



**MONETARY AND
CAPITAL MARKETS**

Sovereign Asset and Liability Management in EMs—Experience of Uruguay

**OECD PUBLIC DEBT MANAGEMENT RESEARCH
CONFERENCE—SEPTEMBER 4–5, 2019**

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Outline

1. What is SALM and why is it used by sovereigns?
2. SALM objectives and practices
3. Institutional considerations
4. How SALM is implemented in practice: Uruguay
5. Considerations for policymakers

1. What is SALM and why is it used by sovereigns?

What is SALM and How is it Used?

- SALM is an expanded analytical framework that is applied to the sovereign balance sheet and is based on general principles for effective sovereign asset and liability management, taking account of the country specific context:
 - Assets: maximize returns given the country's risk tolerance
 - Liabilities: minimize costs subject to acceptable level of risk
- The aim is to ensure sustainability of the sovereign balance sheet through policies that address potential vulnerabilities, while attaining minimum financing costs and maximum asset returns within set risk limits
- Entails monitoring and quantifying the impact of economic and financial risks, including movements of FX, interest rates, inflation and commodity prices,
- Helps quantify and manage potential long-run fiscal and financial challenges from contingent liabilities, e.g., bank recapitalizations, public enterprise restructurings

Why Does SALM Matter?

A new environment has emerged for many sovereigns:

- Challenging demographics and pension liabilities
- Rapid increase in balance sheets of governments and central banks
- Accumulation of sizeable nonrenewable resources
- Contingent liabilities tied to public enterprises

Against this background, the integrated management of the sovereign balance sheet—debt, FX reserves, pension funds, SWF, public enterprises—is assuming new importance

What can SALM Address?

Cost and risk factors

- Interest and exchange rate movements?
- Maturity?
- Other balance sheet exposures?

And what are the challenges in evaluating the public sector balance sheet?

- How wide is the desirable perimeter?
- Can one identify and quantify all relevant risks?
- What are the data needs?

2. SALM objectives and practices

Goals, Constraints & Tools

SALM Goals <ul style="list-style-type: none">• Preserve positive sovereign financial net worth• Support sustainable macroeconomic policies		
SALM Constraints		
Sovereign Balance Sheet Constraints	Domestic Constraints	External Constraints
<ul style="list-style-type: none">• Initial sovereign debt level and composition• Initial sovereign asset level and composition	<ul style="list-style-type: none">• Policy interest rates and inflation• Contingent liabilities• Institutional organization• Market development	<ul style="list-style-type: none">• Exchange rates• External interest rates• Commodity prices• Asset prices• Market risk appetite
SALM Tools <ul style="list-style-type: none">• Financial risk models• Contingent claims approach• Intuitive risk management approaches		

Defining the Process

Important to first define the major components in the sovereign balance sheet,

- Sovereign liabilities: public debt, pension and contingent liabilities
- Sovereign assets: foreign reserves, SWFs (where available)

In order to appropriately apply an integrated sovereign-balance-sheet approach that intends to achieve:

- Lower financing costs
- Higher risk-adjusted returns
- Greater macrofinancial stability

Optimizing isolated sovereign liability or asset balance sheets is “sub-optimal.”

Defining the Process

Stylized Sovereign Balance Sheet – IMF, GFSM (2014)

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

¹ This category includes both “mineral and energy resources” or “permits to use natural resources,” as relevant for each country.

² Includes bank notes and coins issued. These are normally reflected in the balance sheet of the central bank, but in some cases also the central government's, depending on country-specific arrangements for the issuance of currency. In exceptional cases, countries may allow designated commercial banks to also issue currency under the authorization of the central bank, but this is unusual.

³ In the *Government Finance Statistics Manual 2014* conceptual framework, corporations' liabilities in the form of “equity and investment fund shares” is equal to the value of its shares at current market prices. Where a public corporation is fully owned by the government or the market value of shares cannot be observed because they do not trade in the market, the value of equity and investment fund shares is calculated as a residual (assets minus liabilities other than equity), so that the statistical net worth of such a corporation is zero. Therefore, own funds of public corporations are equal to the value of equity and investment fund shares plus net worth.

