IMF ADVISORY COMMITTEE ON GOVERNMENT FINANCE STATISTICS (GFSAC)

PRACTICAL METHODOLOGICAL ISSUES IN VALUATING STOCK POSITIONS IN FINANCIAL ASSETS

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CONTENTS

LIST OF ACRONYMS

BSA	Balance Sheet Analysis
CD	Capacity Development
DSA	Debt Sustainability Analysis
FY	Fiscal Year
IPSAS	*International Public Sector Accounting Standards*
IVS	*International Valuation Standards*
GFS	Government Finance Statistics
GFSM 2014	*Government Finance Statistics Manual 2014*
IMF	International Monetary Fund
PSDS	*Public Sector Debt Statistics Guide for Compilers and Users*
SNA	System of National Accounts
2008 SNA	*System of National Accounts 2008*
STA	Statistics Department of the IMF

EXECUTIVE SUMMARY

A prerequisite for utilizing data compiled according to the GFS analytical framework for fiscal analysis, including debt sustainability analysis (DSA) that focuses on net rather than gross debt and intersectoral balance sheet analysis (BSA), is the derivation of robust financial balance sheet information.

However, GFS Capacity Development (CD) engagement across a variety of developing and emerging market economies has highlighted the challenges that national authorities encounter Progress among developing and emerging market economies in deriving reliable measures of Net Financial Worth and Net Debt for the consolidated general government sector remains slow. Among the approximately 130 countries that report annual GFS series to IMF Statistics Department (STA), 66 countries reported stock positions in financial assets for fiscal year 2017. Moreover, several of the reporting countries are providing data for either budgetary or consolidated central government.

Financial assets and liabilities should be valued as if they were acquired in market transactions on the balance sheet reporting date. Market values for financial instruments other than debt securities are not generally available and exceptions are made for deposits and loans, which are typically recorded at nominal value. While it is recognized that market valuation enables a full reconciliation with data from counterparties of government (which typically value their holdings at market value), and is thus an instrument for cross-checking intersectoral consistency, it might not be helpful for fiscal sustainability analysis.

In addition, statistical and accounting standards contain certain recommendations on valuing nonperforming loans provided by the government and untraded equity. Despite existing guidance, countries have indicated constraints in implementation. Among these, the actual value of the government's loan portfolio and the equity positions in enterprises as presented in Annual Financial Statements sometimes reflect political economy considerations rather than GFS/SNA and IPSAS guidance. This may limit their analytical usefulness when used "as is" on a GFS financial balance sheet.

INTRODUCTION

Governments have several reasons to hold – and to adequately manage – financial assets. Most governments own policy-related debt securities, loans, and equity to support strategic corporations or help particular industries. Governments may provide loans to carry out social projects (e.g., student loans or loans for housing). For liquidity management purposes governments may set aside financial assets, to ensure payments of future social benefits, such as those related to pensions for government employees or the society at large. Additionally, accounts receivable reflecting differences between cash receipts and government revenue need to be managed carefully. For example, in the case of weak tax collection, these amounts may warrant additional scrutiny resulting in adjustments to the stock position in accounts receivable.

The GFS analytical framework is focused on both the impact of economic events on the finances of government and – conversely – the impact of government activities on the economy through taxing, spending, borrowing and lending. Understanding these impacts requires, inter alia, robust measures of Net Financial Worth, i.e., the total value of financial assets minus total value of outstanding liabilities of an institutional unit (or grouping of units) as well as Net Debt.

The financial accounts of the general government sector record how a government's deficit (net borrowing) is financed or how the surplus (net lending) contributes to finance other sectors of the economy. Governments' funding requirements can affect the availability of financial resources to other domestic borrowers or mean that government must rely on foreign financing. GFS should also highlight funding that the government may provide to other sectors of the economy; for example, for its public corporations (in the form of loans) or for the acquisition of financial assets (in the form of equity). In this regard, developing comprehensive financial balance sheets for the general government sector, and strengthening their relationship with – and usefulness to – sustainability analysis is a key consideration.

The concept of fiscal sustainability concerns a situation in which a government is expected to be able to continue servicing its debts in the long run and to sustain its current spending, tax and other policies, without defaulting on some of its liabilities or promised expenditures, or by relying on unrealistically large future corrections to the balance of revenue and expenditure. One key issue pertaining to sustainability concerns the valuation base for the debt stock and which debt measure is more adequate to analyze fiscal sustainability: debt at market prices (in line with GFS/SNA balance sheets), nominal gross debt, net debt, net financial worth or some other measure, such as debt net of highly liquid assets.

The IMF is increasingly looking at net debt and its measurement. However, in deriving useful net debt measures, for many emerging market countries that have yet to fully adopt either GFSM 2014 or the 2008 SNA, further consideration of how stock positions in financial assets are determined may be warranted. While it is recognized that market valuation enables a full reconciliation with data from counterparties of government (which typically value their holdings at market value), and is thus an instrument for cross-checking intersectoral consistency, it might not be helpful for fiscal sustainability analysis.

