

The background image shows a flooded area with several houses. The water is murky brown. In the foreground, a small yellow and blue boat with two people inside is visible. The houses have corrugated metal roofs, some of which are partially submerged. The overall scene depicts a disaster, likely a flood.

Swiss Re



PPP in disaster risk financing

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ADB International Insurance Seminar, Manila, 21-22 October 2013

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About Swiss Re



Swiss Re Swiss Re is a leading and highly diversified global re/insurance company



Headquarters, Zurich



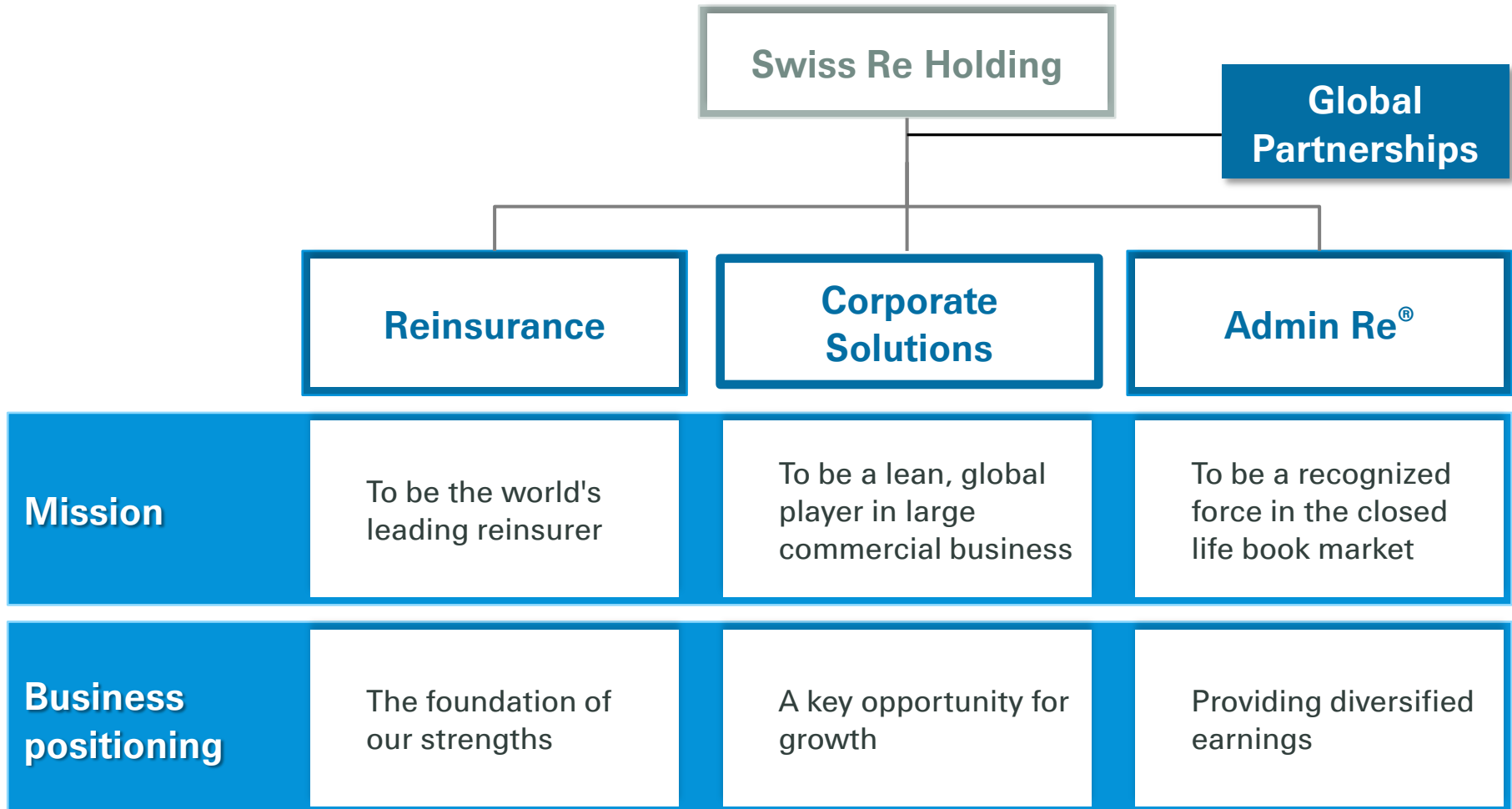