Standardizing Data for Analysis

Data on public assets and liabilities is a challenge:

- Around 69 countries produce government balance sheets
- Other countries publish only fiscal budgets, balance sheets of CBs, SOEs, etc.

Narrow approach: only public debt and FX reserves.

Broad approach: all sovereign assets and liabilities.

Global Financial Statistics (GFSM): Analysis based on accounting principles. It covers all assets and liabilities under the general government ownership.

Public Sector Balance Sheet Database Coverage

Public Sector (31)	General Government (31)	Central Government (7)
Albania*	Belgium	Barbados
Australia	Bhutan	Malawi
Austria*	Bulgaria	Marshall Islands
Brazil*	Hong Kong SAR	Micronesia
Canada	China	Palau
Colombia*	Croatia	Serbia, Republic of
El Salvador	Cyprus	Solomon Islands
Finland	Czech Republic	
France	Denmark	
Gambia*	Estonia	
Georgia	Greece	
Germany	Hungary	
Guatemala*	Iceland	
India*	Ireland	
Indonesia	Italy	
Japan	Kyrgyz Republic	
Kazakhstan	Latvia	
Kenya*	Lithuania	
Korea	Luxembourg	
New Zealand	Moldova	
Norway	Netherlands	
Peru*	Poland	
Portugal*	Romania	
Russia*	San Marino	
South Africa	Slovak Republic	
Tanzania*	Slovenia	
Tunisia*	Spain	
Turkey*	Sweden	
Uganda*	Switzerland	
United Kingdom	Ukraine	
United States	Uruguay	

*Based on a single year of data, in most cases compiled as part of the Fiscal Transparency Evaluation: Albania, 2013; Austria, 2015; Brazil, 2014; Colombia, 2016; The Gambia, 2016; Guatemala, 2014; Kenya, 2013; Peru, 2013; Portugal, 2012; Tanzania, 2014; Tunisia, 2013; Turkey, 2013; Uganda, 2015.

Source: Fiscal Monitor—Managing Public Wealth

3. Institutional Considerations

Constraints in Implementing a SALM Framework

Sovereign Balance Sheet Constraints	Domestic Constraints	External Constraints
<ul style="list-style-type: none">• Initial sovereign debt level and composition• Initial sovereign asset level and composition	<ul style="list-style-type: none">• Policy interest rates and inflation• Contingent liabilities• Institutional organization• Market development	<ul style="list-style-type: none">• Exchange rates• External interest rates• Commodity prices• Asset prices• Market risk appetite

Institutional Considerations

Management of the various components of the sovereign balance sheet is typically entrusted to different government entities:

- Public debt: ministry of finance
- Foreign reserves: central bank
- SWFs: depends on arrangement
- Pension liabilities: pension fund (s)
- Public Enterprises

