Risk sensitizing future investment against disaster

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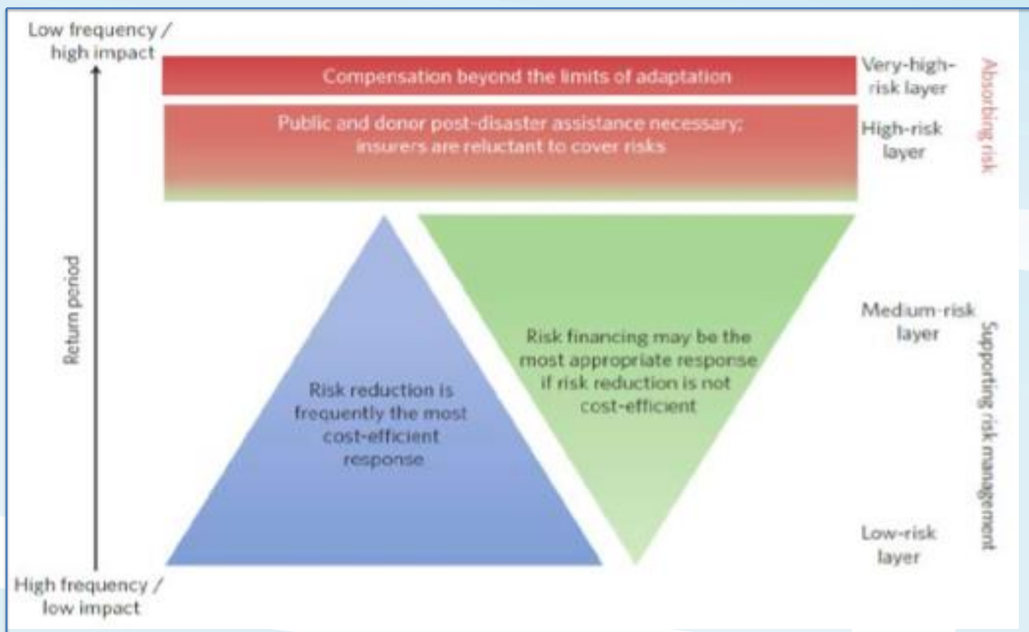
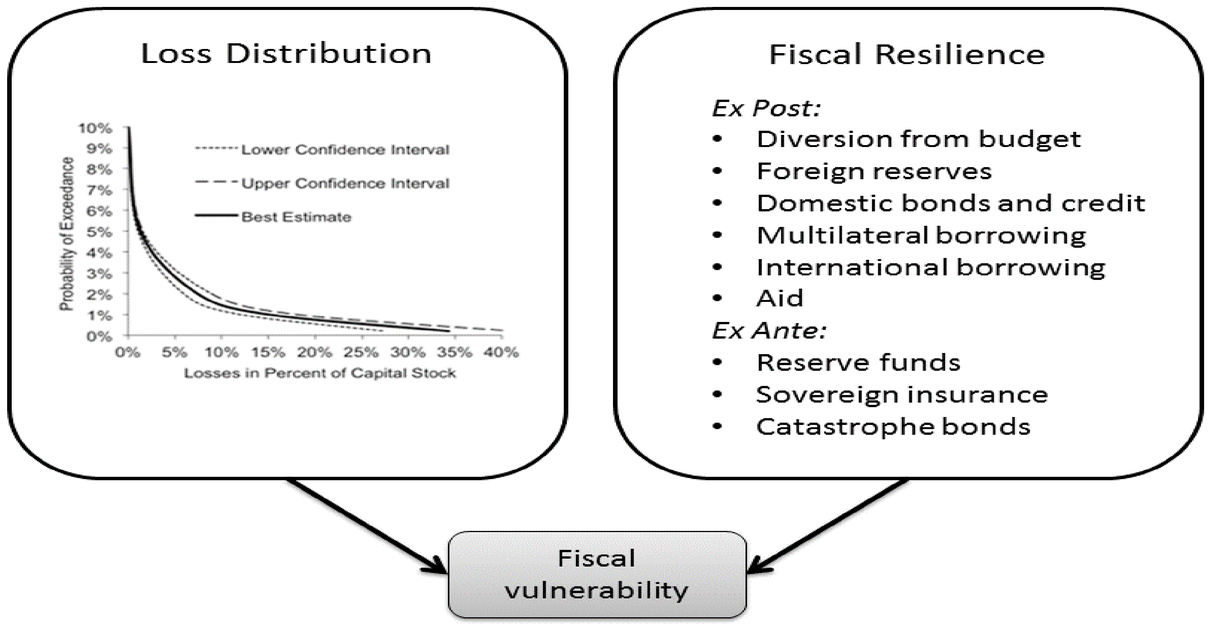
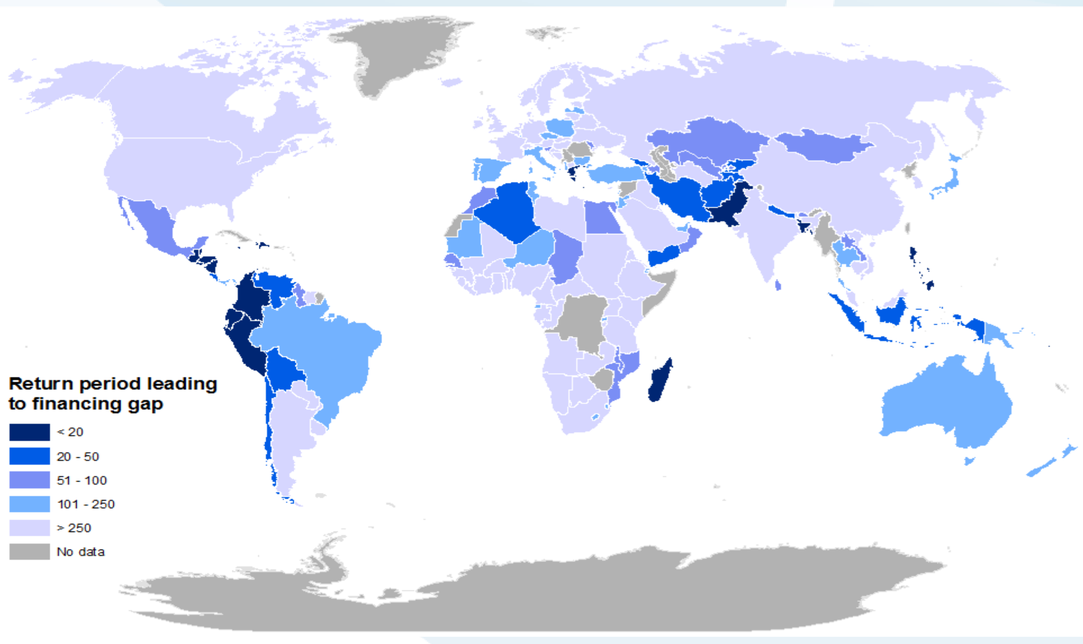


