2.1. BRIEF DESCRIPTION OF THE COMPILATION PROCESS OF FISCAL STATISTICS IN URUGUAY

For a better understanding of all aspects related to the valuation of nonfinancial assets in Uruguay, this section describes how the GFS compilation process works and what are its strengths and weaknesses as well as the identification of the responsible agencies involved.

Uruguay follows the Government Finance Statistics Manual 1986 (GFSM 1986) framework, but it does not apply a pure cash regime, and consequently, this allows the reconciliation between stocks and flows. Although the country has not yet progressed towards the implementation of GFSM 2014, it has a solid and reliable GFS system, with wide coverage for the public sector (PS).

The compilation of GFS for central government (CG), data collection as well as its subsequent processing are a joint responsibility of both the Ministry of Economy and Finance (MEF) and the Central Bank of Uruguay (CBU).

The following offices are involved:

a) Units in charge in MEF:

      a.1) General Secretariat Office (GSO)

      a.2) National Treasury (NT)

      a.2) National Accounting Office (NAO)

b) Units in charge in CBU:

      b.1) Department of Fiscal Analysis (DFA)

The Macroeconomic Advisory (MA) of the MEF, is the office responsible for the consolidation of the information provided by NT, and also responsible for the publication of the summary of the fiscal balance "above the line" of the CG, with a lag of one month. At the same time, the CBU, through its Fiscal Analysis Department, is responsible for the compilation and publication of the fiscal balance "bellow the line" of the CG, as well as the PS as a whole with a 3-month lag.

The MA of the MEF also receives fiscal data "above the line" of the main pension fund called Social Security Institute (SSI) that consolidates with the fiscal balance of the CG to produce one of the main aggregate fiscal balance in the country known as CG consolidated with SSI.

Currently, in Uruguay there is no documented methodology that describes the integral compilation process and its subsequent reconciliation in a systematic way to produce the consolidated GFS of the CG with SSI.

As for GFS of the Public Enterprises (PE), each corporation produces its financial statements that are submitted to the Planning and Budget Office (PBO) which is a unit under the Presidency of the Republic, which centralizes and reviews the general consistency according to the compilation criteria and then submits to the MA of the MEF, which is the unit responsible for the publication. As in the CG, the fiscal balance "bellow the line" is under the responsibility of the CBU.

Last but not least, as there is no "above the line" transactions for the local governments, the State Insurance Bank (SIB) and the Central Bank of Uruguay (CBU), the MA of MEF uses the fiscal balance

"bellow the line" produced by CBU for these institutions to construct the aggregates of the fiscal balance "above the line" of the public sector with the aforementioned lag of CBU. Because of that, an estimated result is considered as a proxy until the final result is obtained.

The complete balance sheet is not yet compiled in Uruguay, thus the consistency between stocks and flows is not always possible to assure. Therefore, the challenge is to improve the sources of data and a key point on this process is the adequate valuation of nonfinancial assets.

To overtake these challenges and strengthen the compilation of GFS, Uruguay has decided, starting 2018, to undertake a process of modernization and strengthening of its fiscal statistics, where the incorporation of the balance sheet approach and implementation of the GFSM 2014 are among the great challenges that the country will have to face. Therefore, the valuation of the stock positions of nonfinancial assets will be a significant task for the GFS compilers.

The following section describes the Modernization Project for of Fiscal Statistics in Uruguay.

2.2. MODERNIZATION PROJECT OF FISCAL STATISTICS

The main objective of the Project for Modernization of Fiscal Statistics is to prepare the necessary institutional framework for the compilation of fiscal statistics according to the latest international standards and enhance the coordination of all institutions and stakeholders that produce the necessary information for GFS.

The Project is considered to be the tool that will strengthen and consolidate the modernization of GFS in Uruguay. The project aims to create a specific unit in charge of GFS, that will be the expert agency in charge of the compilation of GFS for the whole PS. Likewise, it is expected that in the short term, some pilot experiences will be undertaken in order to generate fiscal statistics of some agencies and develop a database and a platform where the information is loaded and intra and inter-agency consolidations of PS will be carried out.

Also, the GFS unit will be in charge of the coordination between different data suppliers to ensure consistency of methodology and standards adopted in the production of information and the analysis of innovations that arise over time in terms of instruments, coverage, registration criteria, etc.