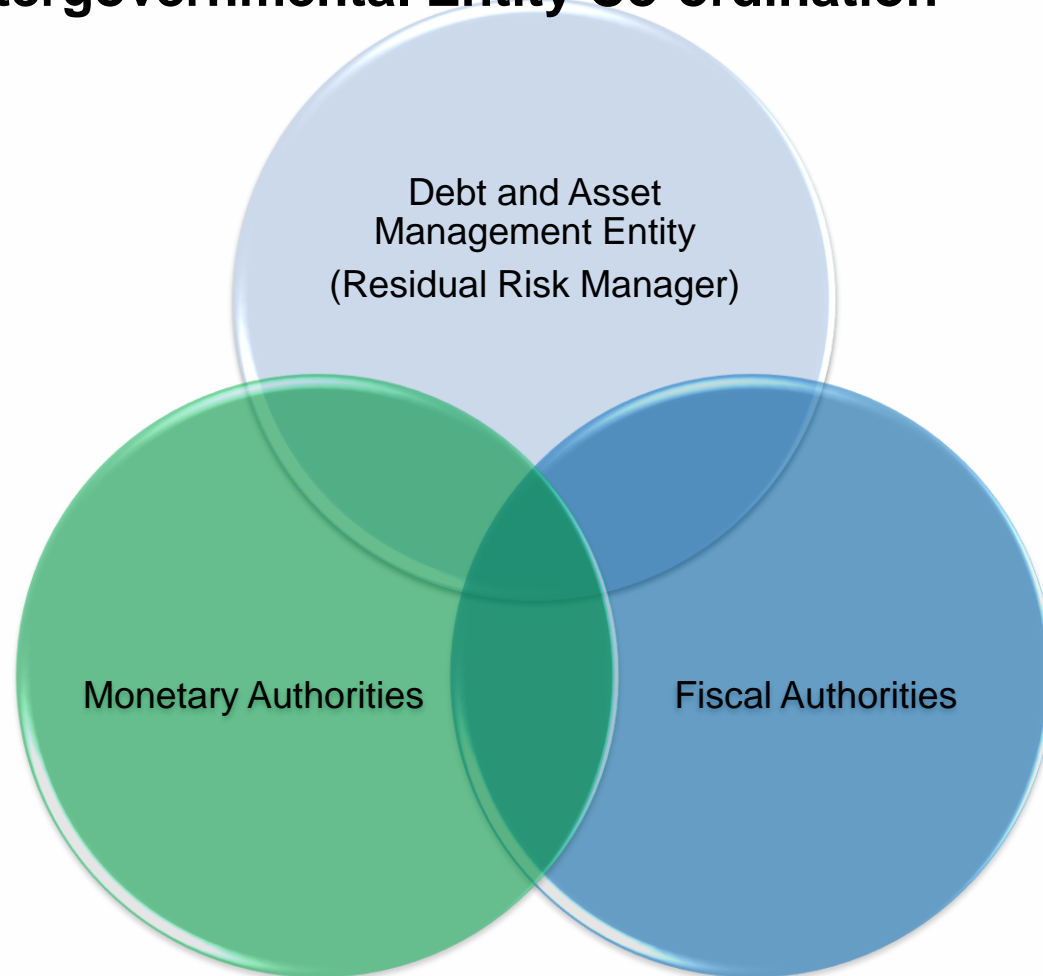
Each entity has its own risk-return objectives and strategies

To have an integrated sovereign risk management framework that provides for natural hedges, there is need for coordination among the different entities that manage the individual components of the sovereign balance sheet

Also, to successfully implement optimal sovereign debt/asset allocation strategies, there is need for minimum domestic debt market development and financial intermediation

Institutional Considerations

Intergovernmental Entity Co-ordination



- Entities should remain **accountable** for the efficient management of the businesses and balance sheets
- Ability to transfer risks to the center **must not become a means to shift balance sheet problems** that could have been managed effectively at the level of the entity

4. How SALM is Implemented in Practice: Uruguay

Debt Management Objectives

- Debt management in Uruguay follows a well-defined mandate aimed at minimizing expected debt servicing costs of sovereign debt and the cost of holding precautionary liquid assets, subject to an acceptable level of risk, over the medium- to long-term
- Beyond managing the cost and risk of the central government's liabilities, authorities in Uruguay take an integrated asset-liability management (SALM) approach to risk management of the country's overall public sector portfolio. Uruguay's definition of public sector debt encompasses the wider public sector, including financial and non-financial public corporations (SOEs) and the Central Bank of Uruguay (BCU)
- The SALM approach explores whether the financial characteristics associated with assets that the public sector manages can provide insights for managing the cost and risk of the government's liabilities
- Implementation of the SALM framework in Uruguay has been institutionally anchored in a Public Debt Coordination Committee (PDCC) created in 2016 between both institutions

Implementation

Public Debt Coordination Committee (established in April 2016).