CD across a wide range of emerging market countries has highlighted inconsistencies in relation to the application of specific rules for the valuation financial assets. In particular, determining the actual balance sheet value of the loan portfolio and/or the equity stakes of government in unlisted public corporations, which are without a private equivalent, can be problematic. Since the specific approach to take will depend on the amount and quality of the information available, this paper is aimed at 1) developing a better understanding of the obstacles and opportunities facing developing and emerging market economies; and 2) providing recommendations on common problematic areas.

GENERAL GUIDELINES FOR VALUING FINANCIAL ASSETS

A. Statistical Standards

To distinguish what flows and stocks should be included in the national accounts, the 2008 SNA applies specific "boundaries". In this context, the "asset boundary" is of direct relevance to GFS financial accounts and balance sheets, as it provides a definition to determine which items should be included. The 2008 SNA states that "assets {...} are entities that must be owned by some unit, or units, and from which economic benefits are derived by their owner(s) by holding them or using them over a period of time" (2008 SNA, paragraph 1.46). Economic ownership rights entitle the owner(s) to claim benefits associated with the use of the asset in economic activity, by virtue of accepting the associated risk. For governments, these rights must be both established and enforced across a (potentially) broad spectrum of financial assets. Financial assets, for the most part, represent a claim on another institutional unit and entitle the holder to receive an agreed sum at an agreed date.

Of the eight major GFS/SNA financial instrument categories, there are four main types of assets that are usually held by the general government sector. The first category relates to currency and deposits, which is perhaps the most easily tracked if sectorization used in compiling the monetary and financial statistics is reliable. The second category concerns loans made to other countries or to domestic corporations. The third is debt securities, often held by social security funds or other general government subsectors. The final is equity, reflecting the participation of government in corporations. The other types of financial assets – monetary gold and SDRs; insurance, pensions and standardized guarantee schemes; financial derivatives and employee stock options; and other accounts receivable – are usually of lesser significance, although they may be important in particular countries.

An important GFS (and SNA) accounting rule is that, in general, flows and stocks are recorded at the prices at which they could be acquired or disposed of at the reporting (balance sheet) date. With regard to financial assets (and liabilities) this means that they should, in principle, be valued as if they were acquired on the market at the reporting date. However, exceptions are made for

deposits and loans, which are typically recorded at nominal value, i.e., the amount the debtor owes to the creditor, which consists of the outstanding principle and any accrued interest. Appendix I provides an overview of the valuation that should be applied for the various financial instruments in macroeconomic statistics.

Observable market prices represent an ideal basis to value financial assets. A possible option in estimating the current market price could be to use a price averaged over all transactions in a market if the market is one on which the items in question are regularly, actively and freely traded. When there are no observable prices because the items in question have not been purchased or sold on the market in the recent past, SNA 2008 recommends estimating what the prices would be were the assets to be acquired on the market on the date to which the balance sheet relates.

In addition to values observed in markets or estimated from observed prices, values may be approximated either by accumulating and revaluing acquisitions less disposals of the type of asset in question over its lifetime or by calculating the present, or discounted, value of future economic benefits expected from a given asset. With good information and efficient markets, the values of the assets obtained by accumulating and revaluing transactions should equal, or at least approximate, both the present, or discounted, value of the remaining future benefits to be derived from them and their market values when active second-hand markets exist.

For many emerging markets, the data sources that are used as input for the compilation of GFS financial accounts – often Annual Financial Statements that have been prepared in accordance with the provisions of national legislation, such as a Public Finance Act - and balance sheets are usually not yet fully in line with GFSM 2014 (or 2008 SNA) standards. As such, some adjustments usually need to be made first, before integrating the various potential sources in the GFS analytical framework.

Different types of information (with regard to the level of instrument detail, counterparty information, stock versus flow data, etc.) may have undergone different types of adjustments, and differ in quality, meaning that compilers often need to strike a balance. This often involves weighing the reliability of various data sources, discussing possible reasons for any differences, making decisions on which information to use and simultaneously adjusting the information in the GFS framework to arrive at full (or close to full) consistency in the presentation of stocks and flows.

In this process, many countries have taken a so-called building block approach in which they start from information on the government sector(s)/subsector(s) instruments that are deemed most reliable, and then supplement this information with counterparty information and information from various financial reports and surveys to complete the financial accounts and balance sheet of government.

B. Accounting Standards

GFSM 2014 recognizes the close relationship between the GFS reporting guidelines and the International Public Sector Accounting Standards (IPSASs). International developments in statistical methodology and accounting standards for the public sector have been coordinated over recent years, to improve government reporting and fiscal transparency. However, some conceptual differences remain between the two reporting frameworks, including valuation (measurement) differences for certain types of assets and liabilities.

IPSAS 41 *Financial Instruments* establishes specific requirements for classifying, recognizing and measuring financial instruments. The standard was issued in August 2018. IPSAS 41 is based on IFRS 9 *Financial Instruments* taking into consideration the unique characteristics of public sector entities and focusing on the issues specific for the public sector, such as concessionary loans, transactions with a non-exchange component, valuation of unquoted equity instruments and other issues.

Financial instruments are contracts that give rise to both a financial asset in one entity and a financial liability or an equity instrument in another. IPSAS 41 distinguishes three types of financial instruments: financial asset, financial liability, and equity instrument. A financial asset is cash, an equity instrument of another entity, or a contract to receive cash at a future date.

