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How Do Countries Use an Asset and Liability Management Approach?

A Survey on Sovereign Balance Sheet Management

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Abstract

This paper summarizes and discusses the results of a survey on country practices in the management of sovereign assets and liabilities. Twenty-eight countries, mostly high-income economies, responded to the questionnaire. The survey responses provide detailed information about various approaches to the sovereign asset and liability management framework in terms of balance sheet production as well as objectives, priority areas, and challenges associated with integrated management. In addition to the survey results, where possible and relevant, this paper provides insight through prominent country examples. The survey results confirm that the number of countries that have developed such a framework is limited. Although most of the respondents indicated that they regularly produce an accounting balance sheet, the objective of this exercise is often limited to monitoring sovereign assets and liabilities rather than determining mismatches between them. In the cases where a sovereign asset and liability management framework is implemented, there are significant differences across countries. Most countries include state-owned enterprises in the sovereign balance sheet, but only a minority also considers central banks, in some cases only international reserves and sovereign funds. The challenges cited include institutional arrangements, uncertain or lacking mandate, coordination between institutions, data availability, and valuation of assets. Most of these challenges are related to the implementation of the approach. The development of sound practices for sovereign asset and liability management could benefit governments and facilitate the implementation of a holistic approach to manage their balance sheets and related risks, increasing their resilience to shocks.

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All errors, omissions, and inconsistencies that may appear in this work are the authors' sole responsibility.

Abbreviations

ALCO	Asset and Liability Committee
ALM	Asset and Liability Management
ANCAP	*Administración Nacional de Combustibles, Alcoholes y Portland*
BS	Balance Sheet
BSE	*Banco de Seguros del Estado*
CB	Central Bank
DB	Danmarks Nationalbank
DMO	Debt Management Office
EFA	Exchange Fund Account
EU	European Union
EUR	Euro
FEES	*Fondo de Estabilización Económica y Social*
FX	Foreign exchange
GDP	Gross Domestic Product
IMF	International Monetary Fund
IMSN	*Índice Medio de Salarios Nominales*
IT	Information Technology
JPY	Japanese Yen
MOF	Ministry of Finance
OECD	Organization for Economic Cooperation and Development
SALM	Sovereign Asset and Liability Management
SOE	State-Owned Enterprise
SWF	Sovereign Wealth Fund
TSA	Treasury Single Account
USD	United States Dollar
UTE	*Administración Nacional de Usinas y Trasmisiones Eléctricas*
WB	World Bank

Introduction

The objectives for managing sovereign[2] assets and sovereign liabilities are usually distinct, and rarely coordinated. The main objective of government liability management is to ensure financing of the budget at the lowest possible cost subject to an acceptable level of risk.[3] On the asset side, the main objective is to ensure that cash balances meet commitments and maximize the purchasing power of the long-term capital given a moderate level of risk.[4] Against this backdrop, the sovereign asset and liability management (SALM) approach aims at providing a strategic framework to manage both sides of the sovereign balance sheet.

The ALM approach has been used in financial institutions for many years to reduce currency, tenor, index and other mismatches between assets and liabilities so that the balance sheet is able to withstand shocks better. The SALM approach aims to identify the various types of assets and liabilities a sovereign manages and explore whether the financial characteristics associated with those assets can provide insights for managing the cost and risk of the liabilities. The management of sovereign assets and liabilities in a holistic way allows governments to evaluate risk exposures as a whole and to assess the feasibility of reducing net interest expenditure and liquidity risk. The SALM framework also provides an opportunity to conduct sovereign portfolio stress testing, allowing countries to optimally manage their sovereign debt and asset portfolios and attain a desired level of balance sheet risk exposure in a prudent and cost-effective manner.

The SALM approach in managing sovereign risks requires a consolidated view of the sovereign balance sheet and its risk exposures, as well as coordinated decisions on the appropriate portfolio strategies to be adopted to manage that risk effectively. It involves managing different types of financial risks, such as currency, refinancing and interest rate risk, in order to reduce foreign currency and maturity mismatches on the balance sheet. Therefore, adopting a comprehensive and integrated sovereign asset and liability management framework entails performing a joint analysis of the characteristics of financial assets and liabilities on the public sector balance sheet and possibly combining it with the balance sheet of the central bank.

Many countries face institutional challenges in the design and implementation of an effective SALM framework, but as long as the roles, objectives, and resources of institutions involved in SALM are clearly defined and consistent, a SALM approach could ensure appropriate

[2] In this paper, the government balance sheet refers to the balance sheet of the central / general government and the public sector balance sheet to public entities (including the general government) excluding the central bank. The sovereign balance sheet has the widest scope, covering the public sector balance sheet and the central bank (official reserves), including sovereign wealth funds and contingent liabilities, where relevant.

[3] International Monetary Fund and the World Bank, Guidelines for Public Debt Management, 2014.

[4] Das, U. Lu, Y., Papaioannou, M., and Petrova, I., Sovereign Risk and Asset and Liability Management – Conceptual Issues, IMF, 2012.

coordination in the management of assets and liabilities across institutions while maintaining each institution's independence. Full implementation of ALM in the public sector or for the sovereign is rare but a number of countries have been implementing a partial approach.

The findings of this paper are based on a survey conducted in 2017 by the World Bank in collaboration with the OECD and the IMF, among 28 countries.[5] The survey comprised 6 sections and focused on the various approaches underpinning the management of sovereign assets and liabilities.[6] It assessed how integrated and operational balance sheet frameworks are applied across countries, looking at the production of an actual balance sheet as well as at the objectives, priority areas and challenges of the management of the balance sheet.

This paper is organized as follows. Section A presents the participants' responses to the survey in regard to the production, coverage, periodicity and publication of sovereign balance sheets. Section B examines the SALM practices, the entities in charge, the objectives of management, the reporting mechanisms, as well as the risk framework under which the respondents operate. Section C examines how the respondents have been able to implement such an integrated approach to managing sovereign assets and liabilities, the challenges they are facing and the plans they have for the future.

As indicated above, 28 countries responded to the questionnaire,[7] most of them high-income economies that are members of the OECD (80 percent) with a smaller share of middle-income countries (20 percent). In terms of geography, 50 percent of the respondents are from an EU member country. The income level of the respondents implies that the countries producing a sovereign balance sheet and fully or partially implementing a SALM framework have well developed governance and institutional structures. As indicated by the survey respondents, countries face a number of challenges in the implementation of a SALM framework and production of a sovereign balance sheet, chief among them the complex institutional arrangements and coordination between actors that is required. As demonstrated in the results, the objectives, main actors, reporting format, and metrics used to produce the sovereign balance sheet vary widely across countries. At a fundamental level, data availability and valuation of the assets (and choosing which assets and liabilities to include) remain key constraints.

[5] See Annex 1 for the list of responding countries.
[6] See Annex 2 for the survey.
[7] Among the 28 countries, one responded only to the first section of the survey covering the sovereign balance sheet. The remaining 27 responded to the full survey.

A. Balance Sheet Approach - Joint Management of Assets and Liabilities

The joint management of assets and liabilities aims to facilitate the government's evaluation of risk exposures holistically and to assess the feasibility of reducing net interest expenditure[8] and liquidity risk. Efficient implementation of ALM should be based on the availability of timely and accurate data on the assets and liabilities in the public sector, which usually are consolidated in a balance sheet. This section presents the responses of the survey participants on their practices with regards to the production, coverage, periodicity and publication of sovereign balance sheets.

1. Sovereign balance sheet

The preparation of a sovereign balance sheet allows policy makers to assess the government's net asset or liability exposure in a comprehensive way and more easily identify mismatches. Producing a balance sheet facilitates discussion and cooperation among various actors and institutions across the public sector in order to compile data and determine what items should be included on the balance sheet (i.e. broad or narrow definition of SALM).[9] Once the format has been agreed and the data have been compiled, it becomes easier to quantify the net exposure and identify mismatches and natural hedges.

Almost all (90 percent) of the respondents indicated that their country does produce a balance sheet. The key findings are summarized below.