2.3. MIGRATION PATH TOWARDS GFSM 2014

One of the phases of the Project of Modernization of Fiscal Statistics in Uruguay is the development of a migration path towards updated international recommendations and for that it will be necessary to set a roadmap towards the implementation of the GFSM 2014 methodology.

The first step to follow will be the evaluation proposed by the Data Quality Assessment Framework (DQAF) of the IMF Statistics Department (STA), which proposes a self-evaluation by those responsible for the compilation of the GFS to identify the gaps.

In this regard, it is evident that the preparation of balance sheets and, therefore, the adequate valuation of nonfinancial assets will be one of the great gaps in this process.

3. CONCEPTUAL ISSUES: VALUATION OF NONFINANCIAL ASSETS OF PUBLIC SECTOR

The recommendation of the GFSM 2014 regarding the valuation of nonfinancial assets is clear, **it establishes the valuation of all nonfinancial assets at current market values.** However, in practice, nonfinancial assets depreciate in value over time due to their use, and the second-hand markets, from which one could derive market prices for assets of different ages, are often non-existent. So, the most important practical and conceptual issues in this area are **alternative ways to find data sources** to be used, and this is even more challenging due to the diversity of nonfinancial assets that the wide public sector has in many countries.

Uruguay has a large public sector, which covers diverse entities from health to the main universities in the country that is under the general government. In addition, an important group of commercial and industrial companies are under the control of the Uruguayan government, such as providers of electricity, potable water, refining and commercialization of fuels, making that the nonfinancial assets that the country has are numerous and diverse.

Due to the difficulty of finding market values for the diversity of non-financial assets of the public sector, the use of other information systems for the same coverage, such as the System of National Accounts (SNA) and public accounting guides, is essential.

While reviewing the literature, and according to the analyses carried out on some guides and manuals regarding the subject of study, the most relevant material found proposes different valuation options according to the information available for that specific asset.

According to the valuation guidelines proposed by the New South Wales Treasury of Australia the first best option is to measure considering the most appropriate use of nonfinancial asset as long as the country do not have socio-political restrictions for that nonfinancial asset. The best alternative for this is to search in the market if there is a "*liquid*" price available for that asset. In the case of not having that liquid price, a recent transaction of the same asset or a similar asset in use, type and conditions of the same can be used, thus estimating the current market price.

If the aforementioned information is not available, another option could be to evaluate if that asset is part of cash generating operations and can be estimated correctly. If so, the lowest can be taken between the sum of the market prices of the individual assets and the market value of the cash generating operation. For the appropriate estimation of the cash generating operation, the opinion of the market will be used, except in two cases: *i)* when the market is imperfect or *ii)* it does not have sufficient knowledge about the nature of the operation, and in these two cases the management's expectations on these flows would be used.

On the other hand, if the asset is not part of cash generating operation. The assets could be measured at market buying price, the best indicator of which is the replacement cost of the asset's remaining future economic benefits (which is not necessarily the cost of replicating the asset).

Replacement cost is defined in Statement of Accounting Practice SAP1 Current Cost Accounting (SAP1) as follows:

"The minimum that it would cost, in the normal course of business, to replace the existing asset with a technologically modern equivalent new asset with the same economic benefits, allowing for any differences in the quantity and quality of output and in operating costs".

The application of SAP1 imposes three requirements or steps in determining optimized replacement cost:

1. The replacement cost of an asset is to be determined, not by reference to the lowest replacement cost of an identical asset, but by reference to the lowest cost of replacing the economic benefits embodied in an existing asset with a modern equivalent asset.

2. Second, the minimum replacement cost is to be adjusted for overdesign, overcapacity and redundant components (termed optimization).

3. Optimization is limited to the extent that this can occur in the normal course of business using commercially available technology (termed "incremental optimization").

Another relevant issue in the valuation of nonfinancial assets is the concept of "*the highest and best use*" of them, because in the public sector, there might be socio-political restrictions that do not allow another possible use for that asset.