Armonk, New York



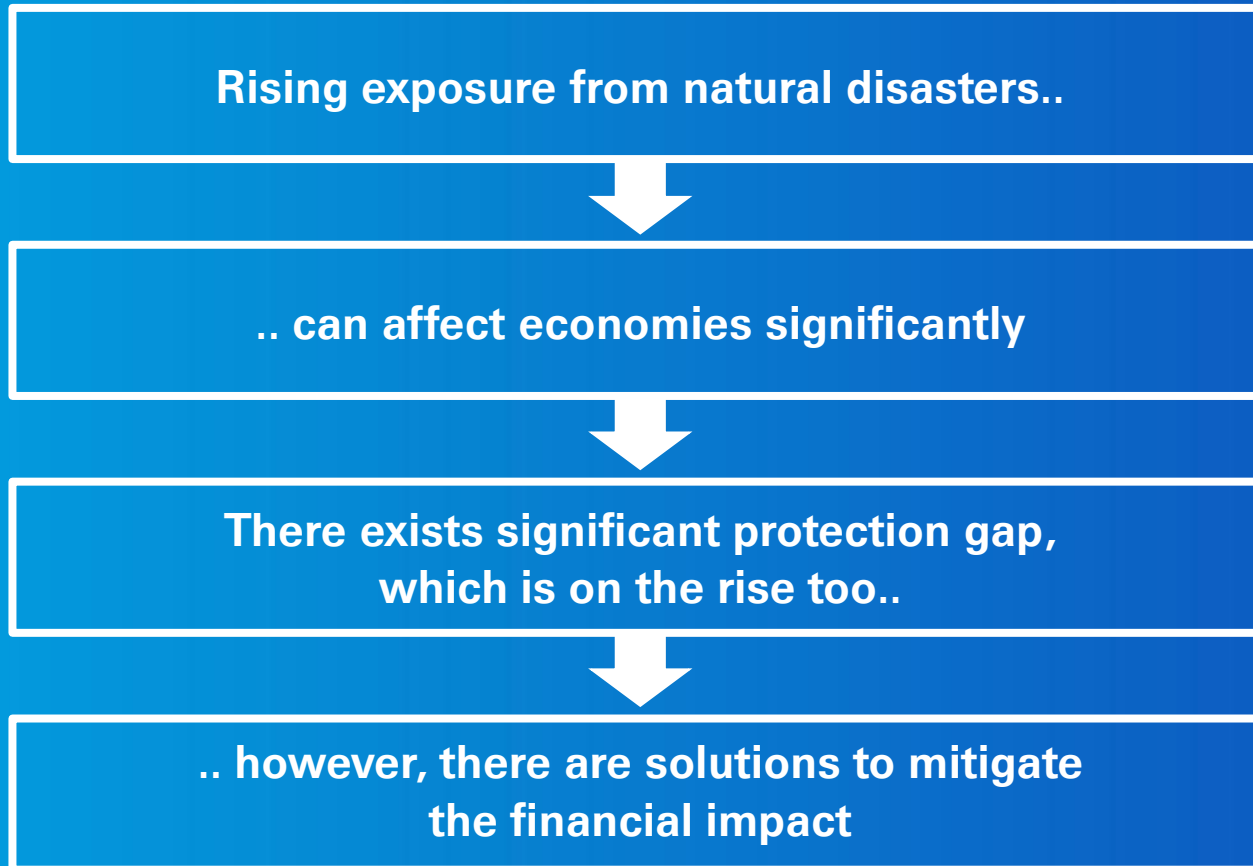
The "Gherkin", London

- **150 years of experience** in providing wholesale re/insurance and risk management solutions.
- **We deliver both traditional and innovative offerings** in Property & Casualty and Life & Health that meet our clients' needs.
- **A pioneer in insurance-based capital market solutions**, we combine financial strength and unparalleled expertise for the benefit of our clients.
- **Our financial strength** is currently rated:
Standard & Poor's: AA-/stable; Moody's A1/positive;
A.M. Best: A+/stable

Swiss Re's organization



Outline..

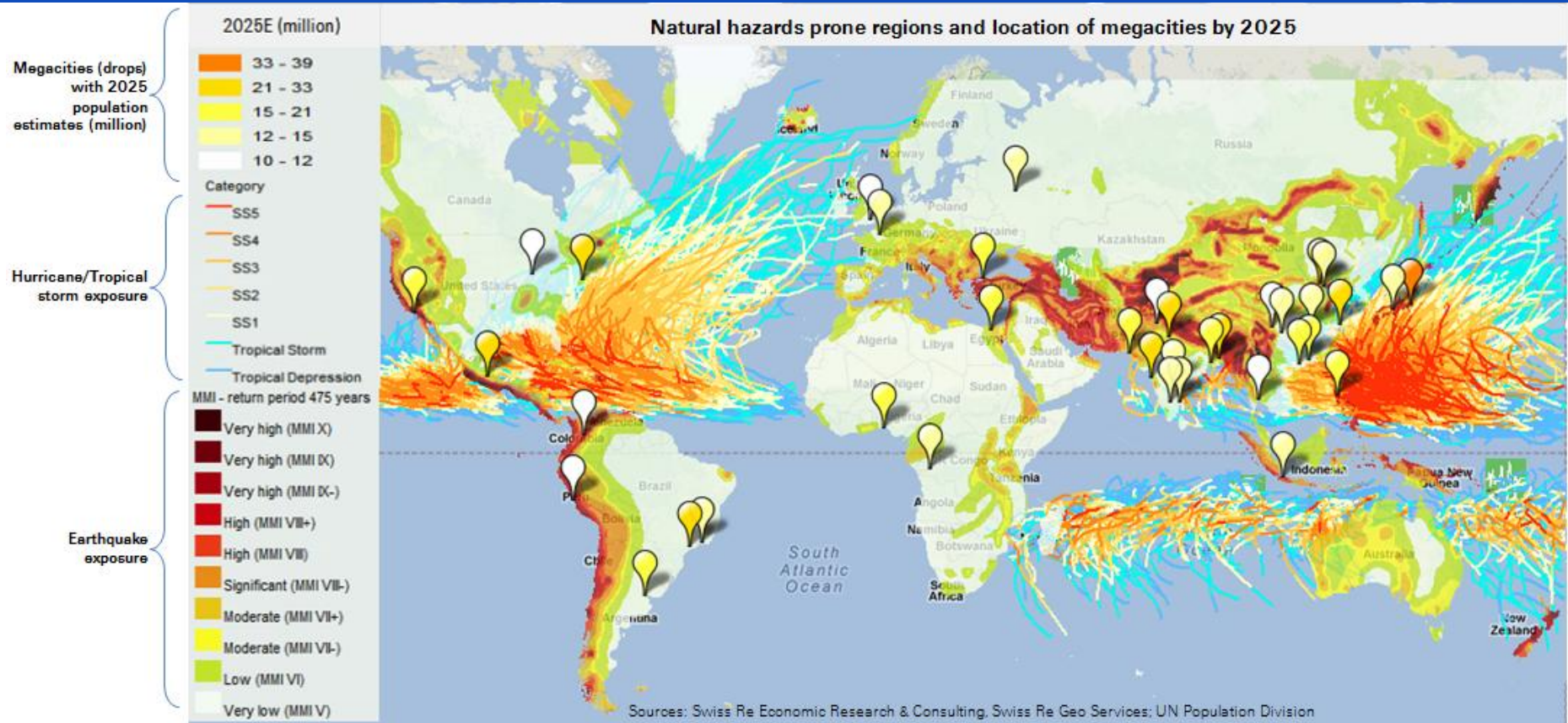




Rising exposure from natural disasters..

