

Catastrophe Risk Management

Implications for Caribbean Capital Markets

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Catastrophe Risk Management

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Catastrophes

Events with negative consequences that are quite extensive in scope, for example in the value of property losses, number of lives lost, or environmental damage

Catastrophe Outcome Risks

- Event risk
- Vulnerability

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Event Risk

- Exposure to an event arising from factors such as geographical location, physical attributes and climate
- Climate change is expected to amplify the effects of weather related event risk
- The Caribbean is prone to weather events of severe intensity because of its geographical conditions
- The Caribbean is also considered to be a seismically active area
- Exposure varies across the Region

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Vulnerability

- The system characteristics that create the potential for harm
- This is distinct from the incidence of the event.
- Factors include population growth in high risk areas, wealth changes, and location of development

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Caribbean Region Outcome Risks

- Unmanaged risks- losses at the individual, national and regional level
- An average of 32.4 disasters per year around the Region from 1970-2000 ; total of 226,000 fatalities; estimated annual average cost between \$700 million and \$3.3 billion(IDB 2000)
- Hurricane Ivan in 2004 resulted in over 60 deaths in the Region and devastated the physical and economic infrastructure in Grenada
- Earthquake in Haiti and other more recent events

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Caribbean Region Outcome Risks

- Catastrophe outcome risks are important to Caribbean capital markets
- Negative impact on economies will impact financial assets, investments and the capital market; impairment of real and financial assets
- Inadequate risk management results in reconstruction funding and asset recovery problems
- The Grenada experience

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Catastrophe Risk Management

□ Minimise the losses from catastrophe events

□ Main elements

- Vulnerability reduction
- Disaster preparedness
- Event management,
- Risk transfer

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Catastrophe Risk Transfer in the Caribbean

- Catastrophe insurance
- State funded programmes
- Regional agencies- CDERA, CDEMA ,CDB, etc
- CRIF
- Limited avenues for private assets

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Capital Markets and Catastrophe Risks

□ Caribbean catastrophe insurance issues

- The international reinsurance market
- Availability
- Pricing
- Underinsurance/low penetration

□ Catastrophe risk transfer to the capital markets

- Available capital
- Provide capital in advance of an event
- Portfolio risk diversification

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Catastrophe securities: Catastrophe bonds

Basic Structure

- The issuer is usually an insurer, reinsurer , or other entity with a significant catastrophe exposure. Alternatively it may be issued by a special purpose vehicle (SPV) sponsored by these entities
- The net proceeds are invested and assigned to pay losses if a covered event occurs

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Catastrophe securities: Catastrophe bonds

Basic Structure

- The terms specify the events covered, the occurrence of which will trigger catastrophe payments
- If a trigger occurs, at maturity bond holders receive their entitlements from the remainder, if any, of the invested proceeds.
- If no trigger occurs they receive all entitlements plus interest as required.

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Catastrophe securities: Catastrophe bonds

International catastrophe bond market

- Emerged in the 1990s
- \$12 -\$14 billion currently outstanding
- The recent strong earthquake in Japan was partly covered by catastrophe bond in the amount of US\$1.5 billion
- The market continues to grow despite the recent events;

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Caribbean Catastrophe Bonds

- **A supplement to reinsurance**
- **Possible structures**
 - Issues by insurance companies, regional disaster agencies, governments etc. to transfer some of their risks to the capital market
 - Triggers can include specific event, location, severity and time frame, amount of loss etc

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Caribbean Catastrophe Securities

- ❑ Potential challenges -risk modeling, pricing, acceptance
- ❑ Promote vulnerability reduction as risk transfer should be linked to risk mitigation efforts

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Caribbean capital market catastrophe securities

- Potential implications for Caribbean catastrophe risk transfer
 - Increased availability of coverage as more capital is available to cover regional catastrophe exposure
 - Reduced uncertainty/risk regarding potential effects of catastrophes
 - Diversification of portfolio risks
 - More securities available in the capital market

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Conclusions

- The capital market will be negatively impacted by severe catastrophe events
- We need to improve vulnerability mitigation in the Caribbean
- Adequate catastrophe risk transfer strategies should be available in Caribbean States
- We can consider possible sources of capital(other than reinsurance) for catastrophe risk transfer

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Conclusions (cont'd)

- The capital market can be part of the solution for risk management
- Consideration should be given to include catastrophe exposure in risk assessments
- Catastrophe risk management can offer new investment and diversification opportunities

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Thank you