Risk Transfer
An integral part of a Disaster Risk Management Framework

Dehradun, 22 November, 2017
Financing is a pillar of integrated disaster risk management

1. Identification
   What risks do we face?
   • Systematic
   • Cross-sectoral

2. Assessment
   Can we quantify it?
   • Frequency
   • Severity

3. Prevention & mitigation
   How can we minimize it?
   • Improve quality
   • Build new protection

4. Adaptation
   How can we manage the residual risk?
   • Change behavior
   • Pre-finance
   • Risk transfer
The Protection gap in India
Economic losses from natural catastrophes remain largely uninsured.

Huge protection gap persists in India [last 10 years: 92.5%]

2005: Mumbai floods

2013: Cyclone Phailin and Uttarakhand floods.

=> the Financing Gap is borne largely by the government
Governments' financing options: Post-event vs pre-event

Post event
- Tax increases
- Donor assistance
- Raise debt
- Budget reallocation

Pre event
- Risk transfer
- Contingent Financing
- Reserve Fund

Risk Transfer puts a "price tag" on underlying risks => efficient capital allocation to risk improvements

Ecuador earthquake 2016...
Nepal earthquake 2015 ...

"From an ex-post perspective, the availability of insurance offers the best mitigation approach against real and fiscal consequences of disasters"

Governments' financing options in India: Post-event vs pre-event

- Post event
  - Contingent Financing
  - Risk transfer
  - Budget reallocation
  - NDRF, SDRF

- Pre event
  - Donor assistance
  - Contingent Financing
  - NDRF, SDRF

- No Reconstruction
  - An even higher Protection Gap
A Risk Transfer Solution: Parametric Insurance
Insurance payouts triggered by event magnitude

Fast access to cash
Payout can be made as fast as 15 to 30 days

Coverage of uninsurable risks
i.e. emergency relief, cleaning-up operation, evacuation costs

Efficient and affordable
Reduced administrative costs, no claims process, low limits
Risk Transfer Examples (1/3)

NFIP Payouts to Matthew Victims Top $162M

CCRIF Completes Payments totalling US$29 million to Member Governments Affected by Hurricane Matthew

FONDEN: Cat Bond pays US$50 million
## Risk Transfer Examples (2/3) 
... at Country level

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<th>Facility</th>
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<td>CCRIF</td>
<td>Earthquake, Hurricane, Excess Rainfall risks for 16 countries, aggregate US$ 100 mn coverage</td>
<td>Parametric Insurance</td>
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<td>NFIP</td>
<td>US$ 1 bn reinsurance program established in 2016 for flood risks coverage</td>
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<tr>
<td>FONDEN</td>
<td>Earthquake and Hurricane Risks, Catastrophe Bond USD 315 mn</td>
<td>Parametric, Risk transfer to Capital Markets [one part of the program]</td>
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Risk Transfer Examples, State level (3/3)

Guangdong Natural Disaster parametric cover

Solution features

- Solution supporting the Guangdong province to build fiscal resilience against Nat Cat contingent liability
- Payouts to be used for disaster relief and post disaster reconstructions of property and infrastructure
- Covered perils: tropical cyclone, heavy rainfall
- Parametric triggers:
  - Tropical cyclone: typhoon track, wind speed,
  - Heavy rainfall: precipitation
- Sum insured: USD340 million for a first group of 10 pilot cities
- Time horizon: First implementation in 2016, cover to be annually renewed and extended to more municipalities starting from 2017

Involved parties

- Insured: 10 municipal governments in the Guangdong province
- Government project team: Guangdong Ministry of Finance bureau (lead) and members from CIRC, NDRC, MoCA, CMA*.
- Local insurance partner and lead insurer: PICC
- Sole product designer and reinsurer: Swiss Re
- Meteorological measures provided by Guangdong Climate Center

Payouts to date

- October 2016: USD 3.2m after Typhoon Haima and heavy rainfall

(*) CIRC: China Insurance Regulatory Committee
MoCA: Ministry of Civil Affairs
NDRC: National Development and Reform Committee
CMA: China Meteorological Administration
Case study Caribbean: CCRIF SPC (former Caribbean Catastrophe Risk Insurance Facility)

Solution features
- CCRIF SPC offers parametric hurricane and earthquake insurance policies to 16 CARICOM governments
- The policies provide immediate liquidity to participating governments when affected by events with a probability of 1 in 15 years or over
- Member governments choose how much coverage they need up to an aggregate limit of USD 100m
- The mechanism will be triggered by the intensity of the event (modelled loss triggers)
- The facility responded to events and made payments:

Involved parties
- Reinsurers: Swiss Re and other overseas reinsurers
- Reinsurance program placed by Guy Carpenter
- Derivative placed by World Bank Treasury

Payouts to date
- 2016: Nicaragua USD 1.1m (hurricane), USD 500k (earthquake)
- 2010: Haiti USD 7.7m (earthquake), Barbados USD 8.5m (hurricane), St. Lucia USD 3.2m (hurricane), St. Vincent & The Grenadines USD 1.1m (hurricane), Anguilla USD 4.2m (hurricane)
- 2008: Turks & Caicos USD 6.3m (hurricane)
- 2007: St. Lucia USD 418k (hurricane), Dominica USD 528k (hurricane)
A Risk Transfer Solution for Earthquake in Uttarakhand
Historical Earthquakes: M 6.6 in 1999, M 6.8 in 1991

Source: USGS
https://earthquake.usgs.gov/earthquakes/eventpage/usp00
04y1r#shakemap
Earthquake risk: very high in Pithoragarh and Khatima, the South faces significant risk

Source: Swiss Re CatNet
The QUAKE Parametric cover can provide payout within 30 days and capture localized impacts.

1. Use ShakeMap (USGS) as independent data provider

2. Allocate maximum payout based on population per district or per 1km^2

3. Define parametric cover
   - Define payout per shaking intensity, i.e.
     - 25% >= 6 MMI
     - 50% >= 7 MMI
     - 100% >= 8 MMI
   - Maximal payout per event: for eg....USD 100 million
   - Maximum payout per year: for eg....USD 200 million

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Conclusion
Disaster Risk Transfer; Points for Consideration

• Financial resilience to natural disasters and fiscal protection is a key element of states’ financial robustness

• Credit Rating agencies – Moody’s; S&P – have started evaluating country exposures to natural disasters and impact on financing/ refinancing costs. There are similar implications for state governments/ municipalities too!

• Pilot risk transfer can be launched by Uttarakhand

• Risk Transfer premiums will primarily be determined by (a) Cover Amount/ Loss limit sought by govts (b) Severity/ Magnitude of disasters for which cover is required (c) Geographical area to be covered

• Possibility of making use of international climate risk funds for capacity building
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