In terms of periodicity, the vast majority (84 percent) of the countries producing a sovereign balance sheet do so on an annual basis. Only two countries indicated that they update the sovereign balance sheet on a monthly basis, one country on a quarterly basis, and one country on an irregular basis (with the objective of producing it annually in the future).[10]

Producing a complete financial statement based on the public accounts with exact numbers is a time-consuming effort that requires significant institutional capacity (and a comprehensive accrual accounting framework), given the complexity of this task and the amount of resources it requires. Since the second option is more complex and requires more resources, the literature on SALM suggests developing, at least initially, a conceptual balance sheet, which identifies risks and vulnerabilities without necessarily quantifying them in detail. However, survey results

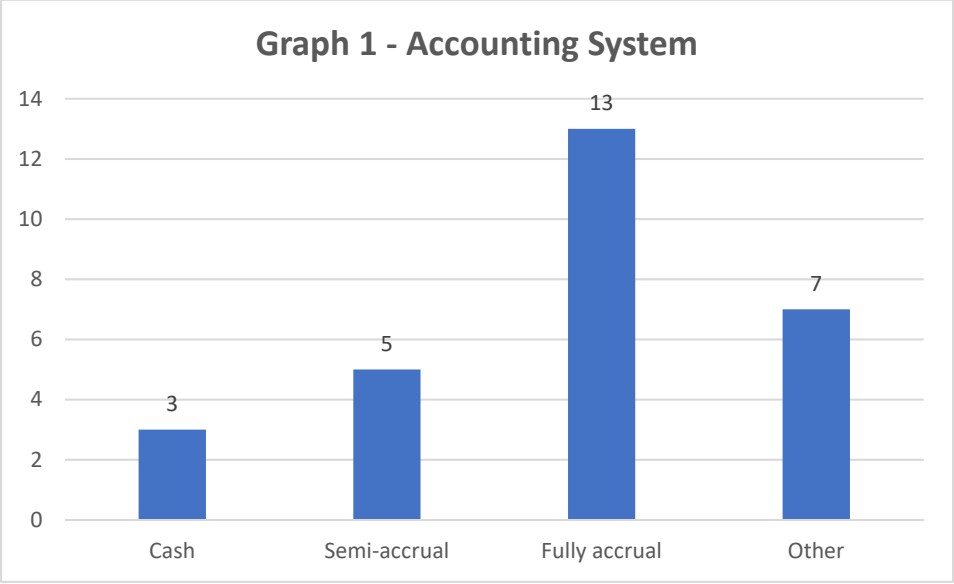
[8] Or increasing net returns in the few cases when a sovereign earns net positive cash flows (country with a large SWF and low public debt for example).

[9] In general, narrower definitions of SALM include the assets and liabilities of the government while broader definitions include contingent liabilities or even the present value of future revenue and expenditure.

[10] A survey conducted by the IMF on analyzing and managing fiscal risks shows that 28 percent of the 80 countries surveyed are producing balance sheets. However, only a handful of countries, such as Australia and New Zealand, examine the impact of macroeconomic trends and government policies on the future evolution of government assets, liabilities, and net worth.

indicate that only one country (Finland) produces a conceptual statement with limited actual data and the rest of the responding countries indicate that the sovereign balance sheet is a financial statement with actual quantified data.

Regarding the accounting system used to produce the balance sheet, the survey indicates that the almost half (46 percent) of the respondents producing a sovereign balance sheet are using a full accrual accounting system (including Australia, Canada, New Zealand).[11] Another 18 percent of the respondents, producing a balance sheet, are using semi-accrual accounting. Only 11 percent mentioned using cash-based accounting systems, including Norway and Uruguay. Of the remaining 25 percent that indicated "other," some mentioned that an accrual system is under implementation or is already used but specific transactions linked to the budget execution or tax revenues are still registered on a cash basis (this group includes Bulgaria and Poland which indicated they are not producing a balance sheet). These results are presented in graph 1 (based on the number of countries). Producing a balance sheet based on accrual accounting is important to ensure that policy makers can assess and monitor effectively the mismatches between stocks of assets and liabilities. This requires additional work compared to the traditional budget process that captures cash flows of revenues and expenditures, which explains why some of the respondents still produce a sovereign balance sheets based on semi-accrual or cash accounting systems.



Source: Responses to SALM survey

Concerning publication, in all cases except one, the sovereign balance sheet is published. The sole case of no publication concerns the country producing its sovereign balance sheet on an

[11] It is interesting to compare this percentage with the results of a recent IMF report indicating that 29 percent of countries are using either a full or modified-accrual accounting system. Of course, selection bias related to the typology of respondents to the SALM survey may explain this difference.

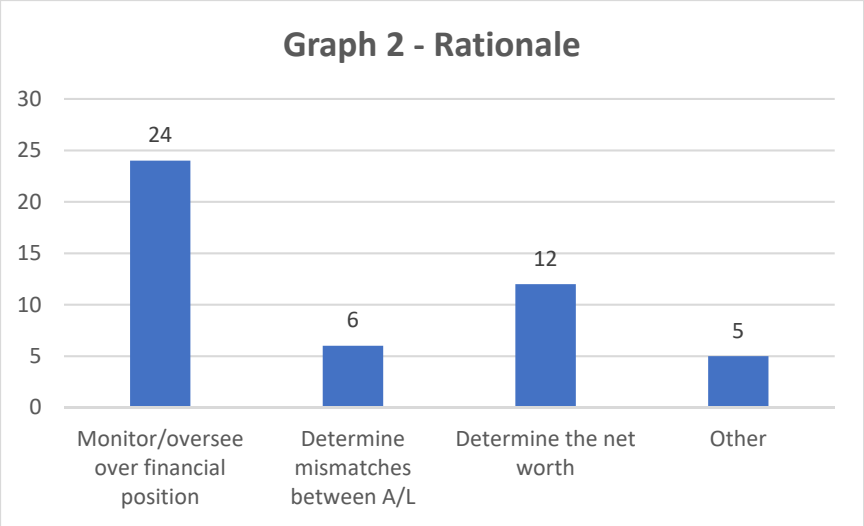
irregular basis: the authorities did not want to publish the first sovereign balance sheet before deciding on the frequency of the exercise.

2. Rationale for the Sovereign Balance Sheet

The development of a sovereign balance sheet may respond to various considerations, usually related to fiscal policy. It provides a comprehensive measure of the fiscal position accounting for the net worth of the sovereign (assets minus liabilities) at a point in time, as well as a list of all the activities the sovereign is engaged in. It can also provide information on the fiscal sustainability path of the sovereign for the future, the risks that are associated and the impact of various decisions that the authorities may take. A focus on stocks has several benefits, in particular the inclusion of valuation changes that are not always recorded through transactions. The consolidation of stock data in a sovereign balance sheet facilitates the netting of risks and the identification of mismatches at a consolidated level which are central to SALM. However, the scope and information provided in the sovereign balance sheet is related to the rationale for its production, which can be different from asset and liability management and therefore prove more or less suited for SALM. For example, a focus on measuring the value of physical assets, even very illiquid ones, may be very time-intensive for the staff in the ministry of finance (MOF) and can limit their availability to work on other components that are important for an assessment of long-term sustainability or intertemporal risks, such as contingent liabilities or future stream of revenues and expenditures.

The surveyed countries almost unanimously (96 percent) responded that the rationale for producing a balance sheet is to monitor the overall financial position of the government. Fifty percent of these respondents added that it is also used to determine the net worth of the sovereign. Only 25 percent mentioned the determination and/or assessment of potential mismatches between assets and liabilities. Half of the respondents among the 25 percent have also developed SALM practices – which seems to confirm that producing a balance sheet with this objective facilitates the implementation of SALM.

It should be noted that public sector transparency and compliance with international financial reporting obligations were also indicated in single cases (see graph 2).



Note: Multiple responses were permitted, and the total is therefore superior to the number of respondents. Source: Responses to SALM survey

Overall the results confirm that sovereign ALM is just one of several objectives of producing a sovereign balance sheet, as reflected by only six countries (25 percent of the respondents to this question) mentioning the determination of mismatches between assets and liabilities as a rationale. It is a reminder of the limited number of countries where ALM considerations are integrated into the assessment of macroeconomic / fiscal policies and in the decision-making process within the public sector.

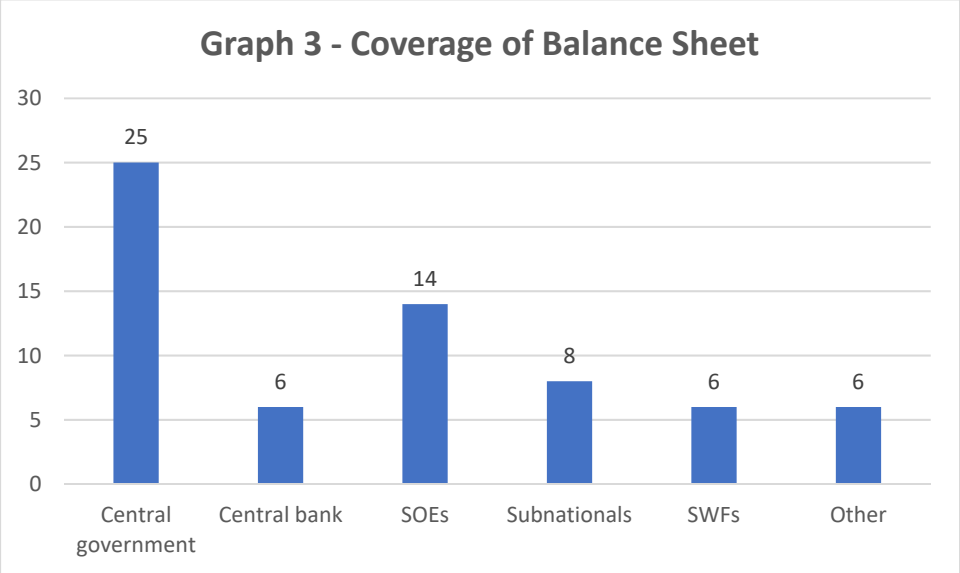
It is difficult to see how the determination of sovereign net worth, mentioned twice as often as a rational of the balance sheet, could be of value for implementing ALM practices. The net worth of the sovereign is a value at a point in time which may not be fully relevant for long-term sustainability. Moreover, it could include theoretical valuation of very illiquid assets that may not be used to cover future expenditures, or it may miss significant contingent liabilities that could undermine fiscal sustainability. In addition, in most cases,[12] the net worth of a sovereign does not take into account the value of future taxes (i.e. the capacity of the sovereign to raise taxes in the future) as well as the value of future expenditures that are unavoidable. It is indeed difficult to assess with precision these elements as they are based on various assumptions (what is the long-term level of taxes that economic agents in a country will accept to pay, which expenses can be cut without threatening the social fabric, etc.).