According to IPSAS 41, at initial recognition an entity shall measure a financial asset at its fair value. In case of short-term receivables an entity may use the original invoice amount if the effect of discounting is immaterial. In subsequent measurement an entity shall measure a financial assets at (i) amortized cost, (ii) fair value through net assets/equity, and (iii) fair value through surplus or deficit. The fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. This is similar to the basis for market price used in GFS.

The amortized cost of a financial asset is the amount at which the financial asset is measured at initial recognition minus the principle repayments, plus or minus the cumulative amortization using the effective interest method of any difference between that initial amount and the maturity amount and adjusted for loss allowance.

The fair value of a financial instrument at initial recognition is normally the transaction price. In some cases, the fair value can be estimated, using a valuation technique. For example, the fair value of a long-term loan or receivable that carries no interest can be measured as the present value of all future cash receipts discounted using the prevailing market rate(s) of interest for a similar instrument with a similar credit rating. Any additional amount lent is an expense or a reduction of revenue unless it qualifies for recognition as some other type of asset.

C. International Valuation Standards

The International Valuation Standards (IVS) are standards for underlining valuation assignments by professional valuers who possess the necessary technical skills, qualifications, ability and experience to execute a valuation. In some countries, licensing is required before one can act as a valuer. IVS contain the IVS Framework, the General Standards (IVS 101-IVS 105), and the Asset Standards (IVS 200-IVS 500).

According to IVS 104, a valuer is required to select the appropriate basis of value. Bases of value (sometimes called as standards of value) describe the fundamental premises on which the reported values will be based. IVS 104 defines the following bases of value: Market Value, Market Rent, Equitable Value, Investment Value/Worth and Synergic Value. In addition, according to IVS 105, there are three principal valuation approaches: market approach, income approach, and cost approach. Each of these valuation approaches includes different, detailed methods of application (for more detail on bases of value, valuation approaches and methods see Appendix II).

Although no one approach or method is applicable in all circumstances, price information from an active market is generally considered to be the strongest evidence of value. Even in circumstances where the market approach is not used, the use of market-based inputs should be maximized in the application of other approaches (e.g., market-based valuation metrics such as effective yields and rates of return). Price information from an inactive market may still be good evidence of value, but subjective adjustments may be needed.

The valuation principles described in the General Standards apply to valuation of financial instruments, defined as contracts that create rights or obligations between specified parties to receive or pay cash or other financial consideration. The Asset Standard IVS 500 includes modifications, additional requirements or specific examples relating to valuation of financial instruments. The various valuation methods used in financial markets are based on variations of the market approach, the income approach or the cost approach. When using a particular valuation method or model, it is important to ensure that it is calibrated with observable market information. Such information includes prices from recent transactions in the same or a similar instrument, quotes from brokers or pricing services, credit ratings, yields, volatility, indices or any other inputs relevant to the valuation process.

IVS 500 draws special attention to credit risk adjustments in valuing a financial instrument and proposes some factors that need to be considered, including counterparty risk, default protection arrangements, and other factors. For instance, the greater the value and liquidity of the asset(s) to which the holder of an instrument has recourse in the event of default, the lower the overall risk of the instrument due to increased recovery.

REPORTING FINANCIAL ASSETS IN THE GFSY

Among the approximately 130 countries that report annual GFS series to STA, 66 countries reported stock positions in financial assets for fiscal year 2017, although there are wide variations in the instruments reported and their valuation, particularly among emerging market countries.

A. Instrumental Coverage

Figure 1 below presents the composition of financial assets held by select reporters of annual financial balance sheet data, with particular emphasis on non-EU Member State countries that may not have fully implemented SNA/GFS recommendations but nonetheless report financial balance sheet data since before the financial crisis. Peru, notably, only reports stock positions in currency and deposits, although the nonfinancial public sector is large. Similarly, the lack of any equity positions for Brazil, which report loans as assets, implies incomplete information on the full asset portfolio, although the reported data on the corresponding financial transactions are consistent with the stock positions. Appendix 1 provides an overview of all current (FY 2017) reporting countries, distinguishing sectoral coverage, as relevant.

Composition of general government financial assets, by instrument, 2007-2017
Percentage of total financial assets
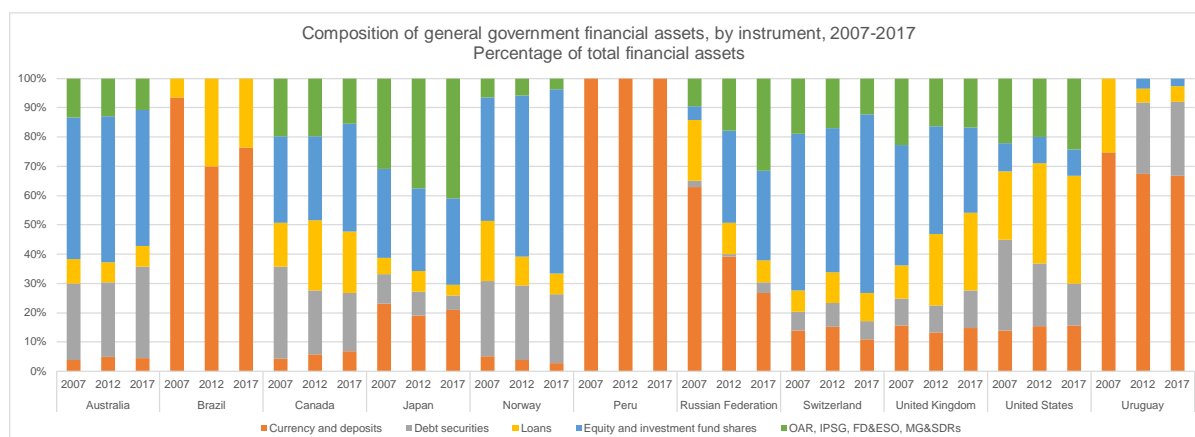
The data also shows how the composition of the assets held evolves over time. For example, in Russia, stock positions in currency and deposits has declined while government equity holdings and accounts receivable have increased. Cross-referencing the stock positions with the reported transactions in financial assets, also reveals that there are sometimes inconsistencies. For example, while negligible, Peru reports some transactions in debt securities as financial assets although these do not appear on the balance sheet. In the case of Uruguay, equity and investment fund shares were first reported in 2009.