Rising exposure from natural disasters.. **Future impact will be magnified by rapid pace of urbanisation**

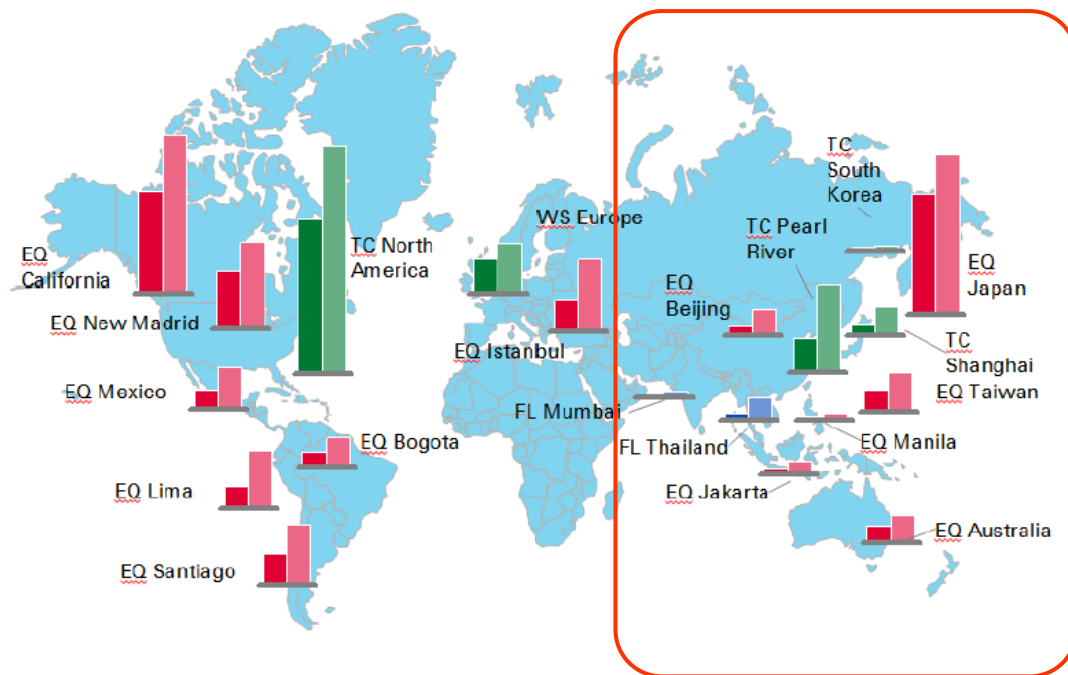
By 2025, 7 of the world's top 10 megacities will be in Asia..



Rising exposure from natural disasters..

Natural catastrophe peak risks 2020

.. and will result in new big Nat Cat peak scenarios



2012 vs. 2020

- EQ: Earthquake (500 yrs)
- TC/WS: Tropical Cyclones/Winter Storms (100 yrs); TC includes storm surge
- FL: River Flood (250 yrs)

driven by following factors..

- Strong underlying growth in exposed economic values
- Growing middle class population leading to higher insurance penetration
- Governments moving Nat Cat risks into the private sector
- Possible increase in demand through Nat Cat events or new regulations

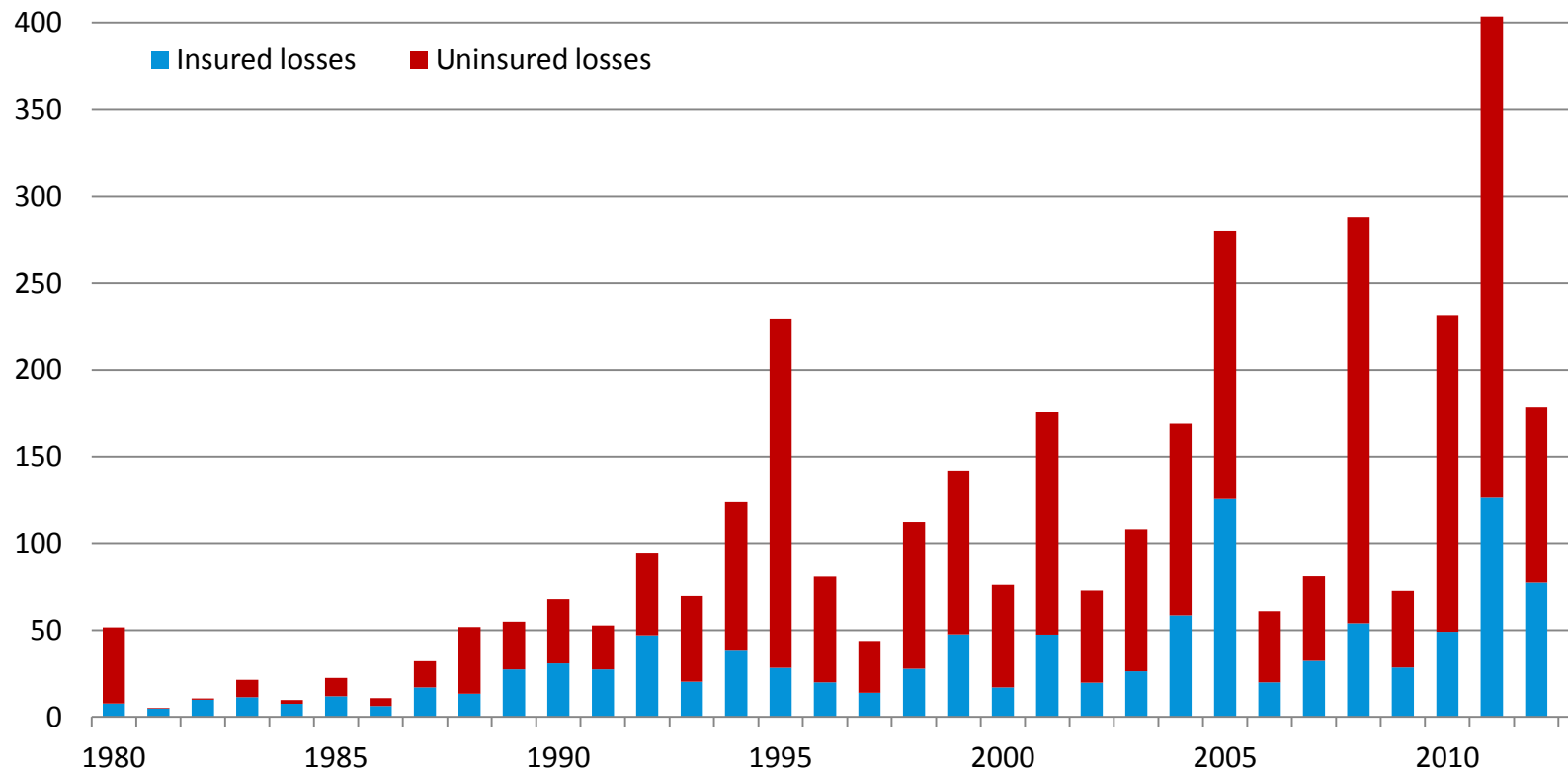


Impact of natural disasters..