- The adoption of a formal PDCC significantly improved the coordinated approach to a more systematic adoption of risk-mitigation strategies of the public-sector balance sheet— facilitating transactions between different parts of the public sector that would not have taken place if debt management had focused solely on general or central government debt.
- Formally coordinates the implementation of the debt management strategies of the Central bank and the Government, development of domestic markets, management of the public sector consolidated balance sheet and potential risk-mitigating strategies for publicly owned companies.
- Co-headed by Manager of Economic Policy and Markets (Central Bank of Uruguay) and Director of Debt Management Division (MoF)

Design and Practical Implementation

- **Risk-Quantification**

- ▶ Currency exposure based on **net balance sheet currency positions** and **cyclical properties of macroeconomic variables**.
- ▶ Focus on different categories of flow and stock risks, as well as off-setting cash-flows (assets and financial hedges).

- **Strategy**

- ▶ Identify opportunities to better distribute currency risk across different institutions in the public sector (cross-sectoral natural and financial hedging).

Identification of Exposures

Consolidated Public Sector Balance Sheet
(end-December 2017, in USD billions)

Assets		Liabilities	
Financial Assets	20.3	Financial Liabilities	48.4
CP-Indexed Local Currency (LC-UI)	0.8	CP-Indexed Local Currency (LC-UI)	10.2
Nominal Uruguay Pesos (UYU)	0.6	Nominal Uruguay Pesos (UYU)	14.2
Wage-Indexed Local Currency (LC-UW)	1.4	Wage-Indexed Local Currency (LC-UW)	2.2
Foreign Currency (FX)	17.5	Foreign Currency (FX)	21.8
		Net Financial Worth	-28.1
Other Assets	12.9	Other Liabilities	4.29
Property, Plant and Equipment	8.0		
Other	4.9		
Total Assets	...	Total Liabilities and Net Worth	...

Source: Central Bank.

Identifying Balance Sheet Currency Mismatches

GENERAL GOVERNMENT

 Short in
Dollars

- Despite public debt de-dollarization strategy, still half of it in FX currency.
- Main asset is ability to tax, denominated in pesos and tied to business cycle.

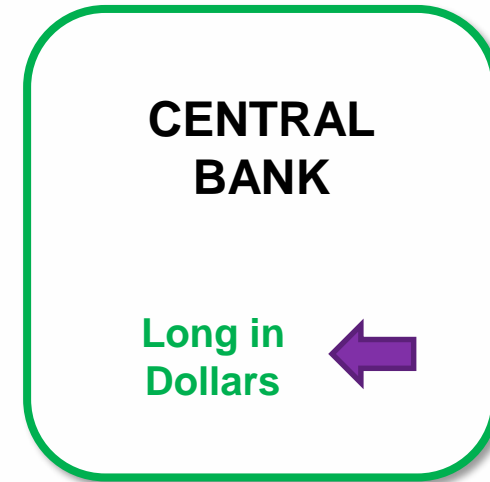
STATE-OWNED ENTERPRISES

 Short in
Dollars

- Despite public debt de-dollarization strategy, still half of it in FX currency.
- Main asset is ability to tax, denominated in pesos and tied to business cycle.

Identifying Balance Sheet Currency Mismatches

- Large stock of reserves (net of reserve requirements of commercial banks), well above prudential metrics.
- Sterilization policies has led to buildup of interest-bearing Central Bank bills (quasi fiscal costs).
- Net worth is sensitive to exchange rate fluctuations.



Central Bank **cannot** transfer to the Treasury any accounting valuation gains derived from holding reserve assets during periods of exchange rate depreciation.

Different type of currency mismatch in insurance companies serving retirement annuities

- Pension payments in Uruguay are indexed to past nominal wage changes, as established in the Constitution.
- Under the individual account pillar, insurance companies are required to serve retirement annuities.
- Their assets are mostly invested in CPI-linked government bonds, as there are no wage-linked market securities they can buy.
- Currency mismatch in state-owned insurance bank will tend to grow as pension system matures given ageing population, posing macroeconomic risks.