Generally, the valuation of nonfinancial assets is one of the most problematic and challenging areas in the preparation of balance sheets. A few countries such as Australia and France have a fairly complete set of balance sheets, although their statistics contain information gaps. Most countries within the OECD have estimation of their non-financial assets based on the Perpetual Inventory Method (PIM) in the context of the national accounts, being another source of valuable information to find the market value of non-financial assets for GFS. Finding the main difficulty in the measurement of nonproduced assets category of nonfinancial assets.

The perpetual inventory method (PIM) produces an estimate of the stock of fixed assets in existence and in the hands of producers by estimating how many of the fixed assets installed as a result of gross fixed capital formation undertaken in previous years have survived to the current period.

The PIM starts with an estimation of the gross capital stock to apply a depreciation function and calculate the consumption of fixed capital to obtain the net capital stock. This net capital stock is obtained by subtracting accumulated capital consumption from the gross capital stock. As I said, PIM requires the direct estimation of depreciation from which the net capital stock is obtained indirectly. However, exists an alternative that consists to start estimating age-efficiency for each type of assets which are then used to generate age-price profiles for these assets. With this age-price profiles can directly estimate the net capital stock from which depreciation is obtained indirectly.

The basic requirements to apply the PIM to estimate the Gross Capital Stock are:

- An initial benchmark estimates of the capital stock.
- Statistics on gross fixed capital formation extending back to the benchmark, or, if no benchmark is available, back over the life of the longest-lived asset.
- Asset price indices.
- Information on the average service lives of different assets.
- Information on how assets are retired around the average service life (mortality functions).

With an estimation of Gross Capital Stock, we can deduce the accumulated consumption of fixed capital to have the estimation of market values for the assets. The commonest ways to calculate the consumption of fixed capital are "straight-line depreciation", "geometric depreciation" and "sum of the year´s digits depreciation".

A further source of information used for the preparation of this paper was the IMF Fiscal Monitor on Public Wealth Management of October 2018, which indicates that non-financial assets on the balance sheet should be presented with the following opening: fixed assets, land, mineral and energy resources, and other non-financial assets. In spite of not having information on the estimation of non-financial assets, it should be presented in the lines indicated above as "not available" to ensure the correct cross-country comparability.

Annex Table 1.2.1. Composition of the Public Sector Balance Sheet

Assets	Liabilities
Nonfinancial assets	Special drawing rights
Fixed assets	Currency and deposits[2]
Land	Debt securities
Mineral and energy resources[1]	Loans
Other nonfinancial assets	Equity and investment fund shares[3]
Financial assets	Insurance, pension, and standardized guarantee schemes
Monetary gold and special drawing rights	Pension entitlements
Currency and deposits	Claims of pension funds on pension managers
Debt securities	Other insurance, pension, and standardized guarantee scheme liabilities
Loans	Financial derivatives and employee stock options
Equity and investment fund shares	Other accounts payable
Insurance, pension, and standardized guarantee schemes	
Financial derivatives and employee stock options	
Other accounts receivable	**Net Worth (= Assets – Liabilities)**

[1] This category includes both "mineral and energy resources" or "permits to use natural resources," as relevant for each country.
[2] Includes bank notes and coins issued. These are normally reflected in the balance sheet of the central bank, but in some cases also the central government's, depending on country-specific arrangements for the issuance of currency. In exceptional cases, countries may allow designated commercial banks to also issue currency under the authorization of the central bank, but this is unusual.
[3] In the *Government Finance Statistics Manual 2014* conceptual framework, corporations' liabilities in the form of "equity and investment fund shares" is equal to the value of its shares at current market prices. Where a public corporation is fully owned by the government or the market value of shares cannot be observed because they do not trade in the market, the value of equity and investment fund shares is calculated as a residual (assets minus liabilities other than equity), so that the statistical net worth of such a corporation is zero. Therefore, own funds of public corporations are equal to the value of equity and investment fund shares plus net worth.

The above-mentioned disaggregation is important in order to be able to separate non-financial assets that could follow a more precise valuation from others that are more difficult to estimate.

As indicated at the beginning of this section, considering the valuation criteria proposed by public or private accounting standards will be very useful to find other sources of information for the valuation of nonfinancial assets.

4. DATA AVAILABILITY: DATA SOURCES, PRINCIPAL CHALLENGES, AND FUTURE PLANS

The available data sources are diverse and have different degrees of strength depending on the institutional coverage.