B. Metadata on Valuation

Annual GFS data contains the information about the valuation methods used for each subsector of government reported. A shortcoming of the metadata on valuation is that it refers to financial assets generally, rather than to specific instruments. Although this level of disclosure can be appropriate for countries that have fully implemented SNA and GFSM 2014, the analytical usefulness in the context of emerging market countries may be limited since different instruments may at face, nominal, market or another valuation. Appendix III summarizes, with reference to the latest annual data reported (generally for calendar or fiscal year 2017), the valuation technique applied by the national authorities.

VALUATION OF NONPERFORMING LOANS AND UNTRADED EQUITY

A. Existing GFS Guidance

Nonperforming Loans

GFSM 2014 stipulates that a loan is a financial instrument that is created when a creditor lends funds directly to a debtor and receives a nonnegotiable document as evidence of the asset. Since lending for policy purposes has a different motivation from commercially motivated lending, GFSM 2014 recommends separating out policy-related loans. It also provides an "overall fiscal balance" as a supplementary fiscal indicator, where additional policy lending is treated as an expense rather than as a transaction on the financial accounts.

Concessional loans at lower than market interest rates or other favorable terms are still loans as they involve effective financial claims that government expects to be repaid. If some lending is not representing an effective financial claim, it should be reclassified as expense (typically, as capital transfer). An "effective financial claim" is understood to be a claim that is supported by a contract between the debtor and creditor, or (especially in the case of governments) an agreement, with a reasonable expectation to be honored, that the debtor will reimburse the creditor.

According to GFSM 2014, nonperforming loans are those for which (i) payments of principal and/or interest are past due by three months (90 days) or more; or (ii) interest payments equal to three months (90 days) interest or more have been capitalized (reinvested to the principal amount) or payment has been delayed by agreement; or (iii) evidence exists to reclassify a loan as nonperforming even in the absence of a 90-day past due payment, such as when the debtor files for bankruptcy. SNA 2008 recommends a flexible interpretation of this definition, taking into account national conventions on when a loan is deemed to be nonperforming.

The amount of nonperforming debt outstanding remains a legal liability of the debtor and interest should continue to accrue, unless the liability has been extinguished (e.g., by repayment or as a result of a bilateral arrangement between debtor and creditor). The unilateral writing off debt by creditor should be recorded in the other changes in the volume of assets. The unilateral repudiation of debt by a debtor is not a transaction and is not recognized in the SNA or GFS.

Internal accounting provisions of the creditor for the possibility of default (such as adjustments to fair value of nonperforming loans) should be distinguished from recognition that the debt is uncollectible. Although such provisions may be useful for analysis, they do not mean that the debt should no longer be recognized as existing and should therefore not be considered as written off. In contrast, a reduction in a financial claim by mutual agreement between the creditor and debtor is a transaction rather than an other change in the volume of assets.

GFSM 2014 recognizes that nominal value (i.e., the amount advanced plus interest accrued and not paid minus any repayments) provides an incomplete view of the financial position of the creditor, particularly when the loans are nonperforming. Therefore, it is useful to identify nonperforming loans as memorandum items.

GFSM 2014, Table 7.10 proposes two memorandum items to the balance sheet relating to nonperforming loans (i) nominal value of nonperforming loans and (ii) fair value of nonperforming loans which is considered as a market-equivalent value. In the absence of fair value data, the memorandum item could show nominal value less expected loan losses.

Untraded Equity

Governments often fulfil their public policy objectives through public corporations (for example, railways, airlines, public utilities and public financial corporations) which are not part of the general government sector because they are considered as engaging in market production. In practice, public corporations may vary, from being operated on an almost entirely commercial basis to being significantly involved in quasi-fiscal activities (that is, they carry out government operations at the behest of the government unit(s) that control them).

There may be no observable market prices for unlisted shares and other equity positions (e.g., for equity in direct investment enterprises, unlisted and delisted companies, listed but illiquid companies, joint ventures, and unincorporated enterprises). In this case, an estimate is required.