STATE-OWNED INSURANCE BANK



Short in wage-indexed assets

Balance Sheet Currency Mismatches across Public Sector Sub-Portfolios

GENERAL GOVERNMENT

➡ Exposed to Real Depreciation of Exchange Rate

CENTRAL BANK

⬅ Exposed to Real Appreciation of Exchange Rate

NON-FINANCIAL SOEs

➡ Exposed to Real Depreciation of Exchange Rate

STATE-OWNED INSURANCE BANK

➡ Exposed to Increase in Real Wages

Implementation Across the Balance Sheet: Three Examples

- **Market development and cross exposures:** The coordinated bond issuance and liability management operations of the sovereign and the BCU have helped support the cost/return objectives of both entities at times when strong capital inflows occurred
- **Modifying SOE exposure:** Currency forward contracts established between the BCU and the state-owned electricity and oil companies (which have offsetting FX exposures) have supported the management of exposures of SOEs in the energy sector in the absence of a derivatives market
- **Pension exposures:** The SALM framework has also helped the state-owned insurance company offset the risk involved in its obligation to provide annuities indexed to wages to pensioners. It has led the authorities to promote the development of local debt markets and risk management products, which will, over time, further improve the debt manager's ability to match of financial characteristics of public sector assets and liabilities

Steps Forward

- Adoption of SALM Framework, supported by a broad definition of public debt
- Institutional coordination, supported by the establishment of a public debt coordination committee—track record of coordination
- Identification of exposures
- Risk mitigation measures through natural hedges across the balance sheet
- Implementation requires negotiation—ensuring policy accountability is not blurred
- Accountability of entities involved—transactions priced at market prices

How did Uruguay make Progress on the SALM Framework?

- The definition of “gross public sector debt” is wider than in most countries, as noted above, and includes the debt of the BCU, most SoEs, and two public financial entities. In this environment, the central government tends to have a direct interest in the overall balance sheet.
- The SALM operations evolved from an informal framework, to an institutional setting. In Uruguay, earlier ALM actions used existing channels and networking by public officials across institutions. The establishment of a PDCC, with broad terms of reference, significantly improved the coordinated approach to a more systematic analysis of the public-sector balance sheet.
- The depth and structure of domestic capital markets in Uruguay has shaped SALM implementation. Lack of hedging instruments in the local market has forced public entities to look for solutions to risk management issues through natural hedges within the sovereign balance sheet. A case in point is the BCU using its balance sheet to provide hedges to SOEs.