Impact of natural disasters.. **Global losses are on the rise**

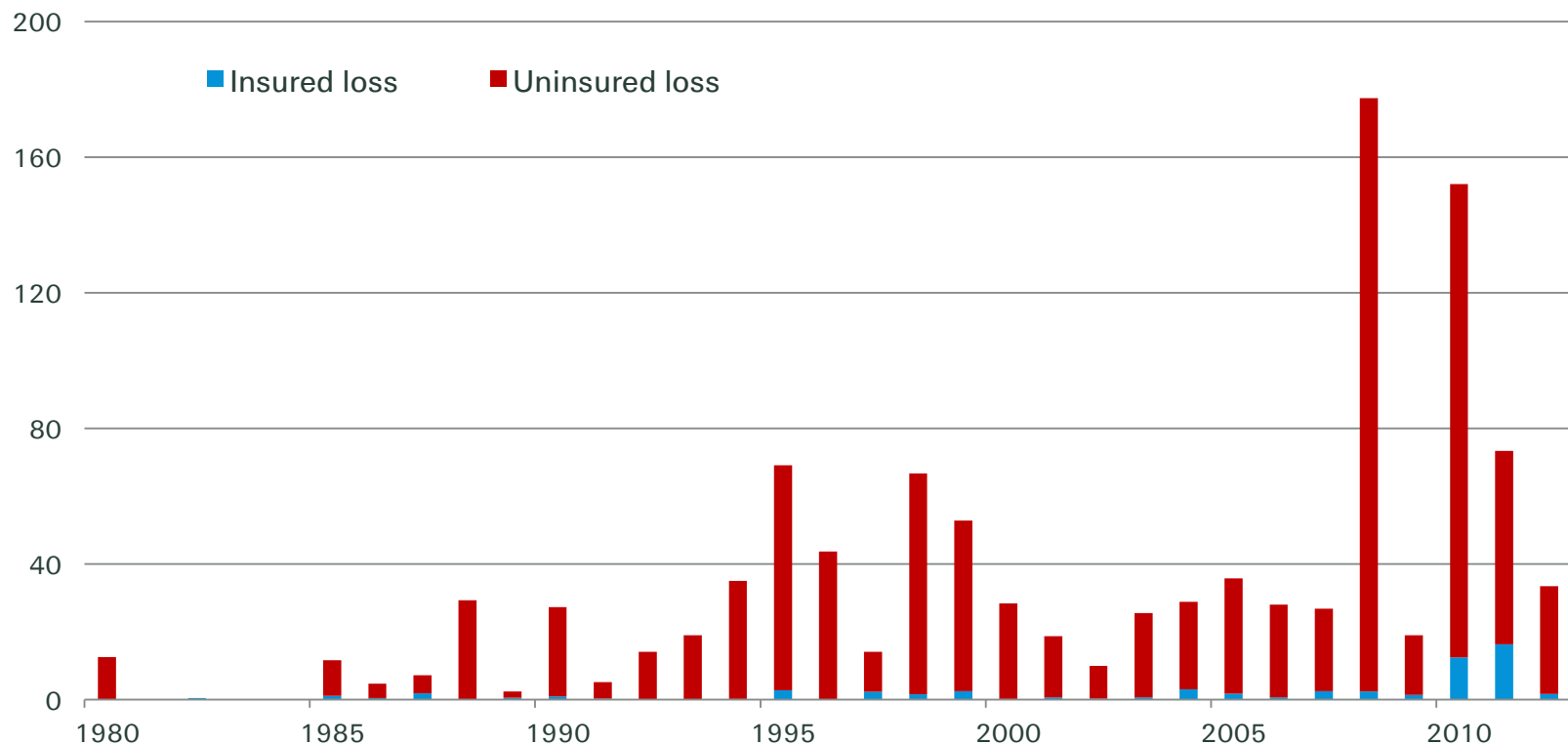
Natural and man-made catastrophe losses 1980-2012, in USD billion (2012 prices)