One approach is to use information from the stock market on a similar listed share. Alternative methods of approximating the market value of shareholders' equity include (i) Recent transaction price, (ii) Net asset value, (iii) Present value/price to earnings ratios, (iv) Book values reported by enterprises with macrolevel adjustments by the statistical compiler (v) Own funds at book value, and (vi) Apportioning global value.

In cases where none of the above methods is feasible, less suitable data may need to be used. For example, cumulated flows or a previous balance sheet adjusted by subsequent flows may be the only sources available. Since these sources use the prices of previous periods, they should be

adjusted for subsequent price developments, for example by using aggregate share price or asset price indices, and taking into account exchange rate movements, where relevant. The use of unadjusted summing of past transactions is not a recommended practice.

If the current market price is not directly observable, the decision about the method to adopt should take into account the availability of information as well as judgments as to which available method best approximates market values. Different methods may be suitable for different circumstances and a standard ranking of the alternative methods is not proposed for valuing instruments when current market prices are not directly observable.

B. Practical Issues and Main Challenges

Nonperforming Loans

Public corporations often operate with a reduced profit or at a loss and are dependent on government funding. This raises the question of whether the claims of government units upon such entities should be included on the on the government's balance sheet. This can be seen in terms of government lending.

Loan markets consist mostly of secured loans, where the borrower pledges an asset such as residential property, or plant and equipment of a business as collateral, and unsecured loans, where the loans are not secured against the borrowers' assets. In the case of a bank loan, the bank may mitigate credit default risk by requiring borrowers to provide collateral, take out insurance, such as mortgage insurance, or undertaking credit assessments so as to rank the potential risk.

However, general government units have been found to issue large amounts of unsecured loans. This "policy lending" often results in the restructuring of the loan (repeatedly delaying the timing of the payment of principal and interest) although government treats this loan as performing.

Untraded Equity

The value of other equity is equal to the value of the unit's assets minus the value of its liabilities. So for unincorporated enterprises, such as quasicorporations, net worth is zero and the estimated value of other equity can be negative if the value of liabilities exceeds the value of the assets. For other financial items like equity in small and medium size enterprises controlled by government, it may be not so straightforward. Market-equivalent values may have to be determined for these instruments, for instance on the basis of the net present value of future earnings, or using other specific valuation approaches and methods. In practice, these approaches appear to be complicated for GFS compilers.

C. Possible Solutions

Nonperforming Loans

The first step in the valuation of a nonperforming loan should be its correct identification. In addition to existing recommendations on defining nonperforming loans, evidence that a loan is nonperforming could come from substantial financial difficulties identified in the course of financial analysis of the debtor. An additional indicator could be the amount of government subsidies or transfers that are actually used by the debtor to repay loans.

In the context of nonperforming loans, there are multiple types of financial risk faced by government. Among these, credit default risk, the risk associated with borrowers failing to make the required debt payments can cause government as lender to incur losses that include the principle and the interest due. An indirect measure of credit default risk may be ascertained by comparing, for example, loans at market value with the same loans at nominal values, where market values would typically adjust the valuation of loans by deducting the value of specific accounting provisions for bad or doubtful debt.

Untraded Equity

Additional guidance for GFS compilers with regard to the valuation of equity positions could be based on the following balance sheet case study question:

The government owns shares in two companies that are not quoted on the stock exchange. To assess the market values of these corporations' assets and liabilities, the following information is available from their balance sheets:

Dec. 31, 2017	Value of assets	Value of liabilities	Government ownership
	In millions of dollars		
Central Bank of the country	85,000	62,000	100%
Telecommunications Company	90,000	60,000	50%

It is assumed that the two entities are operating on a market basis and therefore the recommended guidance is to calculate assets minus liabilities and multiply the result by the government's ownership share. As such, the government's equity stake in the Central Bank would be reported as $23 million while the equity stake in the Telecommunication Company would be reported as $15 million.

QUESTIONS FOR DISCUSSION BY THE GFSAC MEMBERS

1. Do members support enhancing the provision of metadata on financial assets aimed at improving timeseries data, including valuation bases for specific financial assets?

2. Do member recommend conducting additional country survey based on the model in Appendix V to receive detail on practical issues and main challenges in valuating financial assets in form of loans and equity?

3. Do member consider the existing guidance on valuing non-performing loans and unquoted equity instruments in GFSM 2014 as sufficient?

4. Do members recommend adding two memorandum items for nonperforming loans (nominal value and fair/market value) to the Annual GFS Questionnaire, Table 6?

5. Do member recommend taking into consideration IPSAS and IVS approaches to valuation of financial assets when updating GFSM 2014?

6. Do members have guidance on distinguishing, in practice between policy lending and regular lending (or is all government lending is somehow policy-related)?

7. Do members have specific recommendations for countries seeking to establish initial benchmark balance sheet positions in loans as assets when the government loan portfolio likely contains a substantial number of non-performing loans?

8. Do members have specific recommendations for countries seeking establish initial benchmark balance sheet positions in equity and investment fund shares when government is not provided with current financial statements of entities that are not on an active exchange?

9. Do members recommend leveraging FSSF and D4D funding to target select existing GFS reporters with capacity development pertaining to financial assets?