5. Considerations for Policymakers

Sound Practices in Applying SALM

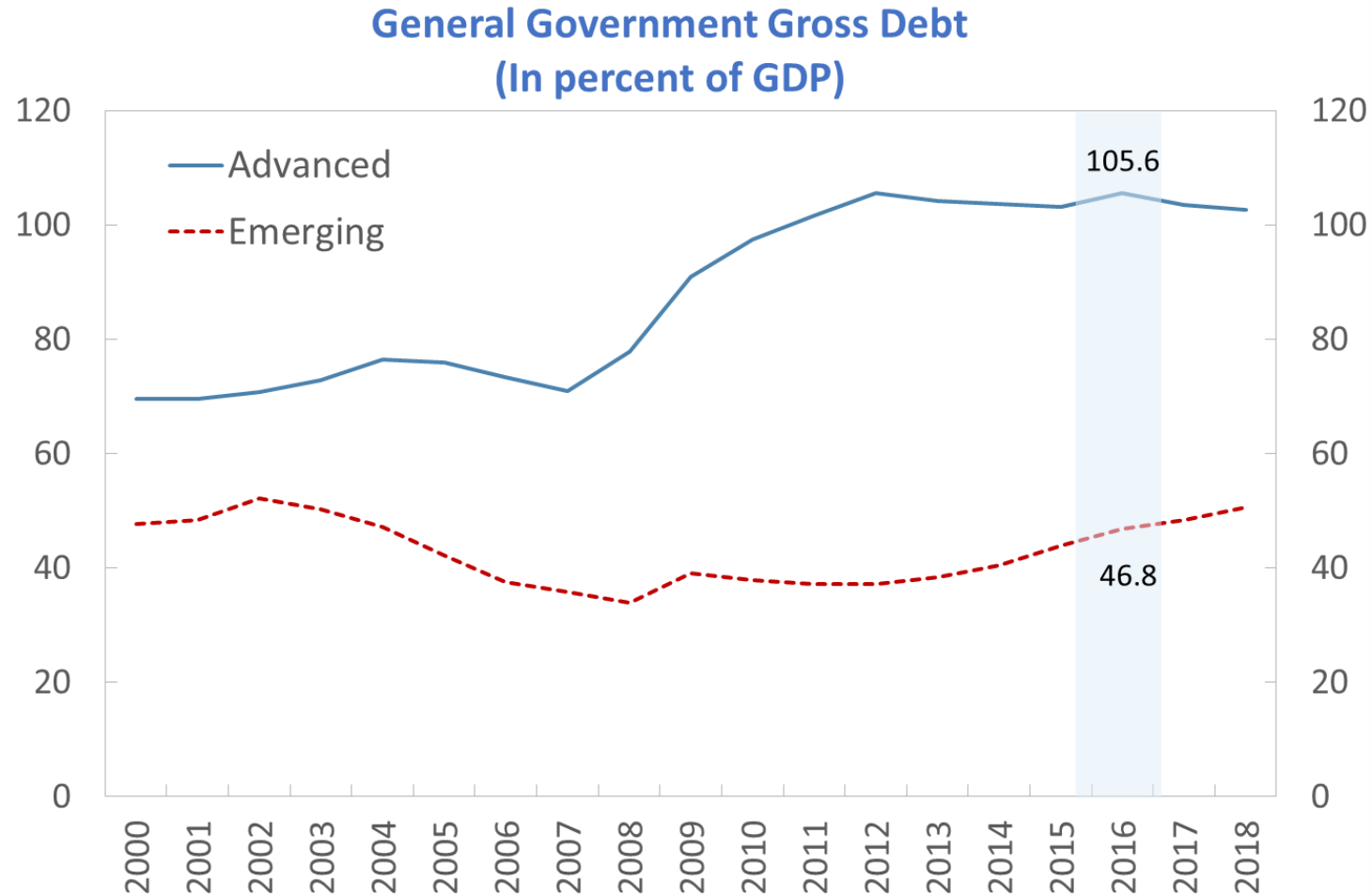
- Full statements of financials—not necessarily be a precondition
- Development of an analytical framework and strategy
 - ▶ Scope
 - ▶ Analysis of financial risk across the relevant entities
 - ▶ Analysis of the risk—who can bear the risk, risk measurement (mark-to-market and historical cost differences)—supplementary performance metrics
 - ▶ Implementaing the strategy and evaluating outcomes
- Policy and coordination
- Other institutional considerations

Conclusion

- SALM is not suitable for all countries—preconditions exist
- Fully developed sovereign balance sheet may not always be feasible
- Time is required to establish a formal body that is able to coordinate SALM
- The assets and liabilities that make up the sovereign balance sheet are managed by a range of entities—negotiations may be required to reach desired outcomes
- Constitutional or statutory independence is **not** a reason to resist the formation of an SALM framework
- A separate entity to implement the strategic SALM analysis may be desirable—an expanded public debt management unit would be a prime candidate
- The SALM framework can serve as a monitoring device for the dynamic evolution of sovereign balance-sheet risks