Impact of natural disasters.. **Losses in Asia have intensified recently**

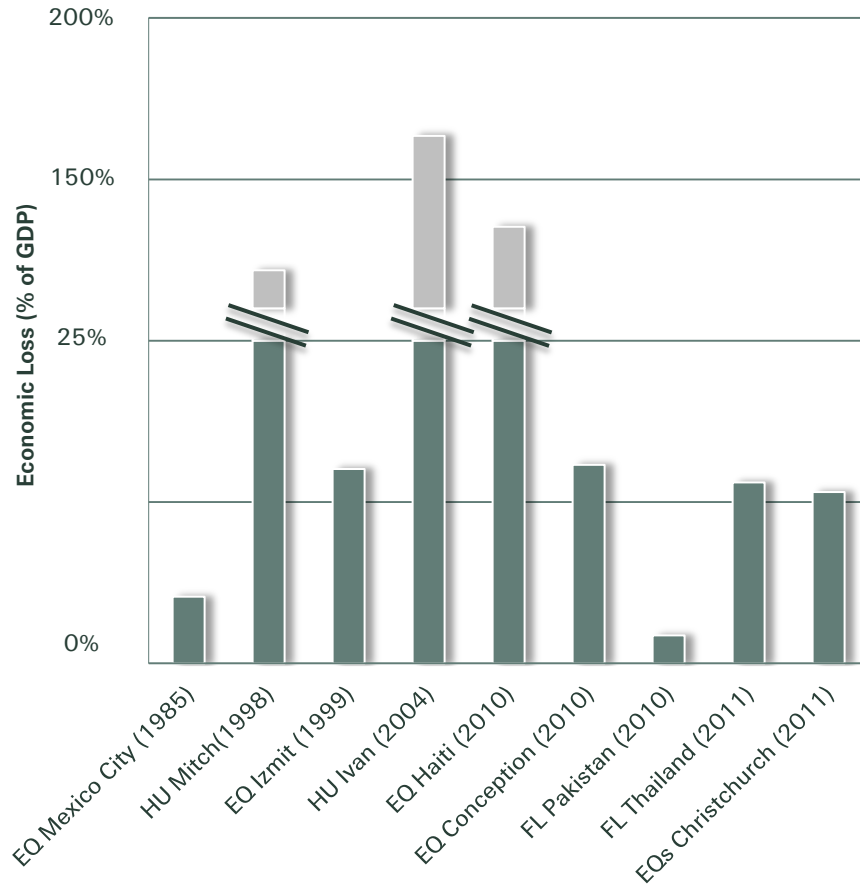
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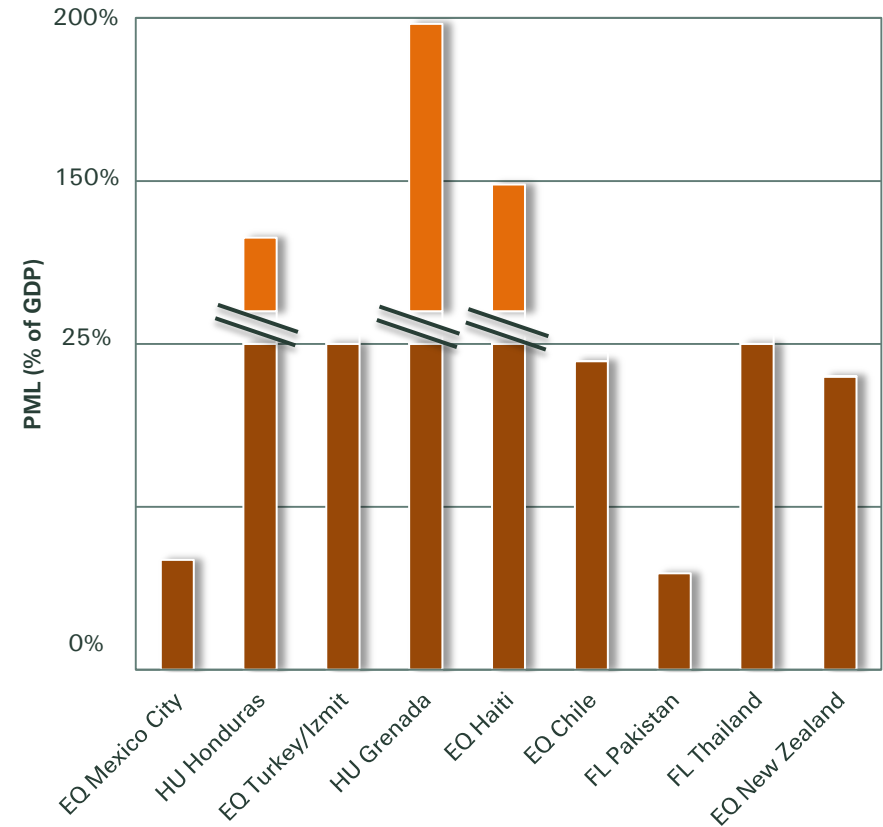


Impact of natural disasters.. .. can affect economies significantly

Historical Loss



Possible Maximum Loss

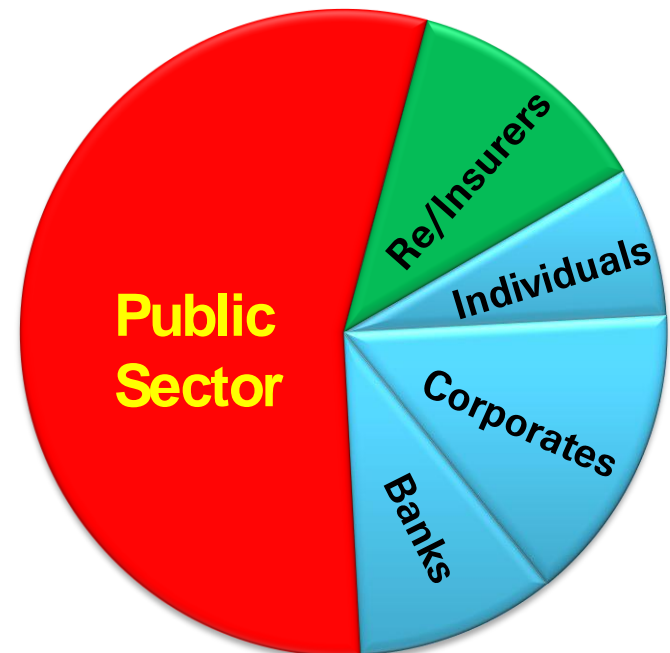
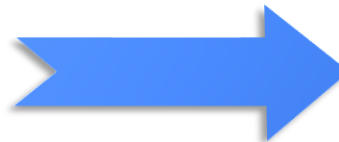
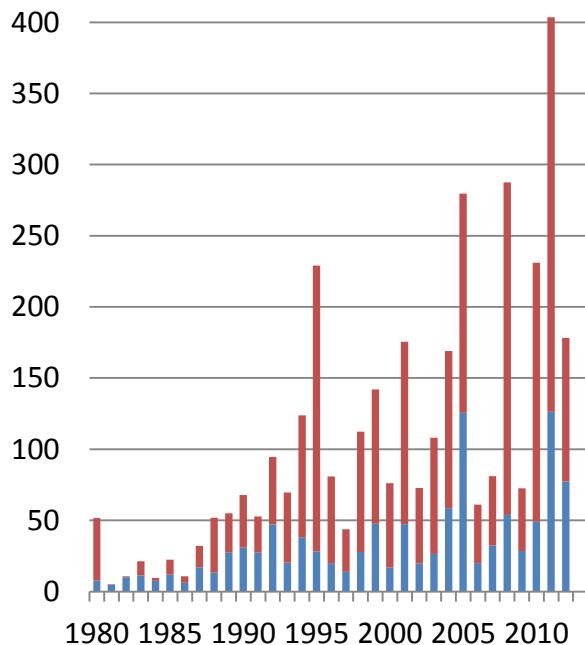




**There exists
significant
protection gap,
which is on the
rise too...**

Who bears the losses?