APPENDIX I. VALUATION PRINCIPLES ACCORDING TO THE 2008 SNA, BY FINANCIAL INSTRUMENT

Type of financial instrument	Valuation
Monetary gold	At the price established in organized markets or in bilateral arrangements between central banks
Special Drawing Rights (SDRs)	At the price determined daily by the IMF on the basis of a basket of currencies.
Currency	At nominal or face value of the currency, applying the exchange rate in case of foreign currency to denominate it in domestic currency.
Deposits	At nominal value, including any interest due that the debtors are contractually obliged to repay the creditors.
Debt securities	At market value, for both short and long-term debt securities.
Loans	At nominal value, including any interest due that the debtors are contractually obliged to repay the creditors.
Equity and investment fund shares	Listed shares should be valued at market value. For unlisted shares, an estimate is required, for example on the basis of recent transaction prices, net asset values, or reported book values. Other equity should be valued as equal to the value of total assets minus the value of total debt liabilities of the relevant unit. These valuation principles apply to both equity and investment fund shares.
Insurance, pension and standardized guarantee schemes	For non-life insurance technical reserves, the valuation should equal the premiums paid but not earned at the balance sheet date plus the net present value of the amounts expected to be paid out in settlement claims on the basis of current policies. Life insurance entitlements (including annuities) are valued at the net present value of all expected future claims. Pension entitlements' valuation depends on the type of pension scheme. For defined benefits pension schemes (for which the amount of the future pension is agreed in advance), the valuation is derived on the basis of the net present value of future claims (usually on the basis of actuarial estimations). For defined contribution schemes (for which the amount of the pension depends on the performance of the assets accumulated in the scheme), the valuation is equal to the market value of the financial assets held by the pension fund on behalf of future beneficiaries.

Type of financial instrument	Valuation
Financial derivatives	Listed derivatives should be valued at market value. Unlisted derivatives should be valued at market equivalent prices, for example based on option pricing models or net present value of expected flows.
Employee stock options	At values related to the market value of the equity instruments granted or equivalent traded options. If market prices are not available, the value should be obtained using option pricing models.
Other accounts payable / receivable	At nominal value, including any interest due, that the debtors are contractually obliged to repay the creditors.

Source: OECD, Understanding Financial Accounts, 2017

APPENDIX II. BASES OF VALUE, VALUATION APPROACHES AND METHODS IN IVS

According to IVS 104, a valuer is required to select the appropriate basis of value. Bases of value (sometimes called as standards of value) describe the fundamental premises on which the reported values will be based.

Market Value

Market Value is an estimated amount for which an asset should exchange on the valuation data between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion. Therefore, the concept of Market Value presumes a price negotiated in an open and competitive market where the participants are acting freely. The market value of an asset will reflect its highest and best use, i.e. the use of an asset that maximizes its potential and that is possible, legally permissible and financially feasible. The market value does not reflect attributes of an asset that are of value to a specific owner or purchaser that are not available to other buyers in the market. Such advantages may relate to the physical, geographic, economic or legal characteristics of an asset. Market Value requires the disregard of any such elements of value because, at any given date, it is only assumed that there is a willing buyer, not a particular willing buyer.

Market Rent

Market Rent is the estimated amount for which an interest in real property should be leased on the valuation date between a willing lessor and a willing lessee on appropriate lease terms in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion. Market Rent may be used as a basis of value when valuing a lease or an interest created by a lease. In such cases, it is necessary to consider the contract rent and, where it is different, the market rent. Contract Rent is the rent payable under the terms of an actual lease.

Equitable Value

Equitable Value is the estimated price for the transfer of an asset or liability between identified knowledgeable and willing parties that reflects the respective interests of those parties. For instance, determining a price that is equitable for a shareholding in a non-quoted business, where the holdings of two specific parties may mean that the price that is equitable between them is different from the price that might be obtainable in the market. Equitable Value requires the assessment of the price that is fair between two specific, identified parties considering the respective advantages or disadvantages that each will gain from the transaction. In contrast, Market Value requires any advantages or disadvantages that would not be available to, or incurred by, market participants generally to be disregarded.

Investment Value/Worth

Investment Value is the value of an asset to a particular owner or prospective owner for individual investment or operational objectives. Investment Value is an entity-specific basis of value. Although the value of an asset to the owner may be the same as the amount that could be realized from its sale to another party, this basis of value reflects the benefits received by an entity from holding the asset and, therefore, does not involve a presumed exchange. Investment Value reflects the circumstances and financial objectives of the entity for which the valuation is being produced. It is often used for measuring investment performance.

Synergic Value

"Synergies" refer to the benefits associated with combining assets. When synergies are present, the value of a group of assets and liabilities is greater than the sum of the values of the individual assets and liabilities on a stand-alone basis. Synergies typically relate to a reduction in costs, and/or an increase in revenue, and/or a reduction in risk. Synergistic Value is the result of a combination of two or more assets or interests where the combined value is more than the sum of the separate values. If the synergies are only available to one specific buyer then Synergistic Value will differ from Market Value, as the Synergistic Value will reflect particular attributes of an asset that are only of value to a specific purchaser. The added value above the aggregate of the respective interests is often referred to as "marriage value."

Liquidation Value

Liquidation Value is the amount that would be realised when an asset or group of assets are sold on a piecemeal basis. Liquidation Value should take into account the costs of getting the assets into saleable condition as well as those of the disposal activity. In addition to bases of value, IVS prescribe valuation approaches and methods.