4.1. CENTRAL GOVERNMENT

Currently, the CG only has information on the execution of the national budget with measurements of its different stages and cash transactions. Lacking at the date of patrimonial accounting. The tool that provides the mentioned information is the Financial Information System of Uruguay, known as SIIF, which is still in a reengineering process.

Likewise, some ministries of the national budget have begun to implement or are developing systems known as Government Resource Planning (GRP), which is a key tool for the management of assets and liabilities.

4.2. PROJECT FOR THE REENGINEERING OF THE SIIF SYSTEM AND ITS REPORTABILITY

The Integrated Financial Information System has been a valuable tool for the management of public finances, following up the budget process.

However, it has not been able to follow in a proper way the changes in the management of public finances over the last fifteen years, which adds to shortcomings such as modules that are not functional reports of little use to respond to the current information needs.

For this reason, the MEF has committed to redesign the SIIF. In 2014, it began with the requirements survey phase for the design of the new system, and in 2017 the public bidding documents for its implementation were published.

The new SIIF will be a system used to record daily budgetary transactions, accounting, treasury transactions and debt service transactions, made as a result of the usual operations of the public finance administration.

These reports linking budget and financial transactions will be a powerful tool for the preparation of a complete balance sheet. So, in this context of progress will be necessary think about the adequate measurement and valuation of nonfinancial assets.

The new system will allow the construction of a complete balance sheet for the CG, which is currently not available. It is expected to be able to parameterize in a way that incorporates the valuation criteria commenced by the GFSM 2014.

A possible approach would be to use the accounting information as a reference, identifying the differences between the valuation proposed by IPSAS and GFSM 2014, because IPSAS use fair value, historic cost and other bases and GFSM 2014 measurement is restricted to current values.

4.3. GOVERNMENT RESOURCE PLANNING

The management of public finances in Uruguay has experienced various changes in recent years. In particular, advances in information and communication systems are becoming increasingly important in the search of a more efficient and effective management of the organizations.

Similarly, the growing professionalization of the public administration, together with the promotion of greater transparency and dissemination of information, seems to foster a favorable scenario for the adoption of new ways of operating and keeping the information updated and accurate.

Most of the administrative reforms are associated with the use of management technologies, essentially by electronic government, in order to favor the search for efficiency and transparency and take advantage from digital tools.

The electronic government has become the essential means of streamlining administrative activities and has also become important in other management actions such as reducing costs, making processes more efficient, increasing the agility of government decisions and monitoring programs and policies, as well as its agents.

The Government Resource Planning (GRP) is an integrated management system for resource planning and management, which includes budgetary, financial, accounting and logistics information. It is intended to meet the needs and requirements of public sector organizations. The aim is to create an operating model that integrates the most common administrative applications in accordance with the regulations used in public administration.

The GRP seeks to respond to the needs of information by allowing access to a single, centralized and integrated database, avoiding repetitive tasks and improving real-time communication between all areas, facilitating the decision-making process.

It also seeks to standardize processes, makes them more efficient and promotes good practices in the government. These processes use very high standards, and solid development criteria, supporting the regulations and simplifying to the agencies the task of adjusting their operations to the restrictions required by the regulations in Text of Accounting and Financial Administration of Uruguay (TAFA).

The use of the GRP changes the purely budgetary vision, reflecting in the balance of budget execution only the facts that have an impact on the approved budget, passing to a double entry accounting, with the possibility of issuing complete financial statements and a more efficient management by the ministries.

Therefore, the possibility of arriving at an equity accounting with complete balance sheets including data on nonfinancial assets constitutes a great step towards the elaboration and compilation of fiscal statistics that allow the policymakers to make better decisions taking into account integrated and appropriate information.

4.4. NATIONAL SYSTEM OF PUBLIC INVESTMENT

Another possible source of information for the preparation of inventories of nonfinancial assets and their adequate valuation could be the National Public Investment System (NSPI).

The NSPI is a government instrument that allows the best use of public resources for investment. For this purpose, the NSPI applies a set of principles, technical standards, methods and procedures for the formulation, evaluation and execution of Public Investment Projects in the country. Its main objective is to improve the quality of public investment, contributing to the execution of the most profitable investment options from the socioeconomic and environmental points of view for the country.