[12] Among the respondents to the survey, only Canada indicated publishing such information on a regular basis.

3. Coverage of the Balance Sheet

Countries that prepare a balance sheet must determine its scope and identify the entities that will be included. At one extreme, a limited balance sheet would simply detail the assets and liabilities of the central government. A broader public-sector balance sheet could include assets and liabilities of subnational governments, state-owned enterprises, and even sovereign wealth funds, which may be substantial and have a significant impact on public sector assets particularly in resource-rich commodity exporting countries. A sovereign balance sheet may jointly report the assets and liabilities of the government with the central bank.

All respondents indicated that the sovereign balance sheet includes central government. In more than half the cases (56 percent of respondents), the balance sheet also covers state-owned enterprises (SOEs). One-third of the responding countries included subnationals, and 24 percent included the central bank. Sovereign wealth funds (SWF) are included in sovereign balance sheets by 24 percent of the respondents. In some cases, sovereign balance sheets also include insurance companies, social security funds and pension plans (see graph 3).



Source: Responses to SALM survey

The inclusion of central banks in the sovereign balance is a complex issue. On one hand, the inclusion could be perceived as an ambiguous signal with regards to the independence of the central bank vs. the central government. On the other hand, the foreign reserves managed by the central banks are often a key part of any comprehensive balance sheet approach focusing on capturing financial risks and vulnerabilities. This topic will be discussed further in the paper (see section B.1.).

4. Assets and liabilities included on the sovereign balance sheet

The definition of the sovereign balance sheet varies across countries in terms of its complexity and comprehensiveness. The literature[13] classifies the balance sheet components into three categories: financial, non-financial and future assets and liabilities. A simple balance sheet will likely include the main financial assets and liabilities (i.e. the main financial liability is the government debt portfolio in the form of bonds and loans outstanding). The value of non-financial and future assets and liabilities is much more difficult to quantify (i.e. land or the present value of future revenues and expenditure). Analysis by Wheeler (2004) and Koc (2014) summarizes the main components of the sovereign balance sheet as presented in the table below.

Table. Conceptual Sovereign Balance Sheet

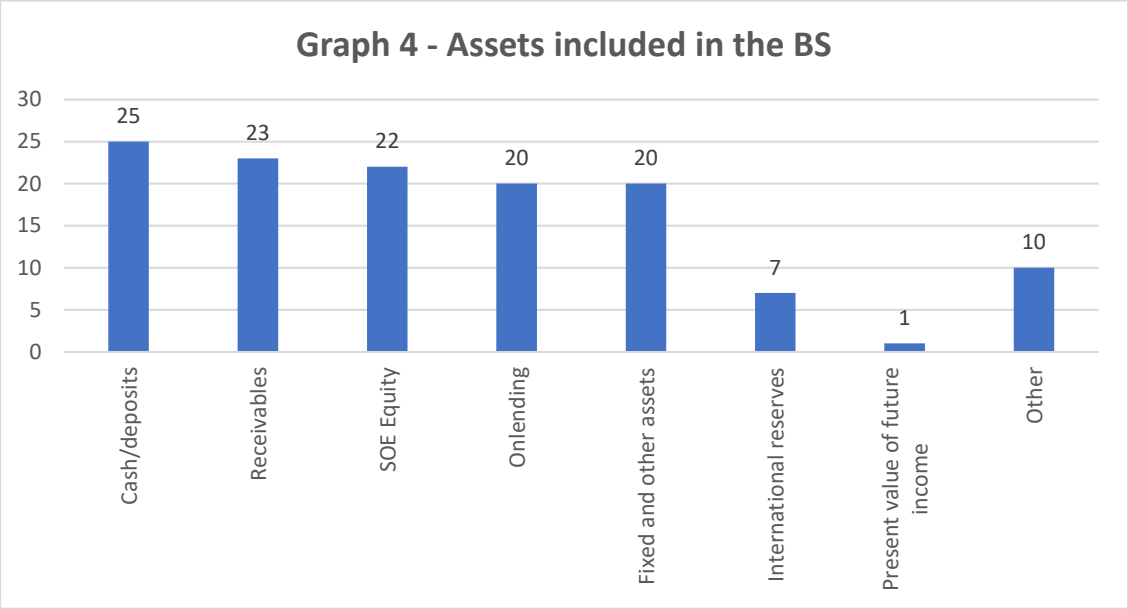
Assets	Liabilities
Financial Assets Cash reserves International reserves Sovereign wealth funds Loans to other government agencies	**Financial Liabilities** Government debt Deposits by local authorities and commercial banks
Non-Financial Assets Net worth of state-owned enterprises Infrastructure investments	**Future Liabilities** Fiscal Expenditures Social security system deficits Contingent liabilities
Future Assets Fiscal revenues Receivables	

Among the respondents to the survey, the most commonly reported assets in the sovereign balance sheet[14] include cash/deposits, receivables, equity of SOEs, on-lending, and fixed assets (more than 80 percent mentioned each). Only 28 percent of respondents included the international reserves. This number is slightly higher than the percentage of sovereign balance sheets including the central bank (24 percent) as there are cases where the foreign reserves are not legally owned and managed by the central bank. Regarding future assets and liabilities, only Canada indicates that it estimates the present value of future tax income and of future non-discretionary expenditures in its sovereign balance sheet, which are central elements to assess the net value of the sovereign.

[13] See Wheeler, 2004, and Koc, 2014.

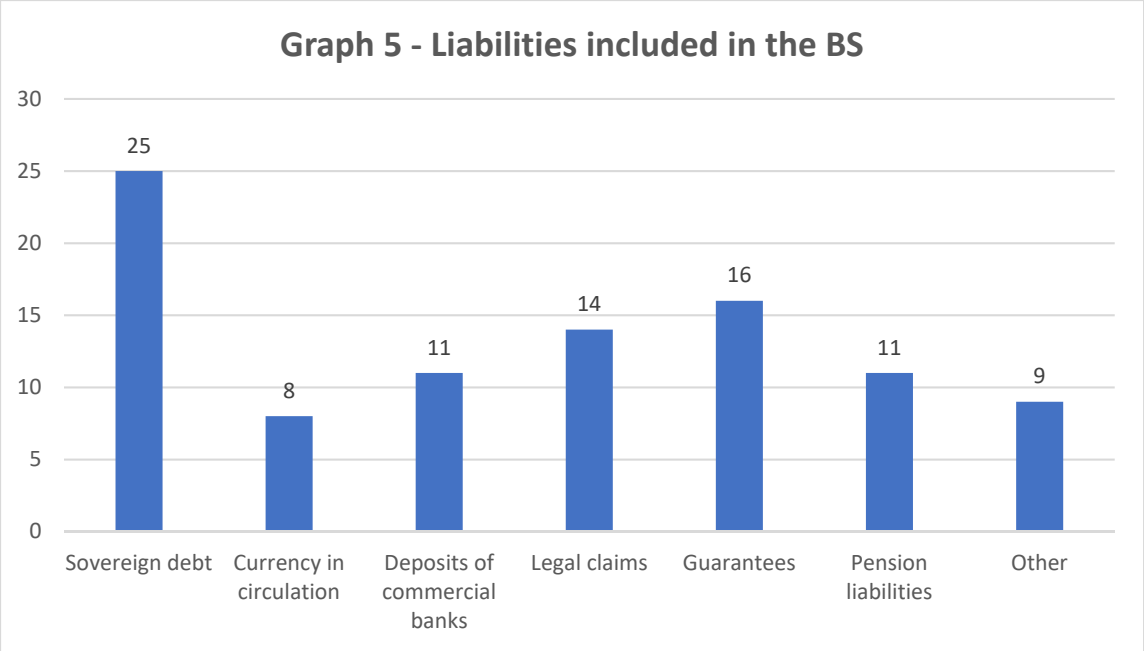
[14] The survey asked for the list of assets and liabilities included in the sovereign balance sheet (e.g., financial and physical assets and liabilities, present value of future taxes and expenses).

Various different and specific items are also mentioned, such as financial interest in foundations and non-profit organizations, assets of the public pension funds and SWF, derivatives, non-tangible assets, public sector pension assets, income contingent loans to tertiary students (see graph 4).



Source: Responses to SALM survey

With regards to liabilities, all respondents report sovereign debt liabilities on the government balance sheet. Beyond debt, there is a wide range of responses, with many countries including guarantees (64 percent), legal claims (56 percent), pension liabilities (44 percent), deposits of commercial banks (44 percent) and currency in circulation (32 percent). Other liabilities mentioned in the responses include public-private partnerships (PPPs) and derivatives (see graph 5).