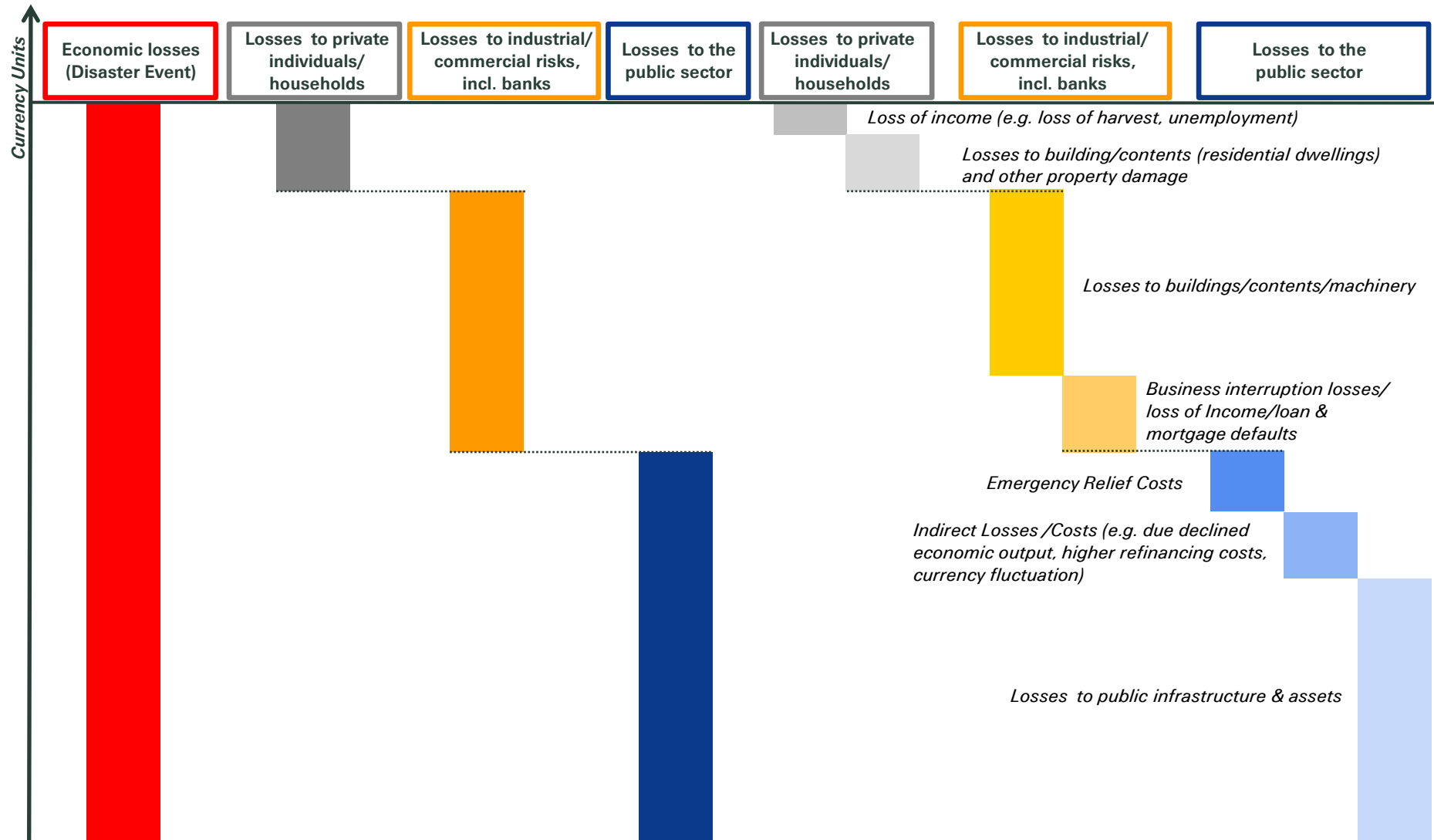
Bulk of the costs are borne by the public sector



illustrative



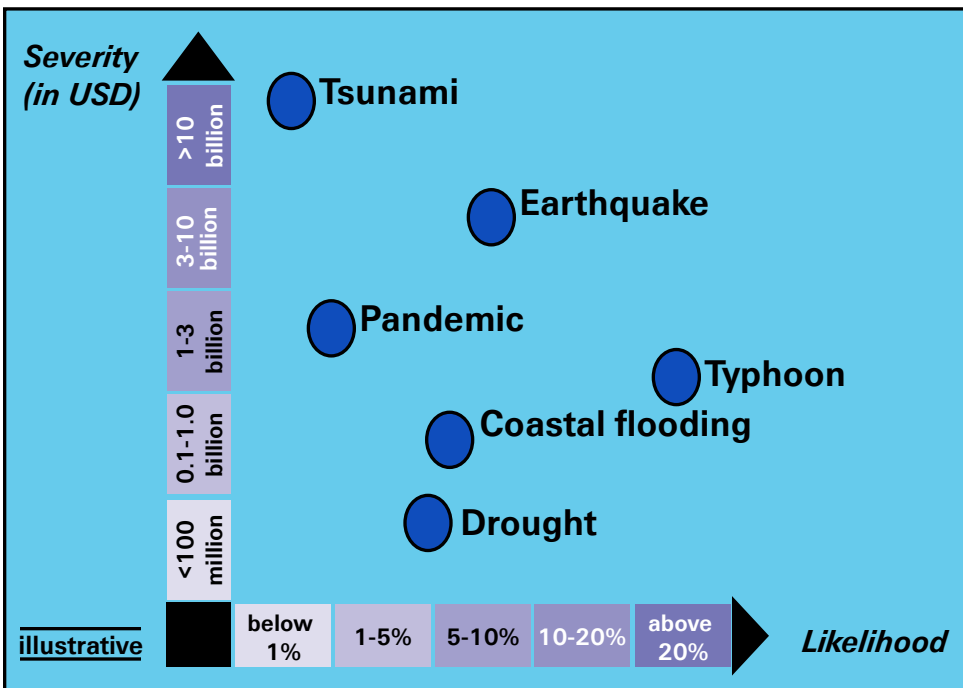
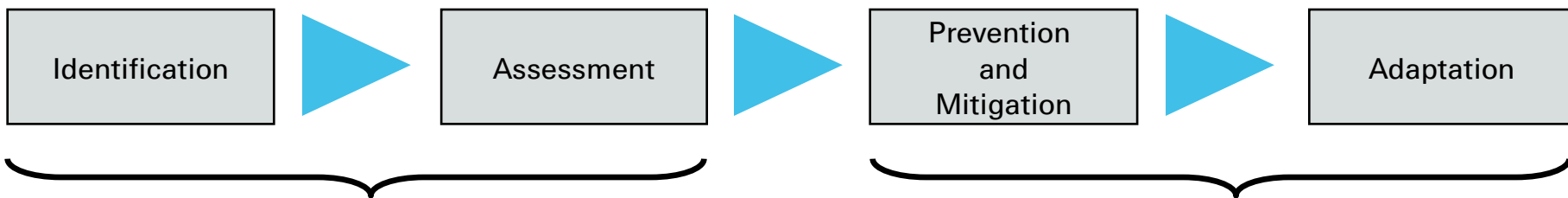
Overview on disaster losses & costs