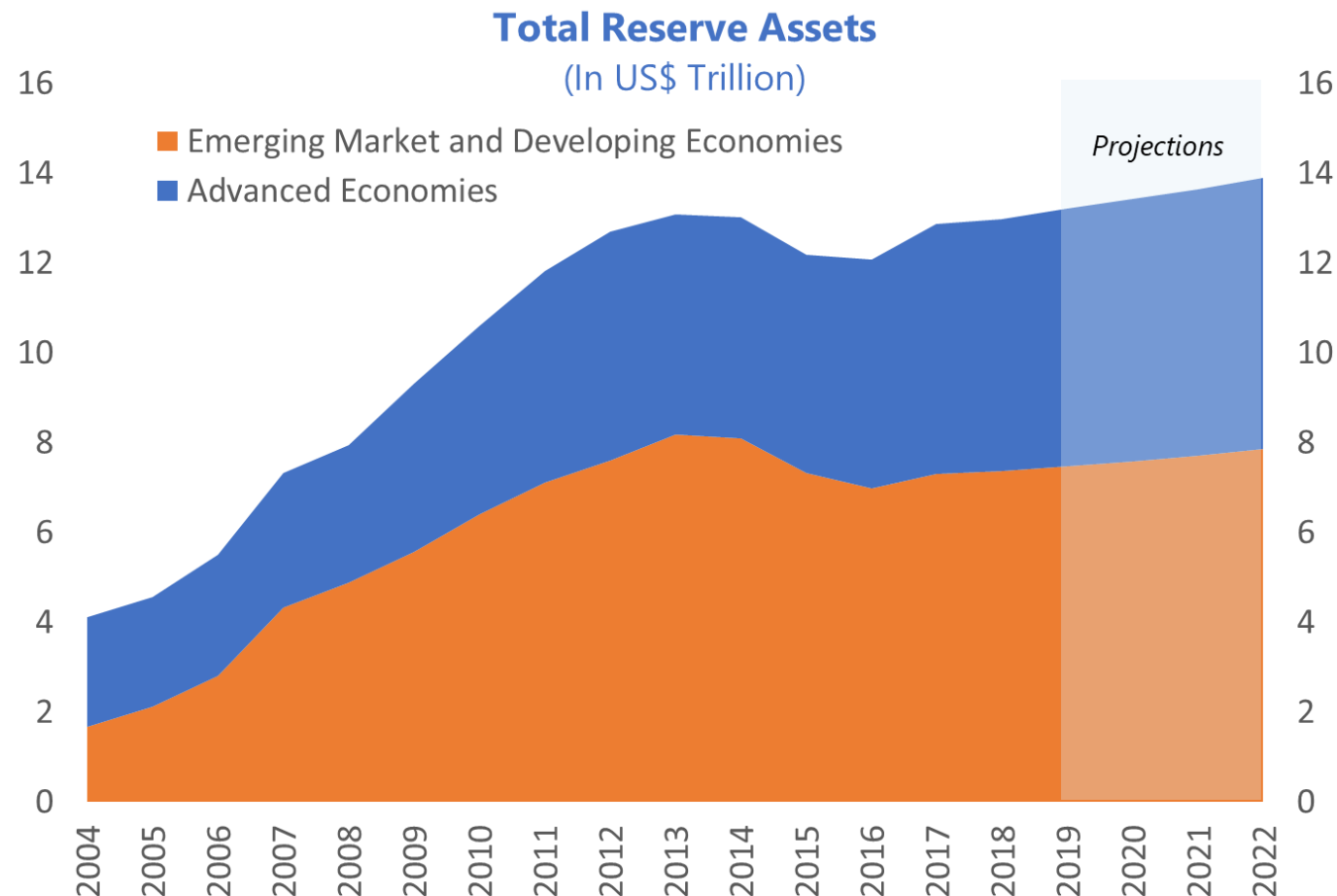
Appendix

Increase in Public Debt for Advanced and Emerging Market Economies



Source: IMF WEO Database.

