

Catastrophe Risk Management

Implications for Caribbean Capital Markets

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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