Source: Responses to SALM survey

5. Main issues related to the production of the sovereign balance sheet

The development of a sovereign balance sheet presents many challenges, ranging from the availability of data, the complexity of the legal structure and governance arrangements between the central government and other public sector entities (sub-nationals, SOEs, SWF), theoretical considerations pertaining to the valuation methodologies (in particular for illiquid assets and liabilities), differences in accounting principles and standards across the public sector, to list but a few of them. This section examines the challenges reported by the respondents in the production of the sovereign balance sheet.

The respondents cited a number of issues and challenges in producing the government balance sheet. First, balance sheet items are often accounted for at the level of individual department or agency, therefore an efficient central budget management system is needed to consolidate the inputs into the aggregated balance sheet as well as agree on uniform accounting principles and consolidation procedures. Additional challenges concern data collection as well as valuation of some fixed assets for the first time (such as lands, roads, etc.), valuation of assets that have cultural value, contingent liabilities, intra-group transactions and estimates of the present value of future revenue and expenditure. The issue of valuation of assets and liabilities is particularly complex for the production of the initial balance sheet (initial valuation). Finally, consolidating the balance sheet requires clear understanding of the economic transaction underlying the various components (not only the legal form or accounting category) to ensure consistency and coherence. This seems especially challenging when the assets and liabilities of numerous entities

with different activities need to be aggregated in the balance sheet, not only based on legal classification but also on a true understanding of the economic nature of the activities.

To summarize the results presented in this section, it appears that a majority of respondents (78 percent) are producing a quantified balance sheet (financial statement) for reasons different than ALM considerations, such as financial monitoring or public accounting (assessing the net worth of the sovereign).[15] However, managing risks across the balance sheet requires a specific approach, focusing on the valuation of key financial assets and liabilities in a dynamic perspective, i.e. trying to assess the correlations between changes in financial assets and liabilities in the future. In this regard, one country does stress test the whole sovereign balance sheet as part of risk management (see box 1 on New Zealand). All the other countries engaged in ALM strategies, while producing exhaustive sovereign balances sheets with quantified numbers, are focusing on a more conceptual model centered around specific risk exposures (foreign currency risk, duration liquidity risk).

Finally, one dimension of the sovereign balance sheet which is not captured by the survey concerns contingent assets and liabilities, i.e. off-balance sheet items that could impact the fiscal soundness of the government. To effectively monitor the financial position of the sovereign (the main rationale for producing a balance sheet according to the respondents), a sovereign balance sheet needs to include at least some key exposure and risks related to contingent liabilities and assets, in particular when they are generated outside the public sector (e.g. commercial banks). Since the 2008 financial crisis, many countries have established macro-prudential committees to oversee the risks stemming from the consolidated balance sheet of the country (public and private), often centered around the central bank, the financial supervisors and the MOF. The interaction and coordination between macro-prudential supervision and sovereign ALM is a promising area to be investigated in future research.

[15] This result may however be linked to the nature of the respondents for this section, which are mostly staff responsible for public accounts and not debt or asset managers.

B. Framework to manage sovereign assets and liabilities

This section examines the SALM practices per se, looking at the categories of assets and liabilities that are managed, the entities in charge, the objectives of management, the reporting mechanisms, as well as the risk framework under which the respondents operate.

1. Organizations responsible for managing assets and liabilities and their objectives

The entities, which have responded to the survey reflect the heterogeneity of SALM practices across countries. Treasury responded in a third of the cases, DMO in a quarter of the cases, another department in the ministry of finance in another quarter of the cases. In a few instances, a unit within the central bank responded.

The responses to the survey confirm that in general:

- departments in the MOF (or the DMOs when they are outside the MOF) are responsible for the management of cash deposits on the Treasury Single Account (TSA) and other central government financial assets, as well as direct liabilities (sovereign debt) and State guarantees granted to various public or private entities (78 percent of the respondents explicitly mention both[16]). Several MOFs also indicated that they manage foreign currency cash accounts, distinct from the country's international reserves (for example South Africa);

- central banks manage foreign reserves. No respondent indicated that the country's international reserves were managed by the MOF or another ministerial department;

- Sixty percent of the respondents indicated that the MOF (or the entity in charge of debt management if outside the MOF) manages loans / onlending mechanisms to various beneficiaries (students, SOEs).

A*d hoc* entities are managing assets and liabilities related to public pension plans and SWFs according to a specific mandate in half the cases. The MOF is in charge of managing these assets in the other half of the cases.[17]

The objectives assigned to the management of asset and liabilities are generally specific to the assets and liabilities concerned. Government direct liabilities are managed to meet the government's financing needs in a cost-effective manner subject to a defined level of risk, SWF assets are managed to maximize long term returns within a risk tolerance limit or to smoothen the impact of variations in the price of a given commodity, etc. It confirms that in most cases,

[16] The true figure is probably higher as some respondents may have forgotten to report cash or TSA as it was an open question.
[17] Note that only 30 percent of the respondents mention these assets.

even in high-income economies, the various items in the sovereign balance sheet are managed at a sub-portfolio level with dedicated mandate and staff.

2. Risk management framework for assets and liabilities

Consistent with the image described above, risk management indicators for assets and liabilities are also always defined and monitored at a sub-portfolio level, with very rare exceptions, for example:

- Stress testing of the sovereign balance sheet (see Box 1);
- Constraint on the choice of foreign currency for direct debt based on the exchange rate regime (peg) or the currency allocation of the international reserves of the central bank;
- Total foreign currency exposure in the debt portfolio below a percentage of the government foreign currency assets

Box 1.

Stress testing of the sovereign balance sheet in New Zealand

NZ Treasury published in March 2018 its second Investment Statement[18] describing and stating the value of the Crown's portfolio of significant assets and liabilities, how this has changed from the past, and how it is expected to change in future. The assets and liabilities that make up the balance sheet are owned and managed by the diverse range of agencies that make up the government, including government departments, Crown entities and SOEs.

The report examines the resilience of the balance sheet to a range of shocks through fiscal stress testing under three separate scenarios:

1. a severe Wellington earthquake
2. an outbreak of foot-and-mouth disease
3. a major international economic downturn.

For each stress test scenario, a detailed description of the event was developed and various costs to the government: balance sheet revaluations (changes in the value of assets and liabilities as a result of the shock), direct fiscal cost (e.g. cost of rebuilding infrastructure) and indirect fiscal costs (changes to future government revenue and expenditure).

The impact of the shocks on the net debt of the government is assessed over a five-year period. The total financial impact on the Crown's balance sheet is also assessed, on a 15-year period, consistent with the expected growth effects of the shocks. These results inform fiscal strategy advice, for example by helping determine the targeted level of government debt, and the fiscal space necessary to respond to shock without the debt reaching an unsustainable level.

[18] Available at: https://treasury.govt.nz/publications/investment-statement/2018-investment-statement.

The risk management framework for government debt covers interest rate, foreign currency, liquidity and credit risks with indicators such as average term to maturity, (modified) duration, convexity, average term to re-fixing, share of foreign currency denominated debt, share of indexed / variable debt, debt coming due in the next year, and currency composition of foreign currency debt. In a few cases, stress tests and cost-at-risk assessments are also mentioned. A few countries list fiscal indicators for monitoring sovereign liabilities: ratio of government debt-to-GDP, ratio of guaranteed debt to direct debt, short term debt as a percentage of public expenditures, etc.

Regarding assets, the risk indicators typically include counterparty credit risk / exposure, (conditional) value-at-risk, tracking error, interest rate sensitivity measures, default risks and external or internal ratings.

Risk indicators related to counterparty credit risk are also mentioned by a few respondents for direct liabilities, in particular by countries using derivatives to hedge market risks and/or achieve the desired debt portfolio composition, or for contingent assets / liabilities (on-lending for example). Liquidity risk for cash buffers managed by the DMO and/or the MOF is monitored with a variety of indicators (e.g., percentage of debt redemption for a period of time, share of GDP, fixed amount).

3. Reporting, performance evaluation and accountability

The reporting, performance evaluation and accountability on the management of assets and liabilities vary considerable from one country to the other. One-third of the respondents mention reports on ALM being developed for internal or external audience (see box 5 on the case of Uruguay). In the UK for example, HM Treasury compiles the whole government accounts which consolidates more than 5,500 public sector entities although it does not have direct management responsibility for the assets and liabilities of all component organizations.[19] The budget process is often a key medium to report on management of assets and liabilities, sometimes with a specific parliamentary committee in charge of assessing the policy implemented and the results achieved.

All the countries that responded to this question mentioned formalized reporting processes for government debt and, when mentioned, financial assets managed by SWF and public pension plans, both internally (e.g. quarterly monitoring report to the supervisory board) and externally (e.g. monthly /quarterly debt statistical bulletin, annual report on the debt management strategy).[20] In the case of Chile, the country publishes on a quarterly basis information on the

[19] HM Treasury's report for Whole Government Accounts is available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/525617/WEB_whole_of_gov_accounts_2015.pdf.