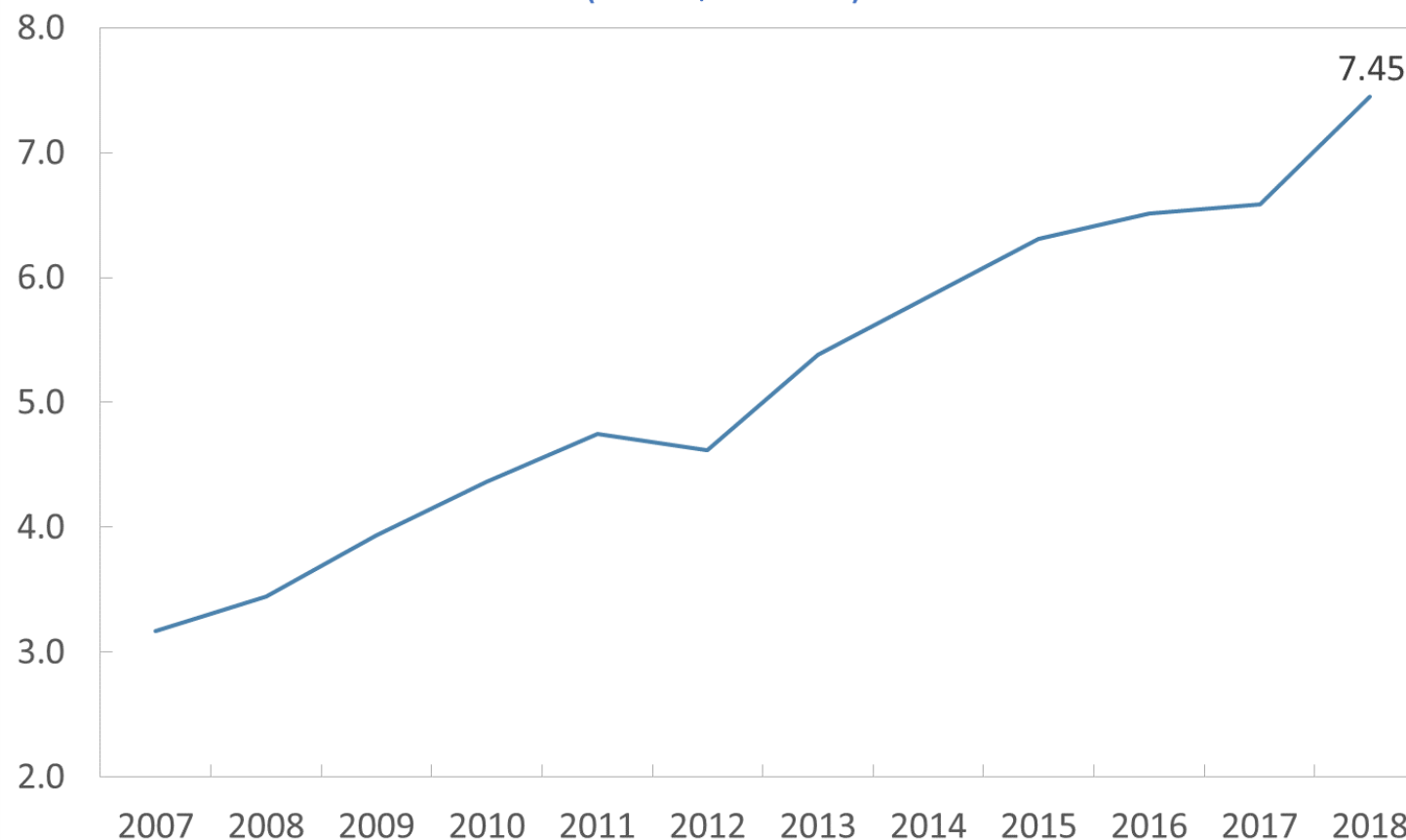
Foreign Exchange Reserves have Grown and Could Reach \$14 trillion by 2022



Source: IMF WEO Database.

Sovereign Wealth Fund Assets have Doubled in the Past Decade

Sovereign Wealth Fund Assets Under Management
(in US\$ Trillion)



Source. Preqin.