Disaster risk losses "out of control"

- Need to shift from unplanned and ad hoc responses to proactive and systematic risk management
- Need for better measurements and estimates of probabilistic disaster risk losses
- Call for Risk-Layering: determine risk tolerance and threshold events where risk tolerance is exceeded
    - Risk reduction? Risk Financing? Post-Disaster Assistance?

- Forward Looking Catastrophic risk modeling: CATSIM
    - Function of hazard, vulnerability, exposed elements
- Focus on National Governments
    - New risk estimates combined with updated information of governments coping capability
- *Fiscal Gap*: lack of fiscal resources to restore assets lost due to natural disasters and continue with development as planned





- Estimating Monetary Risk: Multi-hazard Risk distribution created from 20, 50 , 100 , 250, 500 year event loss estimates from each hazard (EQ, windstorm, storm surge, tsunami)
- Identification of when national financing gaps will manifest based on event return period.

Increased attention on global funding requirements to cover the fiscal gap. Using these estimates, we can identify requirements for a hypothetical global fund for different risk layers.

Fund covering from 1 year event up to:	With BBB (bn 2005 USD)	Without BBB (bn 2005 USD)	Difference
20 year event	0.1	0.9	0.8
50 year event	0.3	3.6	3.4
100 year event	3.1	7.7	4.5
250 year event	14.9	19.4	4.5
500 year event	18.7	23.3	4.5

Building Back Better: reducing the fiscal gap by building a safer environment during disaster reconstruction.

- Evidence suggests on average 4:1 benefit-cost ratio for DRR projects
- Increased costs up front pay off with the reduction in future losses.

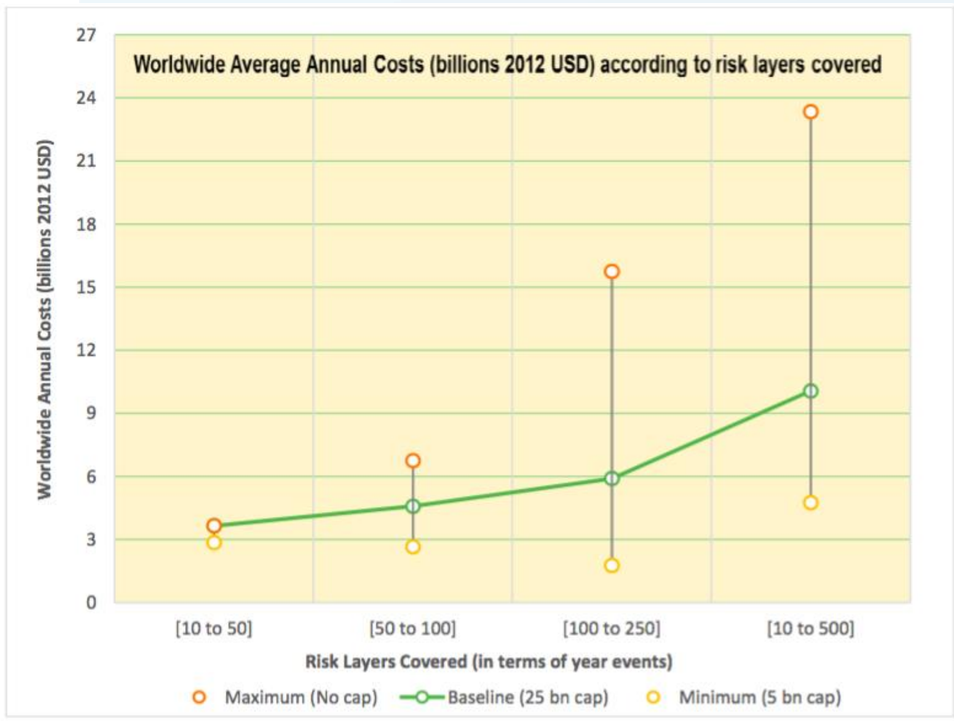


Figure 7. Funding requirements to cover resources gaps for different layers of return periods. For a baseline scenario, capping payouts for losses at 25 billion USD, covering losses from the 10 to 50 year risk layer would cost 3.6 billion USD annually. The 50 to 100 year layer would amount to 4.5 billion, and the 100 to 250 year layer 5.8 billion. To cover the entire spectrum of return periods would cost an estimated 10.1 billion. For a scenario with no cap, the return periods and costs are as follows: 10-50: 3.6 billion USD; 50-100: 6.7 billion; 100-250: 15.8 billion; and 10 – 500: 23.3 billion per year. A minimum scenario with a 5 billion USD cap on payouts would reduce funding requirements for return periods as follows: 10-50: 2.8 billion, 50-100: 2.7 billion; 100-250: 1.8 billion; and for all events (10 – 500): 4.7 billion.

References

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