[20] Only one respondent mentioned internal reports and no public reports.

government balance sheet (central government, central bank, SOEs) and calculates net financial positions in domestic and foreign currency (see box 2).

Box 2.

Reporting on net financial position of the public sector in Chile. Implications for sovereign ALM

The Ministry of Finance of Chile publishes on a quarterly basis a public debt statistical bulletin (Report on Public Debt Statistics[21]) that presents simplified balance sheets of the central government and of the central bank, with details on the public-sector debt (including guarantees, for example on students' loans, as well as transfers to SOEs). These balance sheets distinguish assets and liabilities in local currency and in USD, presenting a net financial position in both denominations. For example, as of September 2017, both the central government and the central bank had a net credit (long) position in USD and a net debit (short) position in local currency.[22]

Even though there is no formal coordination between the MOF and the Central Bank to implement a sovereign ALM strategy (e.g. composition of assets and liabilities to seek natural hedges), both institutions hold frequent discussions on recent developments in financial markets. Within the MOF, a committee composed of representatives from the Budget department, Treasury and the DMO, ensures coordination in the implementation of the debt strategy and the management of the assets of the government funds.

The ALM approach is currently used in Chile to support the decision on the currency composition of the assets of the Fiscal Stability Fund (*Fondo de Estabilización Económica y Social* – FEES), the revenues of which are generated by headline fiscal balances (in excess of 0.2 percent of GDP), and of the liabilities of the central government:

- the assets of the FEES are invested in securities denominated in currencies with low or negative correlation with the price of the copper (such as JPY);

- the strategy of the central government is to issue in local currency or in currencies with a strong positive correlation to the price of copper (such as USD).

Based on financial studies, currencies were identified, and theoretical ranges were determined for the currency composition of assets and liabilities. These results are balanced with other considerations (financial returns, market supply/demand, etc.) to fix the operational objectives (asset allocation of the FEES and medium-term debt strategy).

[21] Available at http://www.hacienda.cl/english/public-debt-office/statistics/public-debt.html. Also available are statistical series in Excel format.

[22] The net position of the central government essentially includes the sovereign debt and the financial assets of the government funds (FEES, *Fondo de Reserva de Pensiones*, etc.).

The responses to the survey confirm that in most cases performance is evaluated internally according to the metrics approved by the government (minister or council of ministers). There are countries such as Canada measuring performance based on the metrics provided through the annual reports publicly available.[23] Performance measurement of financial assets is generally well developed with the returns on investment assessed against benchmarks established for the different asset classes. Survey results cited that performance is evaluated on an annual basis.

Even managed separately, in all cases, assets and liabilities are audited internally and/or externally. In some countries audited reports are submitted to the parliament. In principle, asset and debt managers are accountable for their performance to the government and parliament, and ultimately to the public. Survey results indicate that the accountability framework for the liability (public debt) side of the balance sheet is well defined in all countries. There are some examples (Poland, South Africa, Switzerland and Turkey) where ministers of finance submit annual reports to the parliament on the state of the government debt. These reports may include financial tables and performance indicators of other assets such as SOEs (e.g. South Africa) and SWFs (e.g. Chile). In a few cases (Australia, Canada) annual reports for assets and liabilities are submitted to the parliament. All respondent countries publish regular reports on the internet for transparency and accountability.

[23] Report on the Management of Canada's Official International Reserves available at https://www.fin.gc.ca/activty/oirrep/oir-roli-16-eng.asp#Toc461452600.

C. Integration of asset and liability management considerations

The objective of SALM is to provide an integrated approach to managing the financial risks embedded in the consolidated sovereign balance sheet. A key element of this approach is to overcome the management of assets and liabilities of the public sector at a sub-portfolio level where individual entities are responsible for their own financial stocks and flows without considering the impact they have on the rest of the sovereign balance sheet (i.e. the existence of natural hedges or risk netting). This section examines how the respondents have been able to implement such an integrated approach to managing sovereign assets and liabilities, the challenges they are facing and the plans they have for the future.

1. Integrated framework for sovereign ALM

As described in section B.1. above, ALM activities are generally implemented to the extent that the same entity is responsible for both assets and liabilities, an obvious case being the management of the cash buffer by MOF or DMO mentioned by 78 percent of the respondents. In this case, the MOF or DMO is in charge of both government debt (liability) and government cash buffer (asset) and will be able to implement an integrated approach covering the maturity of the debt portfolio (refinancing risk), the currency denomination (including in 3 cases - 11 percent of the respondents - the maintenance of a cash buffer in selected foreign currencies), the level of cash surplus to be kept at hand, etc. In two cases (7 percent of the respondents), the cash buffer is located in a specific liquidity / stabilization fund under the responsibility of the MOF or the DMO. Such an approach is nevertheless very partial as the assets in question are often limited and funded by liabilities.

Financial assets and liabilities denominated in foreign currency are rarely managed together, mostly for reasons related to the independence of the central bank and/or constraints specific to currency unions (eurozone). The central bank is generally in charge of managing the international reserves of the country while the MOF issues government debt denominated in foreign currency. In many cases, the country's international reserves and external public debt are the largest financial asset and liability, respectively, in the public sector. Managing the foreign currency risks related to these assets and liabilities on an integrated basis would therefore make sense from a financial perspective, for example by aligning the currency of assets and liabilities. However, the central bank and the MOF are managing these assets and liabilities, respectively, under different governance frameworks and for different policy objectives. The only cases of consolidated management of the foreign currency exposure in our survey concerns the two countries where the central bank is in charge of the management of sovereign debt on behalf of the government (see boxes 3 and 4 on Canada and Denmark). Ad hoc transactions to hedge foreign currency exposures and risks across the sovereign balance sheet are mentioned in a few cases, as detailed in box 5 on Uruguay.

Box 3.

Total Market Value at Risk. Measuring the volatility of foreign currency assets and liabilities to fund the assets: The case of Canada

Canada's foreign exchange reserves assets are held in the name of the Minister of Finance and the associated liabilities that fund them are issued by the federal government; therefore, they do not appear on the Canadian central bank's (Bank of Canada's) balance sheet. The Bank of Canada acts as the fiscal agent for the federal government and works with the Department of Finance on the funding and investment policy for Canada's foreign exchange reserves. Canada's liquid foreign exchange reserves are held in the Exchange Fund Account (EFA). The purpose of the EFA is to provide foreign currency liquidity to the government and to promote orderly conditions for the Canadian dollar in the foreign exchange markets, if required.

The Minister of Finance requires that foreign exchange reserves be maintained at least at 3 percent of GDP. Canada's reserves are managed under an ALM framework that seeks to minimize net interest rate and foreign exchange risks between assets and liabilities. The ALM framework only covers the foreign currency reserve assets and liabilities. The rest of the domestic government debt portfolio is managed independently from the characteristics of the domestic assets of the government.

The Bank of Canada developed an ALM portfolio model that determines the combinations of assets and liabilities with the same duration and currency that maximize the returns (net of funding costs) for each possible level of portfolio risk, while also satisfying liquidity policy requirements.

In practice, the model finds the best combinations of assets and liabilities that balance the preferences for portfolio risks and net returns, taking into consideration the possible need for a call on reserves in times of market stress. The model combines the analyses of the individual decisions regarding the optimal asset allocation and funding mix subject to the constraint to match the duration and currency of assets and liabilities, determining potential combinations of EFA assets that provide the maximum level of net return for a given level of portfolio risk and the corresponding liabilities used to fund these assets. As a result, the ALM framework requirement to match currency and duration restricts the range of potential portfolios and reduces net expected returns.

The ALM model can also be applied to help quantify the costs of managing risks that arise in the presence of an asset-liability gap in the foreign currency reserves (i.e., when the value of assets is different from that of the liabilities).

A more comprehensive measure of market risk has been introduced recently to the ALM framework (total market value at risk) that includes risks related to mismatched movements in

credit spreads in the asset and liability portfolios, in addition to those from interest rates and foreign exchange rates (the EFA is predominately funded with cross-currency swaps generating some credit spread risks). It therefore provides a more comprehensive picture of the net risk borne by the EFA, which permits a more thorough assessment of the risk-return trade-off in the portfolio.

Box 4.

Managing on a consolidated basis government financial assets and liabilities in a pegged currency regime: The case of Denmark

The situation of Denmark is specific in several regards. First, in terms of foreign currency exposure as the peg of the local currency to the EUR has been a very robust anchor for the past decades. From this perspective, the risks associated with exposure of assets and liabilities to the EUR are considered as minimal by the authorities. Second, the central bank (*Danmarks Nationalbank* – DB) manages the government debt on behalf of the MOF which has institutional implications. Third, the government debt has been on a diminishing trend over the past years and one of the challenges of the authorities is to maintain a sufficient supply of government securities to ensure good secondary market liquidity, satisfy investors' needs and provide a reference yield curve for other Danish issuers.

With regards to the foreign currency exposure, the central government debt denominated in foreign currency is primarily raised to provide the central bank with adequate foreign exchange reserves. The currency distributions of the foreign exchange reserves and central government debt are therefore considered as one. It used to be subject to formalized coordination until the creation of the EUR. Since then the central government foreign debt has been diminishing and is only exposed to the EUR. Denmark has not issued foreign bonds in recent years and redeemed the last one in 2017.[24] On the asset side, the foreign exchange reserve is predominantly exposed to the EUR.