According to IVS 105, there are three principal valuation approaches: market approach, income approach, and cost approach. Each of these valuation approaches includes different, detailed methods of application:

Valuation approach	Methods of Application
Market Approach	Comparable Transactions Method
	Guideline publicly-traded comparable method
Income Approach	Discounted Cash Flow Method
Cost Approach	Replacement Cost Method
	Reproduction Cost Method
	Summation Method

Appendix III. Selected Countries:
Annual Financial Balance Sheet Reporting Status, 2017

REGION	COUNTRY	Latest availability	AC	CA	BS(T6)							
					BCG	CG	CG01	EBG	GG	LG	RG	SSF
MCD	Afghanistan	2017	X	√								
EUR	Albania	2017	X	√	Full	Full	Full		Full	Full		Full
MCD	Armenia	2017	X	√								
APD	Australia	2017	√	X	Full	Full	Full		Full	Full	Full	
MCD	Republic of Azerbaijan	2017	X	√								
APD	Bhutan	2017	X	√	Financial							
WHD	Brazil	2017	X	√	Full	Full	Full		Full	Full	Full	
APD	Cambodia	2017	√	X								
WHD	Canada	2017	√	X		Full			Full	Full	Full	Full
WHD	Dominican Republic	2017	X	√								
APD	Fiji	2017	X	√								
EUR	Germany	2017	√	X		Financial			Financial	Financial	Financial	Financial
EUR	Greece	2017	√	X		Financial			Financial	Financial		Financial
APD	India	2017	X	√	Financial							
EUR	Israel	2017	√	X								
EUR	Italy	2017	√	X		Financial			Financial	Financial		Financial
APD	Lao People's Democratic Republic	2017	X	√								
AFR	Lesotho	2017	X	√								
EUR	Lithuania	2017	√	X		Financial			Financial	Financial		Financial
AFR	Madagascar	2017	√	X								
APD	Malaysia	2017	X	√	Financial							

REGION	COUNTRY	Latest availability	AC	CA	BS(T6)							
					BCG	CG	CG01	EBG	GG	LG	RG	SSF
AFR	Mauritius	2017	√	X								
APD	Mongolia	2017	X	√					Financial			
EUR	Netherlands	2017	√	X		Financial			Financial	Financial		Financial
APD	New Zealand	2017	√	X			Full		Full	Full		
APD	Papua New Guinea	2017	X	√								
APD	Solomon Islands	2017	X	√	Financial							
AFR	South Africa	2017			Financial	Financial			Financial	Financial		Financial
MCD	Sudan	2017	X	√								
EUR	Turkey	2017	√	X	Full	Full	Full	Full	Full	Full		Full
WHD	United States	2017	√	X			Full		Full		Full	
WHD	Uruguay	2017	X	√		Financial	Financial		Financial	Financial		Financial
MCD	Uzbekistan	2017	X	√								
AFR	Zambia	2017	X	√	Financial							
AFR	Zimbabwe	2017	X	√								
WHD	Barbados	2015	√	X	Full							
AFR	Ghana	2015	X	√								
AFR	Liberia	2013	X	√								
AFR	Nigeria	2013	X	√	Financial							
AFR	Swaziland	2012	X	√	Financial							
AFR	The Gambia	2009	X	√		Financial						

Appendix IV. Metadata on Valuating Financial Assets in the GFS Database

Country Name	Sector	2017	Country Name	Sector	2017
Albania	GG	NV	Mauritius	GG	NA
Australia	GG	MV	Mexico	GG	NA
Austria	GG	MV	Micronesia, Fed. States of	BCG	MV
Azerbaijan, Republic of	GG	FV	Moldova	GG	NV
Bahamas, The	GG	NA	Mongolia	GG	FV
Belarus	GG	FV	Morocco	GG	NA
Belgium	GG	MV	Namibia	GG	NA
Bolivia	GG	MV	Nepal	GG	NA
Bosnia and Herzegovina	GG	MV	Netherlands	GG	MV
Brazil	GG	NV	New Zealand	GG	MV
Bulgaria	GG	MV	Nicaragua	GG	NA
Cambodia	GG	NV	Norway	GG	MV
Canada	GG	MV	Paraguay	GG	NA
Hong Kong, S.A.R.	GG	NV	Peru	GG	MV
Chile	GG	NA	Philippines	GG	NA
Colombia	GG	NV	Poland	GG	MV
Costa Rica	BCG	MV	Portugal	GG	MV
Côte d'Ivoire	BCG	NV	Romania	GG	MV
Croatia	GG	MV	Russian Federation	GG	NV
Cyprus	GG	MV	San Marino	GG	FV
Czech Republic	GG	MV	Serbia, Republic of	GG	MV
Denmark	GG	MV	Seychelles	GG	FV
El Salvador	GG	NV	Singapore	GG	NA
Estonia	GG	MV	Slovak Republic	GG	MV
Finland	GG	MV	Slovenia	GG	MV
France	GG	MV	South Africa	GG	FV
Georgia	GG	NV	Spain	GG	MV
Germany	GG	MV	Sri Lanka	GG	NA
Greece	GG	MV	Sweden	GG	MV
Hungary	GG	MV	Switzerland	GG	MV
Iceland	GG	MV	Tanzania	GG	NA
Indonesia	GG	NV	Thailand	GG	FV
Ireland	GG	MV	Timor-Leste, Dem. Rep. of	GG	FV
Italy	GG	MV	Tonga	GG	MV
Japan	GG	MV	Trinidad and Tobago	GG	NA
Kazakhstan	GG	FV	Tunisia	GG	NV
Kiribati	GG	FV	Turkey	GG	FV
Korea, Republic of	GG	NV	Uganda	BCG	FV
Kyrgyz Republic	GG	FV	Ukraine	GG	NV
Latvia	GG	MV	United Arab Emirates	GG	NA
Lithuania	GG	MV	United Kingdom	GG	MV
Luxembourg	GG	MV	United States	GG	MV
Malaysia	GG	NA	Uruguay	GG	FV
Malta	GG	MV	Uzbekistan	GG	NV
Marshall Islands	BCG	MV			