Solutions to close the massive protection gap

Systematic risk management approach for natural disasters



- Prevention and mitigation strategies must be the first priority
- Financial preparedness for the residual risk must be considered
- Balanced deployment of public funds between prevention/ mitigation and adaptation measures is key
- Ex-ante financing instruments for adaptation include reserve funds and a variety of risk transfer instruments



Ex-ante VS ex-post risk financing

Post-Event Financing

Tax increases

Donor assistance

Raise debt

Budget reallocation

- Alignment with economic policy?
- Popularity?
- Timing/speed of payment?
- Availability?
- Funding costs?
- Market risks?
- Flexibility?
- Conflicting priorities?
- Opportunity costs?

Pre-Event Financing

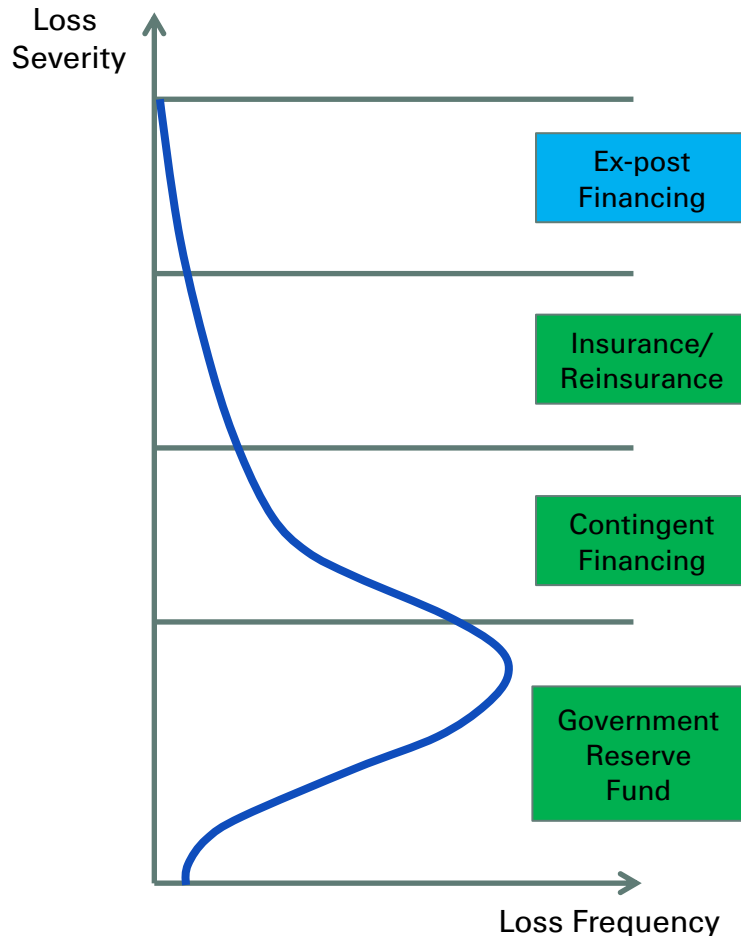
Risk Transfer

Contingent Financing

Reserve Funds

- Quick access/rapid payouts
- Fixed annual costs
- Improved planning certainty
- Less volatile state budget
- Increased sovereignty/less dependency

Smart Combination of Different Risk-Transfer Instruments is Key



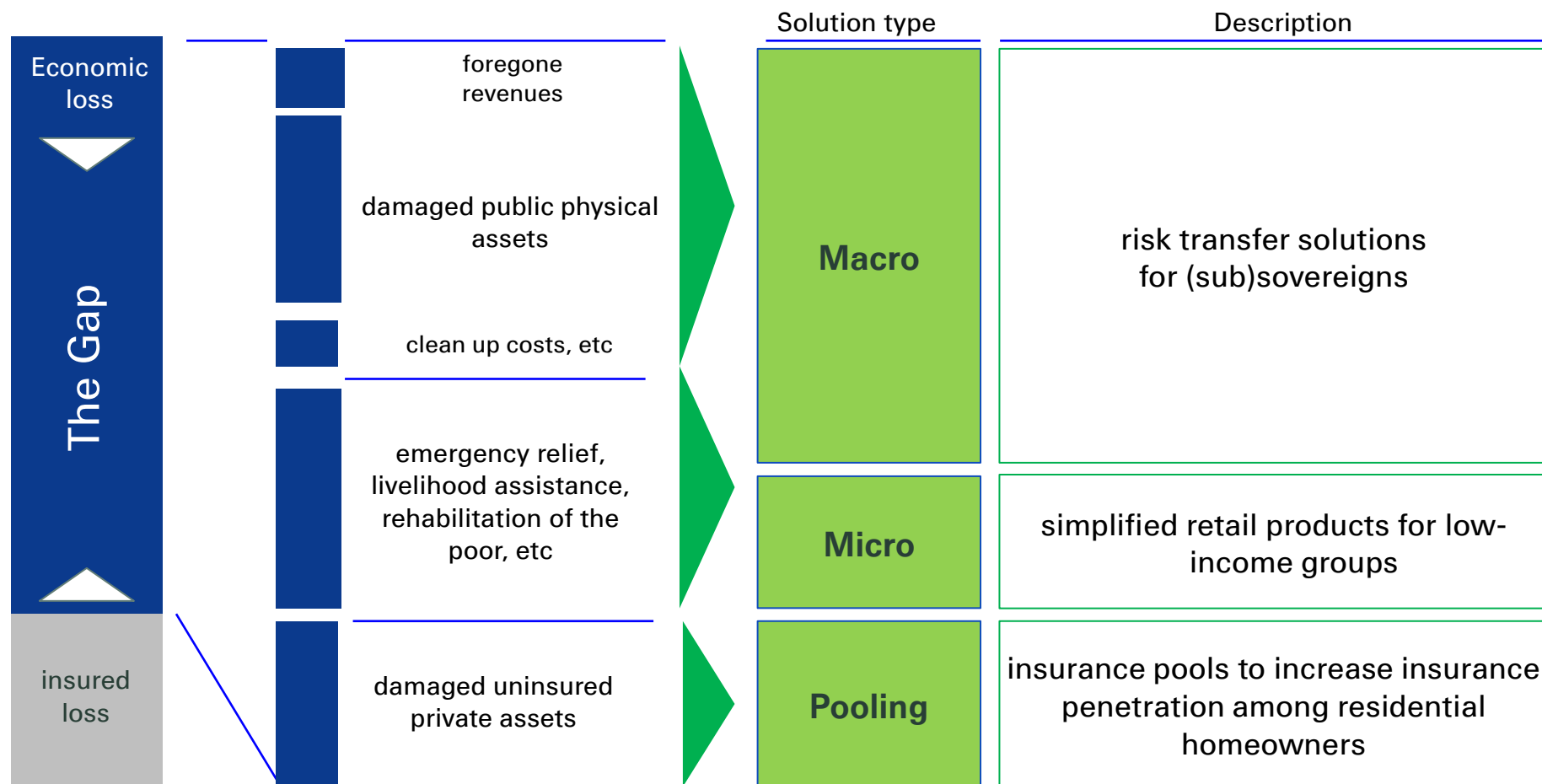
The most appropriate mix of financing instruments for an individual country is determined by a range of factors, such as the financial strength, condition of the state budget, its exposure to disaster risks or national/regional development plans.