The central government financial assets and liabilities in local currency are managed on a consolidated basis. In particular, the duration and risks of the financial assets (cash buffer, three government funds) are included in the consolidated risk management of the central government debt. There is an ongoing process to extend the perimeter of liabilities and better integrate the risks from the SOEs in the sovereign ALM:

-The government guarantees for social housing are being replaced by a mechanism where the central government purchases government-guaranteed mortgage bonds (issued completely separate from mortgage bonds financing loans to households). When the central government buys those bonds by issuing government securities, the central government's assets and

[24] Two short-term commercial paper programs (USD and EUR) are still in place to facilitate quick build-up of foreign exchange reserves if needed. The USD-denominated securities are systematically swapped for EUR.

liabilities increase. The assets increase because the central government acquires a portfolio of government guaranteed bonds. The liabilities increase due to larger issuance of government securities. This increases transparency (the debt is now included in the sovereign balance sheet) and allows the related risks to be better included in the consolidated risk management of the central government;

-Risk indicators from SOEs (transactions, liabilities, duration of assets and liabilities before and after swaps, etc.) are being collected quarterly and used as an input to assess the risks of the sovereign balance sheet.

Box 5.

Three examples of transactions designed to address risk exposure across the sovereign balance sheet in Uruguay

Amante *et al.* (2018, forthcoming) describe and analyze different strategies implemented by Uruguayan authorities to reduce financial balance sheet vulnerabilities in the consolidated public sector, based on the identification of exposures under a sovereign ALM balance framework. In the case of Uruguay, the public-sector balance sheet comprises the central government, the central bank, the four major non-financial SOEs, and the state-owned insurance bank.

(i) Liability-management operations in managing FX risks during periods of high capital inflows:

From late 2010, Uruguay experienced strong capital inflows, and by 2015 the central bank had accumulated increasing levels of foreign-currency reserves, sterilized by short-term CB securities. Reserves were well above prudential metrics, and the CB was facing balance sheet pressures from the cost-of-carry of reserves. In turn, the government was keen to pursue its debt de-dollarization strategy.

In July 2015, the central government and the central bank launched a joint operation of issuance and exchange of public securities which resulted in improving the ALM of the individual balance sheets of both the central government and central bank. In the case of the latter, a reduction in USD assets and local-currency liabilities reduced the balance sheet mismatches and cost of carry. The central government was also able to reduce its currency mismatches by operating on both sides of its balance sheet: funding itself in local currency, and simultaneously increasing its dollar assets by cashing-in the exchanged securities from the central bank.

(ii) Addressing the lack of FX hedging instruments in the local market to support SOEs management of risk exposure:

The lack of FX hedging instruments in the local market has forced entities in Uruguay to look for solutions to risk management exposures through cross-sectoral natural hedges within the

sovereign balance sheet as the balance sheets of the central bank on one side, and of two largest state-owned companies (ANCAP and UTE) on the other, reflect opposite exposures in relation to the USD exchange rate.

During 2017, the central bank sold dollar forwards to both two state-owned companies at market prices, and contracts included standard counterparty-risk clauses allowing the redistribution of foreign exchange risk among those entities with the best capacity to absorb it, thus providing an integral risk management approach to the consolidated public sector.

(iii) Developing domestic market instruments that could help the state-owned insurance company reduce its balance sheet currency mismatches associated with annuities payments:

In Uruguay's defined-contribution pillar of the pension system, pension payments (annuities) are served by insurance companies, including the state-owned Banco the Seguros del Estado (BSE). According to law, these annuities are adjusted by the nominal wage index. Given that there are no available financial instruments denominated in local currency and indexed to wages, the BSE invests most of its assets under management in CPI-indexed securities– thus running an exposure to the relative movements of nominal wages and inflation.

To address the growing currency mismatch in BSE, the government created a new daily accounting unit that would track changes to the nominal wage index (*Índice Medio de Salario Nominal* - IMSN) and is planning to issue Treasury Notes in local currency tied to this index, to supply market securities that can be used by insurance companies to match the currency and maturity composition of assets and liabilities in their retirement annuity business. In terms of ALM, issuing these bonds would also provide a natural hedge to the government`s balance sheet against output shocks that affect tax revenues: given the pro-cyclicality of wages, debt-service capacity is positively correlated with the interest payment burden.

Source: Amante et al. (2018, forthcoming).

Another element of ALM integration mentioned by four respondents concerns the joint management of government debt and of the government's equity holding in SOEs. Consistent with the sub-portfolio approach, this consolidation happens when a sole ministry or directorate is responsible for both these elements of the balance sheet. It facilitates the decision, assessment and monitoring of contingent assets (on-lending) and liabilities (State guarantee) but does not translate however into an integrated framework in terms of financing and exposure of the whole public sector.

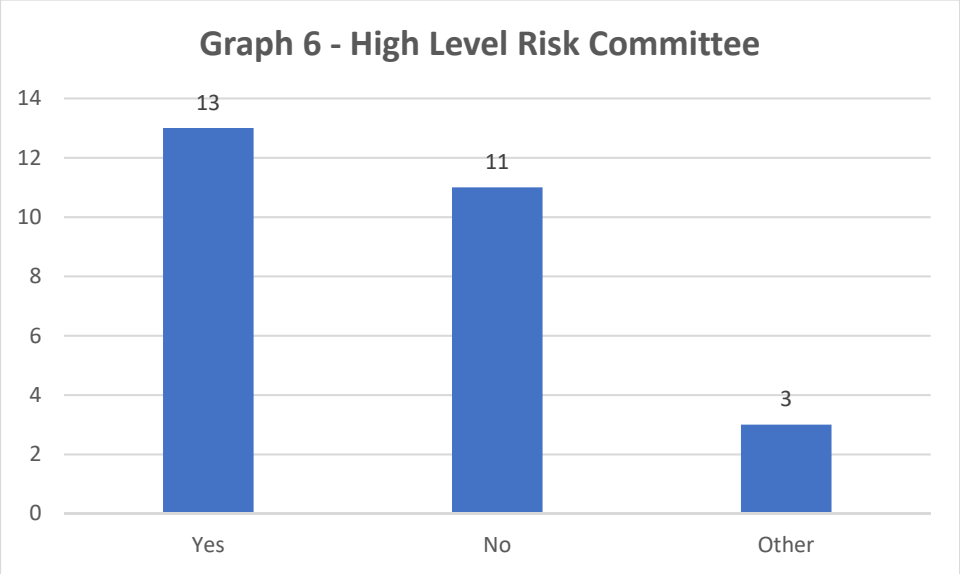
2. Governance arrangements supporting sovereign ALM

A challenge in the implementation of SALM is the coordination, communication and exchange of information among entities in charge of managing specific assets and liabilities in the public

sector.[25] Formal mechanisms such as SALM committees are necessary to ensure that the coordination and exchange of information are sustainable in the long term and do not rely on personal or *ad hoc* arrangements. For this reason, ALM committees (ALCO) are common practices in banks and other financial institutions, while dedicated committees have been in place in the public sector for the coordination of other policies, such as debt management committees (debt, monetary and fiscal policies) or macro prudential committees (financial sector).

The survey explored the existence and composition of an ALCO and/or risk management coordination committees at all levels. Overall, half of the respondents indicate that they have a high-level risk management committee. Only four (Canada, Switzerland, U.K. and Uruguay) reported ALCO-like committees to manage sovereign assets and liabilities (see graph 6).

Others mentioned coordination at least once a year between the minister of finance and the governor of the CB, or in the absence of a committee, the existence of a specific team, often in the Treasury, responsible for advising the government on ALM issues.

