The Impacts of Disaster Risk on Sovereign Asset and Liability Management

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Outline

- Public sector balance sheets and SALM
- How natural disasters impact sovereign balance sheets
- Preparedness: What countries can do to understand the potential impact of natural disasters on the sovereign balance sheet
- Case Studies
- Key takeaways

Public sector balance sheets and SALM

- Implicit contingent liabilities, such as those generated by natural disasters, are often not quantified in the government balance sheet.

- When the impacts of disasters on balance sheets are unknown, it is difficult to approach disaster risk comprehensively and to make adequate financial decisions on how to protect and restore public assets with finite public funds.

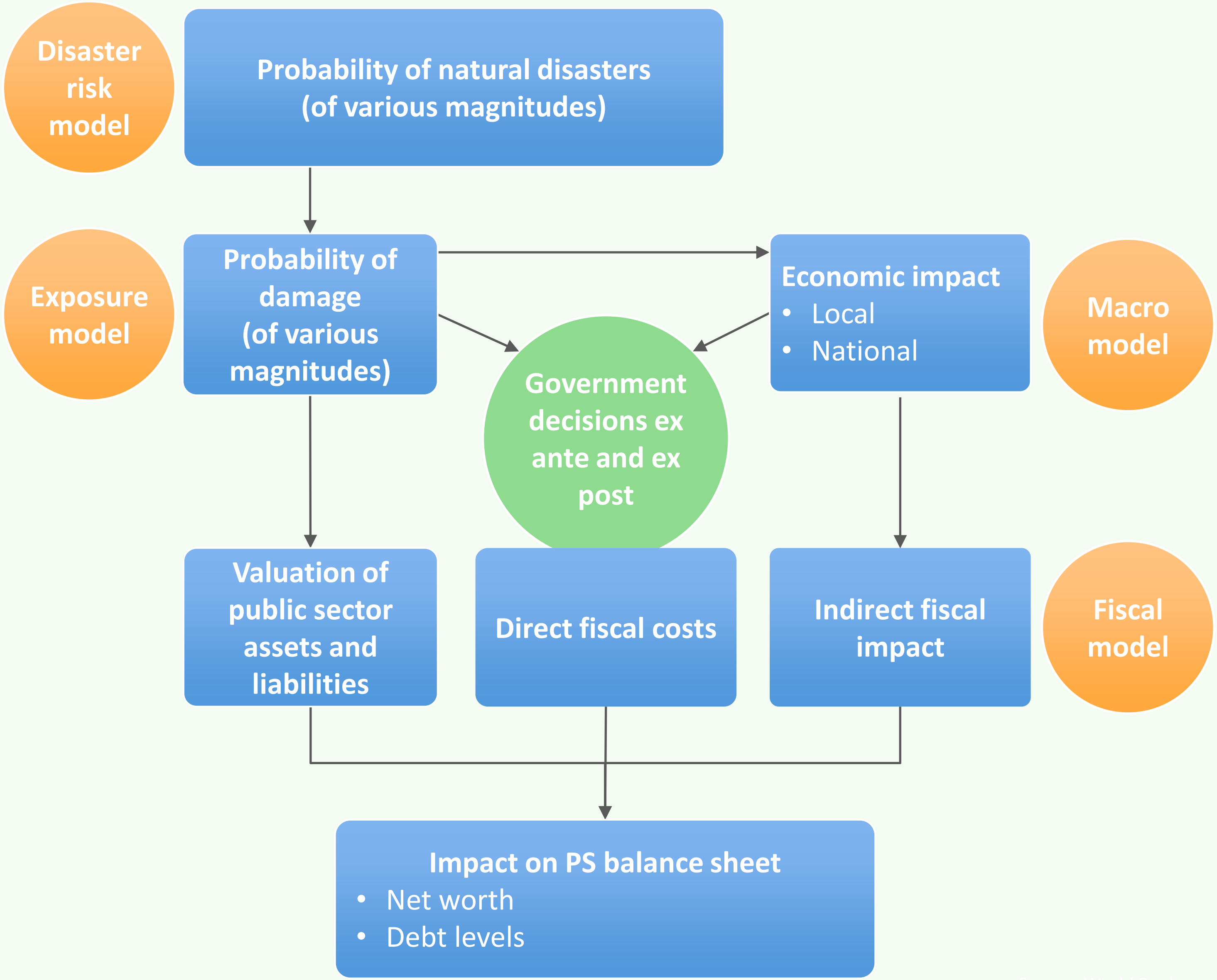
- Traditionally, many governments manage their assets and liabilities separately. Taking no account of net positions can lead to inefficient management of risk and inefficient implementation of policy.