A comprehensive disaster risk financing strategy includes different risk transfer mechanisms, including:

- Reserve Fund: financed through the annual budget, building reserves over time.
- Contingent Financing: to secure better and cheaper loan terms prior to an event.
- Re/Insurance: generally the most cost-effective way to address low-frequency/high-severity events.
- Ex post-financing: different tools to be applied to finance the residual loss.



Natural disaster risk transfer on various levels: "Macro", "Micro" & "Pooling"





some of the
examples where
PPP has been a
success to
mitigate the
impact of
losses...

Case study Mexico: MultiCat - Funding for immediate relief efforts after disasters



Solution features

- Insured perils: Earthquake and hurricane
- Payments to be used for immediate emergency relief after a disaster
- Parametric catastrophe bond: USD 315 million
- Trigger type: Index
 - Earthquake: physical trigger (quake magnitude)
 - Hurricane: physical trigger (barometric pressure)
- Time horizon: October 2012 – November 2015
- Renewed cat bond launched through the World Bank's MultiCat facility and third cat bond for Mexico

Involved parties

- Insured: Fund for Natural Disasters (FONDEN) of Mexico
- Reinsured: AGROASEMEX S.A.
- Arranger: World Bank Treasury
- Swiss Re: Co-lead manager and joint bookrunner

Case study China: Loss protection in the agricultural sector

Swiss Re



Situation

- North-East China including the Beijing province is exposed to natural perils (drought, flood, rainstorm, flood, hail)
- The Chinese government implemented subsidized crop and livestock insurance in 2007 to support the sector and foster production
- The Beijing Government offers the agriculture insurers in the province a loss protection to additionally promote agriculture insurance

Solution features

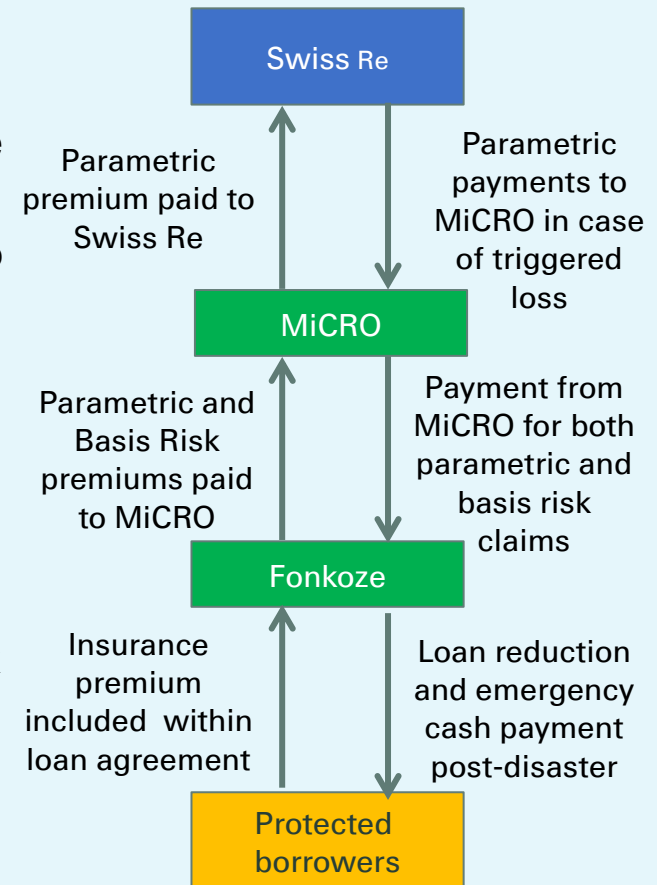
- Swiss Re structures a reinsurance solution for the Beijing Government with China Re (domestic reinsurer) providing additional capacity
- Cover: stop loss protection 140% xs 160% for the Beijing Government's liability to local insurers for losses from flood, hail & windstorm to crops and epidemic diseases to livestock
- Retention: losses < 160% are retained by the insurers
- Benefits: Swiss Re settles with the individual insurers, ultimately covering about 400,000 farming households

Case study Haiti: The Microinsurance Catastrophe Risk Organization (MiCRO)



Solution features

- Insured perils:
Hurricane, earthquake and rainfall
- Payments are made to microfinance borrowers post-disaster to reduce their loan obligations and to provide emergency cash
- Hybrid structure, i.e. the MFI cedes the risk via parametric and basis risk policies to new donor funded company MiCRO





Conclusion

- In most of the countries, the contingent liabilities arising from natural disaster event are still financed post event.
- However political decision-makers on national, province and municipality level explore new ways to finance risks in a more sustainable manner by implementing a more balanced disaster risk financing mix which also includes pre-event financing instruments.
- Insurance is a cost-effective way to better protect state budgets against low frequency/high severity events and innovative instruments help to narrow the gap between economic and insured losses.

Thank you





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