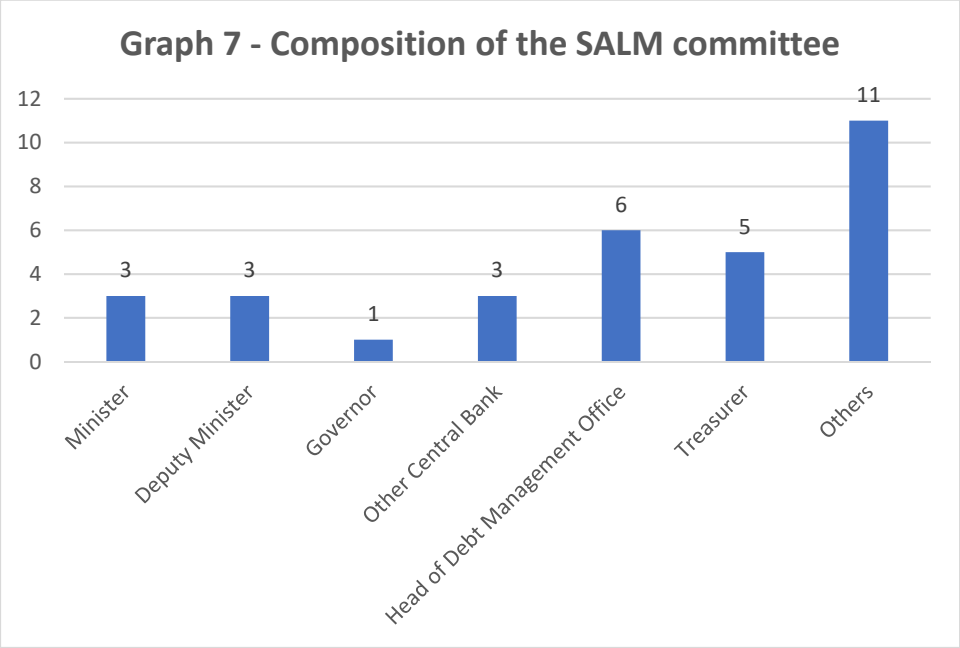


Source: Responses to SALM survey

Responses varied on the composition of the high-level risk committees. The heads of the Treasury (5) or of the debt management office (6) are often mentioned as chair or member of the committee. Fewer countries report on the participation of the minister (3) or deputy minister (3). The governor of the central bank was mentioned once, with other officials from the central bank identified in a few more cases (3) as members of the committee. This confirms the sensitivity of the issue of the independence of the monetary authority in implementing an ALM approach in

[25] This would not be necessary in the theoretical case of one single entity being responsible for managing jointly all the assets and liabilities of the sovereign. None of the respondents present such a situation.

most countries. Other members of the committee include directors of departments of the MOF, such as budget, financial market, guarantee department and macroeconomic forecasting unit (see graph 7).



Source: Responses to SALM survey

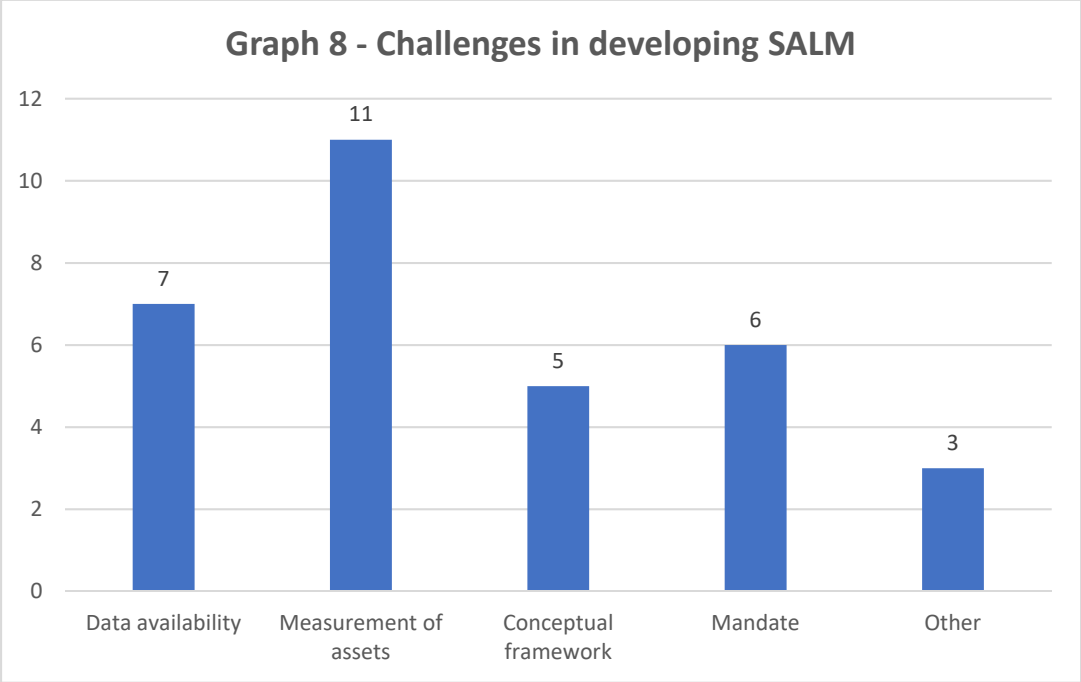
3. Challenges and priorities of debt managers for sovereign ALM

The responses to the survey confirm that there is no international consensus on the specific role of the debt management offices in sovereign ALM. One argument in favor of the involvement of government debt managers is that they usually have the stronger technical expertise and capacity in financial management among government units. They already use cost-risk models to develop their issuance strategy and assess trade-offs between financial returns and risks. On the other hand, as often mentioned by debt managers, there is a risk that expanding their role to sovereign ALM could lead to overstretching their (usually) limited staff and losing their focus on their primary mission which is managing the debt of the central government. The characteristics and history of each country appear to guide the decision to task the government debt manager with a larger ALM mandate or not.

This section examines the challenges debt managers reported and their priorities in developing SALM practices.

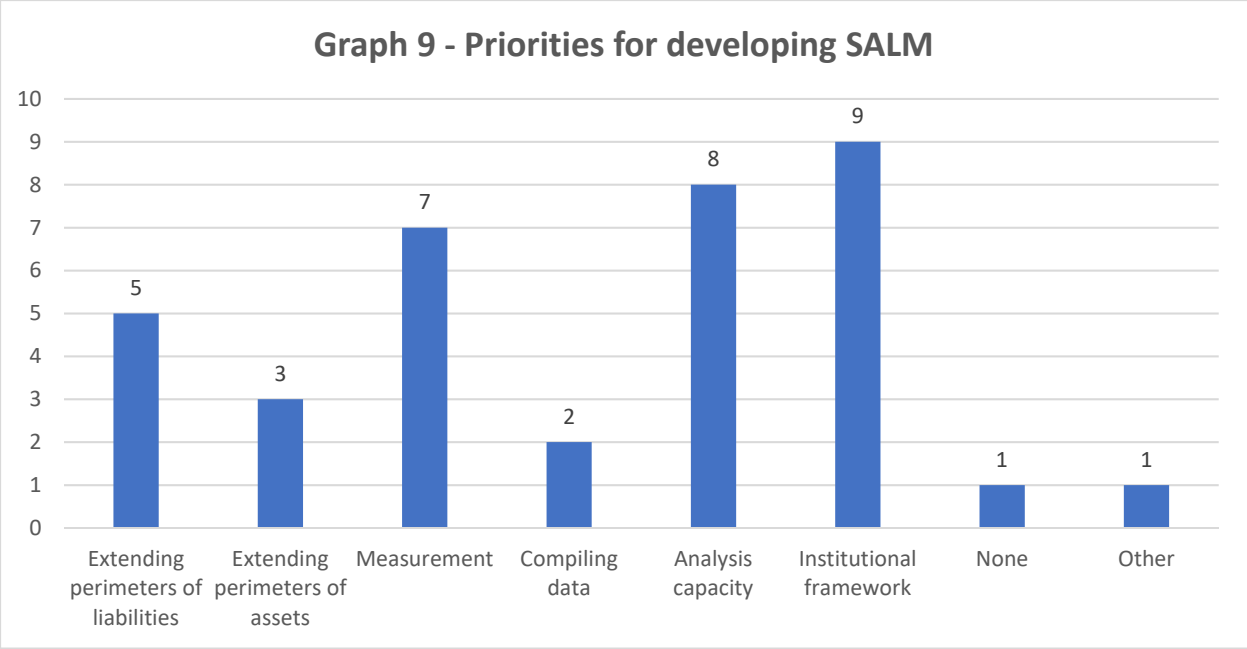
Among all, 82 percent of the respondents mentioned one or several challenges, which is consistent with the information collected in the rest of the survey as no country reports implementation of a fully integrated SALM framework.

Respondents face several challenges in the preparation of a sovereign balance sheet. They cited the measurement of asset values (44 percent) as a common challenge followed by data availability (28 percent). Other countries lack a specific mandate (24 percent) or a conceptual framework (20 percent) for developing a more integrated approach to sovereign ALM. Lack of high level political commitment and technical implementation issues (such as IT issues) were also mentioned in a few cases (see graph 8).



Source: Responses to SALM survey

The priorities most commonly mentioned for further developing a sovereign ALM are the more fundamental components, such as the institutional framework (36 percent), building capacity to perform the analysis (32 percent) and improving measurement (28 percent). Fewer respondents mentioned expanding the perimeter of assets or liabilities currently covered (12 percent and 20 percent respectively), as well as improving the compilation of data (8 percent). One respondent added the impact of the realization of contingent liabilities on the balance sheet (see graph 9).



Source: Responses to SALM survey

Conclusion

Commercial banks of other financial sector entities have been jointly managing their assets and liabilities in a holistic perspective for decades. It is widely accepted that joint evaluation of risks and gains for assets and liabilities allows balance sheet managers to manage their risk in a cost-efficient way or to benefit from higher returns by utilizing natural hedges. On the other side, considering that the discussions on the implementation of ALM to the sovereign balance sheet started in the early 2000s, the number of countries developing this framework is limited. Furthermore, the way that sovereigns are implementing SALM varies widely from country to country. After almost two decades, sound practices for sovereign ALM have not been developed, and most governments cannot benefit from the implementation of a holistic approach to manage their balance sheet. Such a framework would make a significant contribution to achieving development goals through saving cost and/or maximizing return. Of course, the holistic perspective would enable countries to oversee and manage all kinds of risks and prioritize and synchronize their policy response like conducting an orchestra. As a result, SALM would help countries increase their resilience to external shocks.