- In practice, to implement SALM is challenging due to institutional complexities, different accounting practices, and lack of data.

How natural disasters impact sovereign balance sheets

A natural disaster will impact the public sector balance sheet through three channels:

1. Impact on the value of public sector assets and liabilities (public infrastructure, changes in market variables)
2. Direct fiscal costs (disaster relief, cost to rebuild infrastructure, triggering of contingent liabilities)
3. Indirect fiscal costs (impact on government revenue and expenditure due to disaster's impact on the economy)



Source: World Bank
Note: PS = public sector

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Preparedness: What can countries do to understand the potential impact of natural disasters on the sovereign balance sheet?

Economic modeling

Risk analysis and stress testing

Data Issues

Keep it simple!

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Case Studies

- We selected countries who had disasters and who accounted for them through a mix of cash based and accrual accounting - Peru, New Zealand and Serbia
- Estimating the potential impact of disasters on the national economy and the sovereign balance sheet was complex requiring significant data and modeling.
- Viable mechanisms to assist timely post disaster response and reconstruction can have very high payoffs, especially when assisted by an appropriate SALM framework; moreover, the lack of these may be very costly.

Case Studies: Key Findings New Zealand

Sept 2010 – Dec 2011 Canterbury region of New Zealand was impacted by a series of destructive earthquakes; including the Christchurch earthquake in February 2011.

- **The public sector's net worth is NZD12.1 billion lower and public debt NZD7.7 billion higher (c.10%) than if the Canterbury earthquakes had not occurred (as of 2013)**, assuming no second-round effects and other things being equal.
- **Reserve funds were found to mitigate the need to borrow**. The Natural Disaster Fund, covers the first tier of losses for most natural disasters.
- **Reserves along are not enough.** The NDF was exhausted for the first time in 70 years and the government would have been required to borrow much more without reinsurance.


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Case Studies: Key Findings Peru

2017 coastal El Niño flooding: In the first half of 2017, an El Niño costero (coastal) event, A sudden and unexpected increase in the temperature of the Pacific Ocean created heavy storms and rainfall, which triggered floods and landslides that continued for nearly four months. Half of the geographic regions declared a state of emergency. These events ultimately triggered the overpopulation of mosquitos that spread dengue and chikungunya virus.

- Public financial accounts are based on a combination of accrual and cash-based methods.
- Net worth is estimated to have declined by US$3.5 billion, with an increase in debt by US$663 million over the 2017–19 period.
- Balance sheet analysis found a reduction in the fixed assets, (reducing the assets and net worth) by US$2.7 billion (as of 2017). Some of this was due to appreciation of the Sol.
- The 2017 financial statements saw tax revenues reduced by 3.4%. In part by the disaster shock and in part by the Lava Jato case (c.US$159m).


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Case Studies: Key Findings Serbia

May 2014 Serbia was impacted by the most severe flooding in 120 years.

- No comprehensive balance sheet, list, or valuation of nonfinancial assets.
- According to the available data, it can be assumed that €450 million (US$371 million), half of the total damage for physical assets, falls within the public sector (as of 2014).
- Compared to 2013, the total debt stock in 2014 increased from 61.1% of GDP to 71.9% of GDP (around US$4.3 billion).
- Considering 2014 deficit was 6.2 percent, mainly caused by the floods, it is fair to assume that direct effect on public debt was significantly higher.
- Total reduction of revenues was c.€300 million (US$247 million), and it was estimated that €130 million (US$107 million) was caused by the floods.

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Key Takeaways

Disasters can motivate countries to develop a systematic approach to disaster risk management.

Reinsurance can play a major role in reducing the economic impact of disaster.

Countries that are only starting to consider SALM should start with simple analysis.

The application of SALM can increase countries' resilience to financial shocks posed by disaster risk through improved understanding of the impacts of disaster risk on both sides of the sovereign balance sheet.

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Thank you

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