The purpose of evaluating an investment project is to analyze each possible solution, contributing to the choice of the one that generates the greatest benefits. It can be done from a financial, economic or socioeconomic perspective.

4.5. MAIN CHALLENGES FOR THE VALUATION OF NONFINANCIAL ASSETS OF THE CENTRAL GOVERNMENT

The challenges for the valuation of nonfinancial assets of the CG in Uruguay are big and have a long way to go that begins with the construction of its inventory. As indicated above, the possible sources of information for preparing a complete inventory of nonfinancial assets could be the GRPs of the executing ministries that have them, the new SIIF and the NSPI because the CG does not compile a complete balance sheet.

Once the measuring and construction of the inventory stage has been completed, the valuation process would follow. For Uruguay, it will be an important challenge because the country does not have a complete balance sheet to apply IPSAS standards, therefore, it will not be possible to make use of their convergence with the requirements of the GFSC 2014 methodological framework.

In the coming years it is expected with the support of the new information systems to have a complete balance sheet as mentioned above. It is also expected to begin discussing the criteria for the valuation of non-financial assets for the GFS.

4.6. PUBLIC ENTERPRISES

The sources of information for the compilation of a balance sheet of public enterprises enable the discussion about the proper valuation of nonfinancial assets are more robust than the sources available to the CG. All public companies have equity accounting and therefore, present their financial statements in accordance with the appropriate accounting standards in Uruguay, established in Ordinance No. 89 of the Court of Auditors.

The aforementioned ordinance establishes that the accounting standards that must be applied for the presentation of the financial statements according to the accounting unit are:

- The International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB)
- The International Financial Reporting Standards for Small and Medium-Sized Entities (IFRS for SMEs) issued by the International Accounting Standards Board (IASB)
- The International Public Sector Accounting Standards (IPSAS) issued by the International Financial Accountants (IFAC) in force at the beginning of each fiscal year.

The regulations in force at the beginning of each financial year must be used.

Generally, independent accounting firms audit the balance sheets and in the vast majority, they do not present valuation problems according to the appropriate accounting standards.

4.7. MAIN CHALLENGES FOR THE VALUATION OF NONFINACIAL ASSETS OF PUBLIC ENTERPRISES

For the valuation of nonfinancial assets of public companies, the challenge will be to adapt the valuation proposed by the accounting standards to the recommendations of the GFSM 2014.

It will be necessary to analyze the accounting balances, in particular, identify the accounting standards used to determine their valuation criteria and, in this way, make the corresponding adjustments to achieve the valuation according to the criteria proposed by GFSM 2014.

4.8. LOCAL GOVERNMENTS

There is no information on the line of local governments, as described in point 2.1. Although a financial information system for local governments is under development, it is not expected in the short term that it will provide information on nonfinancial assets and therefore, this document will not address this coverage.

5. KEY QUESTIONS FOR DISCUSSION BY THE COMMITTEE

After presenting the situation in Uruguay regarding the GFS and the information available for the valuation of nonfinancial assets, this section summarizes a set of key questions to be discussed in the Committee. Discussion is expected to contribute to share knowledge and experiences for a better design of the Uruguay's roadmap towards the migration of the GFS according to the indications of the GFSM 2014 that could also apply to many other countries in the same situation.

Question 1: In the short-term, Uruguay will have a governing unit in charge of GFS, which raises the question for the country who will be the most appropriate agency that will perform the valuation of the nonfinancial assets: the governing unit or each agency that owns those assets?

Question 2: Regarding the CG in Uruguay that does not have balance sheets or accrual accounting, the sources of information available will be adequate to obtain the necessary information to prepare the inventory of nonfinancial assets and their valuation?

Question 3: With respect to public enterprises in Uruguay, considering the many activities they carry out and, therefore, the many nonfinancial assets, could capital accounting be the source of information?

Would it be possible to work on the convergence between the accounting rules of private activity and the GFSM 2014?

Question 4: After completing the inventory of non-financial assets and their proper valuation, how often should the valuation be reviewed? How often should the criteria used to determine the market value of each type of asset be reviewed?

Optional

Question 5: A relevant concept to discuss is the most appropriate use of a non-financial asset.