According to the results of the survey, almost all 28 respondent countries produce accounting balance sheets and 65 percent employ either a fully or semi-accrual accounting system. However, only six countries indicated that one of the reasons for producing a balance sheet is to determine mismatches between assets and liabilities. This clearly shows that SALM is rarely implemented, and assets and liabilities of the public sector are managed separately, except in a few countries such as Canada, Denmark and New Zealand.

The respondents cited that the main challenges in the implementation of a SALM framework and production of a sovereign balance sheet are institutional arrangements, uncertain or lacking mandate, coordination between the institutions,[26] data availability and measurement of the assets. These challenges, addressing the governance framework and technical difficulties, are indeed pointing to the need to focus on the implementation of SALM, as it seems to be clearer at the conceptual level.

Despite the challenges, countries implementing SALM produce a sovereign balance sheet based on their specific constraints and needs, employing different approaches. To this end, six countries included central banks in the sovereign balance sheet while seven respondents mentioned that international reserves are included. On the other hand, six countries included SWF but not all of them have a joint management of assets and liabilities. Fourteen countries include SOEs in their sovereign balance sheet. However, only four of them reported a combined management framework and one country indicated that SOEs are monitored and guided through annual

[26] Existing country practices, which are quite limited except the management of the cash buffer, do emphasize the important role of governance arrangements (e.g. high-level committees) in addressing coordination issues associated with integrated management of sovereign assets and liabilities.

meetings and providing guidance on their financial transactions. Adding SOEs and contingent liabilities to the sovereign balance sheet enables countries to introduce a broader SALM framework.

The survey also confirms that there is a fragmented structure across different institutions and no international consensus on the role of the debt management offices in sovereign ALM. It has been widely argued that considering debt managers' stronger technical expertise and capacity in financial management among government units, DMOs' mandate could be widened to coordinate joint management of the risk related to sovereign financial assets and liabilities. In this regard, the roles of DMOs in New Zealand and Uruguay seem to be good examples. On the other hand, expanding the DMOs' role to sovereign ALM should not be at the risk of weakening their primary mission, which is managing the debt of the central government.

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Annex 1: List of respondent countries

Australia
Austria
Bulgaria
Canada
Chile
Czech Republic
Denmark
Estonia
Finland
France
Indonesia
Israel
Japan
Republic of Korea
Latvia
New Zealand
Norway
Poland
Portugal
Slovak Republic
Slovenia
South Africa
Spain
Switzerland
Thailand
Turkey
United Kingdom
Uruguay

Annex 2: SALM Survey

A. Balance Sheet Approach - Joint Management of Assets and Liabilities

Depending on the institutional arrangements in your country, another department (such as the General Accounting Office) may be better placed to respond. Let us know if you prefer us to follow up directly with them. In this case, please provide contact information.

1- Has your country produced a sovereign balance sheet?
   a. Yes
   b. No

   If yes, please proceed to Question 2
   If no, please proceed to Question 10

2- What is the rationale for producing a sovereign/government balance sheet? (please select all relevant)
   a. Monitor/oversee the overall financial position of the sovereign/government
   b. Determine the mismatches between assets and liabilities
   c. Determine the government's net worth
   d. Other. Please specify _____

3- The sovereign balance sheet is
   a. A financial statement with actual data
   b. A more conceptual statement with limited actual data[27]
   c. Other. Please specify _____

4- The sovereign/government balance sheet produced includes (please select all relevant)
   a. Central Government
   b. Central Bank
   c. State Owned Enterprises (SOEs)
   d. Municipalities / Local administrations
   e. Sovereign Wealth Fund(s)
   f. Other. Please specify _____

5- Assets included in the sovereign/government balance sheet (please select all relevant)
   a. Cash/Deposits
   b. Receivables
   c. SOE equity
   d. Onlending
   e. Fixed and other assets (e.g., real estate, natural resources)
   f. International reserves
   g. Present Value of Future Income (taxes, fees, seniorage)
   h. Other. Please specify _____

[27] Illustration and examples can be found in IMF, "Sovereign Asset and Liability Management - Guidance for Resource-Rich Economies", 2014 (available at http://www.imf.org/en/publications/policy-papers/issues/2016/12/31/sovereign-asset-liability-management-guidance-for-resource-rich-economies-pp4876)

6- Liabilities included in the sovereign/government balance sheet (please select all relevant)
   a. Sovereign debt
   b. Currency in circulation (Monetary Base)
   c. Deposits of commercial banks
   d. Legal claims
   e. Guarantees
   f. Pension liabilities
   g. Present Value of Future Nondiscretionary Spending
   h. Other. Please specify _____

7- How often do you produce a sovereign/government balance sheet
   a. Once a year
   b. Irregular or on an ad-hoc basis
   c. Other. Please specify _____

8- Do you publish the sovereign/government balance sheet or is it publicly available?
   a. Yes
   b. No

9- Please specify the main challenges which you have been facing while producing the sovereign/government balance sheet

10- Do you produce any financial statements other than the balance sheet? Please specify _____

11- The accounting system which your country employs in the public sector is
   a. Cash based
   b. Semi-accrual based
   c. Fully accrual based
   d. Other. Please specify _____

B. Sovereign financial assets and liabilities under management

12- What are the types of sovereign/government financial assets and liabilities **your organization** is responsible for managing?

Assets	**Liabilities**

13- Are departments/agencies/entities **outside of your organization** responsible for managing sovereign assets and liabilities? If yes, could you provide information?

Unit in charge	Assets	Liabilities

14- What are the objectives for the sovereign assets and liabilities that are under your management and the management of the other departments/agencies/entities mentioned in Question 13 above?

Unit in charge	Assets/Liabilities	Objective(s)

15- Please explain how your management of the sovereign liabilities takes into account the objectives and constraints of the sovereign assets and vice versa?

Guidance to respondents:

The information here could include how you implement your liability management strategy, taking into account the nature and characteristics of sovereign assets, or how you implement your asset management strategy taking into account the nature and characteristics of sovereign liabilities; whether the objectives of liability management or asset management are coordinated to ensure that they are consistent with each other; and whether there is an explicit overall balance sheet framework that underpins both the objectives and the strategies guiding the management of the sovereign assets and liabilities.

C. Governance

16- Is there a committee (SALM committee) coordinating/managing the overall sovereign balance sheet risks?

a. Yes
   i. High Level Debt/Risk Management Committee
   ii. High Level Asset and Liability Committee (ALCO)
   iii. Technical level coordination committee(s)
   iv. Other. Please specify _____
b. No

If yes, please proceed to Question 17

If no, please proceed to Question 18

17- Composition of the SALM committee (you can check more than one answer)
   a. Minister
   b. Deputy (vice) minister
   c. Governor
   d. Deputy (vice) governor
   e. Head of Debt Management Office
   f. Treasurer
   g. Other. Please specify _____

18- Please explain institutional arrangements and efforts made to ensure that the management of sovereign assets and liabilities is done on a consistent basis?

Guidance to respondents:
Please give details about the institutional arrangements in place to ensure consistency in the management of sovereign assets and liabilities where there is more than one unit in charge.

D. Risk Management Framework - Risk Indicators and Risk Modeling

19- Please list the indicators that you (and the other departments/agencies/entities mentioned in Question 13) use to monitor the risks associated with the management of sovereign assets and liabilities

Assets/Liabilities	Risks	Indicators to monitor risks

20- Please list the methods that you (and the other departments/agencies/entities mentioned in Question 13) use to calculate these risk indicators?

Guidance to respondents:
The information here could include measures of duration, average maturity, currency mismatches, Value-at-Risk (VaR) and other percentile measures, Cost-at-risk (CaR) and other percentile measures, liquidity measures, and credit risk measures.

Assets/Liabilities	Risk indicator	Method(s)

E. Reporting, Performance Evaluation and Accountability

21- Please describe the process through which you report on the management of the sovereign assets and liabilities you are responsible for and how your performance is evaluated? Same question for other departments/agencies/entities mentioned in Question 13.

Guidance to respondents:

Please give details about (a) to whom you report on your management of the sovereign assets and liabilities; (b) how your management performance is evaluated; and (c) whether the reports are made public.

F. Other information

22- What is the greatest challenge in developing SALM?

a. Data availability
b. Measurement of assets
c. Conceptual framework
d. Mandate
e. Other. Please specify _____

23- Do you have plans or a strategy for developing SALM?

a. Over the next 12 months
b. Longer term
c. No plans

24- What are your priorities for developing SALM?

a. Extending perimeter of liabilities
b. Extending perimeter of assets
c. Measurement
d. Compiling data
e. Developing analysis capacity
f. Establishing institutional framework
g. None
h. Other. Please specify _____

25- Please share any additional information relating to the management of sovereign assets and liabilities in your country.

Guidance to respondents:

You could include here proposed changes being discussed or already approved concerning the management of sovereign assets and liabilities in your country, or the institutional framework associated with it.