Valuation of financial assets (Market Value (MV), Nominal Value (NV), or Face Value (FV)). NA: Not Available.

Appendix V. List of Questions for an Additional Country Survey

Dear Respondent,

Thank you for your country's efforts in compiling and reporting GFS financial balance sheet.

We would like to take this opportunity to kindly request if you could share with us your national experience in valuating stock positions in government financial assets. More specifically, we would be interested to discuss practical issues and main challenges in valuating nonperforming loans, equity, and accounts receivable.

To this end, we would appreciate if you could answer the questions below and provide some additional comments.

Thank you for taking time to complete this questionnaire. Please submit your response by replying to this email **before XXXXXXXX XX, XXXX**.

1. **Valuation standards**

    a. Please specify the international standards which determine the valuation of source data for compiling GFS stock positions in **Loans** (financial asset):

    ☐ International Public Sector Accounting Standards (IPSAS)

    ☐ IMF Standards for macroeconomic statistics (SNA, GFS, PSDS etc.)

    ☐ International Valuation Standards

    ☐ National methodology according to national law and regulation

    ☐ Other

    If <u>Other</u>, please specify

    ☐ Source data on stock positions in Loans (financial assets) is not available (NA)

    If <u>NA</u>, please specify the reason

    b. Please specify the international standards which determine the valuation of source data for compiling GFS stock positions in **Equity** (financial asset):

    ☐ International Public Sector Accounting Standards (IPSAS)

☐ IMF Standards for macroeconomic statistics (SNA, GFS, PSDS etc.)

☐ International Valuation Standards

☐ National methodology according to national law/regulation

☐ Other

If <u>Other</u>, please specify

☐ Source data on stock positions in Equity (financial assets) is not available (NA)

If <u>NA</u>, please specify the reason

c. Please specify the international standards which determine the valuation of source data for compiling GFS stock positions in **Accounts Receivable**:

☐ International Public Sector Accounting Standards (IPSAS)

☐ IMF Standards for macroeconomic statistics (SNA, GFS, PSDS etc.)

☐ International Valuation Standards

☐ National methodology according to national law/regulation

☐ Other

If <u>Other</u>, please specify

☐ Source data on stock positions in Accounts Receivable is not available (NA)

If <u>NA</u>, please specify the reason

2. **Valuation**

a. Please specify how **Loans** (financial asset) are valued:

☐ Market value

☐ Nominal value
(Nominal value represents the total amount of future interest and principal payments discounted at the existing contractual interest rate)

☐ Face value
(Face value equals undiscounted amount of principal to be repaid at maturity)

☐ Other

If <u>Other</u>, please specify

b. Please specify how **Equity** (financial asset) is valued:

☐ Market value

☐ Other

If <u>Other</u>, please specify

c. Please specify how **Accounts receivable** are valued:

☐ Market value

☐ Nominal value
(Nominal value represents the total amount of future interest and principal payments discounted at the existing contractual interest rate)

☐ Face value
(Face value equals undiscounted amount of principal to be repaid at maturity)

☐ Other

If <u>Other</u>, please specify

3. **Valuation of nonperforming loans (stock position in financial assets)**

Nonperforming loans are those for which: (a) payments of principal and interest are past due by three months (90 days) or more; or (b) interest payments equal to three months (90 days) interest or more have been capitalized (reinvested to the principal amount) or payment has been delayed by agreement; or c) evidence exists to reclassify a loan as nonperforming even in the absence of a 90-day past due payment, such as when the debtor files for bankruptcy.[1]

Please describe main challenges and practical approaches in identifying and valuating nonperforming loans in your country.

4. **Valuation of equity (stock position in financial assets)**

If a public corporation has not issued any type of shares, then the existence of equity should be imputed, reflecting the financial claim of the government or other creditor unit. Also determining the value of the equity may be difficult if the equity is not actively traded on a market.

Please describe main challenges and practical approaches in valuating equity in your country.

5. **Accounts receivable (stock position)**

Please describe main challenges and practical approaches in valuating government stock positions in accounts receivable in your country.

6. **Other challenges in valuating government financial assets**

Please describe other challenges in valuating stock positions in government financial assets in your country.

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[1] See *Public Sector Debt Statistics Guide for Compilers and Users*