Workshop on Insurance and Risk Assessment

World Bank Group

Dealing with Natural Disaster Risks – Institutions & Products

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World Bank Insurance Practice

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Key Messages

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- **In order to achieve <u>sustainable development</u> natural disaster risks should be addressed in a "proactive" rather than "reactive" way.**
- **Eliminating moral hazards which has become detrimental in building capacity at the country level to manage disaster risks.**
- **Catastrophe risk management solutions at the country level must be sought.**
- **Need for building public-private partnerships.**

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Characteristics of Catastrophe Risk

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- Low frequency but high severity events.
- High exposures and vulnerabilities.
- Mismanagement of catastrophe risk can have highly adverse social, economic and political implications for the affected countries.
- Can strain local governmental and insurance sector financial resources and often requires offshore risk transfer.
- Some risks can not be hedged.

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The Insurance and Contractual Savings Team sees FSE's Catastrophe Role as Follows

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- Vulnerability of the world's poor to natural disasters should underpin the World Bank's work on risk transfer and risk financing.
- By ensuring that sufficient liquidity exists after a disaster, risk transfer/funding mechanisms can help to speed economic recovery and reduce government fiscal exposure to natural disasters.
- Catastrophe risk management can also assist countries in the optimal allocation of risk in the economy, thus contributing toward higher economic growth, better mitigation and more effective poverty alleviation.

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The Insurance and Contractual Savings Team Define's Catastrophe Risk as Follows:

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SUDDEN on-set events -

- Earthquake, Cyclone/ Hurricane/ Typhoon.

SLOW on-set events –

- Floods, Drought.

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Assessing the real cost of natural disasters

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Three part model:

. Direct property loss

. Indirect losses

. Secondary losses

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Insured and Uninsured Losses from Natural Disasters (in US Billions)

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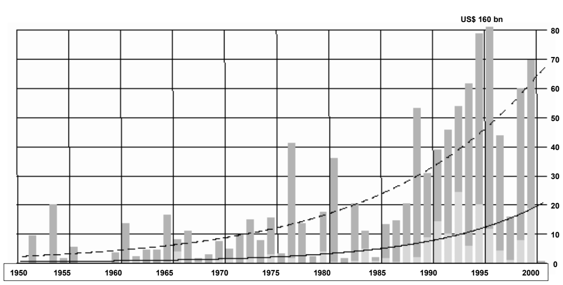

Economic losses (2000 values)
of which insured losses (2000 values)
---Trend of economic losses
—Trend of insured losses

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Vulnerabilities to Natural Disasters

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South Asia country	reported incidents	percentage assessed	reported losses	GDP[1] [$ mill.]	government revenues[2]	- loss intensities - pct. GDP	pct. revenues
India	73	19.2%	$9,176	$407,850	$75,500	2.25%	12.15%
Pakistan	22	0.0%		$52,280	$9,150		
Afghanistan	20	0.0%		$3,895			
Bangladesh	48	8.3%	$2,879	$37,650	$4,360	7.65%	66.03%
Sri Lanka	9	0.0%		$11,625	$2,185		
Bhutan	0	0.0%		$430	$165		
Nepal	15	26.7%	$52	$6,250	$690	0.84%	7.58%
	187	7.7%	$12,107	$519,980	$92,050	3.58%	13.15%

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The bulk of the gap is in developing countries: 1970 – 2000 analysis

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Country Type	40 worst disasters - lives lost	40 worst disasters - insured losses
Developing:		
No. of disasters	1	4
No. of lives lost	1,296,200	21,528
Insured loss	US$4.6billion	US$6.9billion
Developed:		
No. of disasters	2	36
No. of lives lost	14,525	9,460
Insured loss	US$3.7B	US$113.7B

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Insurance Penetration tells half the story

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USA	26,030	4.8
U.K.	19,720	3.4
Sweden	28,271	2.3
Spain	14,820	2.9
Mexico	3,512	0.8
Argentina	8,585	1.2
Philipphines	1,197	0.8
Zambia	325	0.6

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Why is the World Bank Involved in Building Catastrophe Risk Transfer Systems?

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- **Mismanagement of catastrophe risk has numerous highly adverse social, economic, fiscal and political implications for the affected countries and insurance industry.**
- **By ensuring that sufficient liquidity exists after a disaster, risk transfer mechanisms can help to speed economic recovery and reduce government exposure to natural disasters.**
- **Catastrophe risk management can also assist countries in the optimal allocation of risk in the economy, thus contributing toward higher economic growth, better mitigation and more effective poverty alleviation.**

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But public and social pressure has led us to play a totally different role-

PROMOTER OF MORAL HAZARD

And how is that

The World Bank has helped to fill the gap: 1980-2001 more than $30 billion

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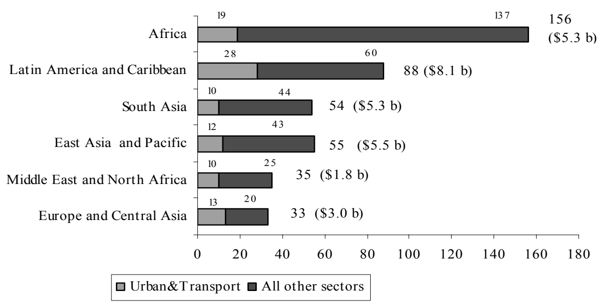

But may have also added to the problem

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'..the World Bank, must increasingly incorporate natural disasters and natural hazards into the projects and programs they fund. Some of their projects are not only silent on the issues of disaster vulnerability but may actually serve to increase exposure and vulnerability.'

Source: Berke and Beatley, 'After The Hurricane', John Hopkins, 1997

Other promoters of moral hazard

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- **Bilateral donors**
- **Local governments**
  - Post disaster assistance which does not incentive better risk management practitioners.
  - Product design which incentivises people to take on additional risk (e.g. crop insurance).

FSE has developed products at-

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Macro level –

- **Tool kit**: **based on rigorous country risk management approach.**

Micro level –

- **Financial Products: Contingent credit facility, weather index insurance.**
- **Innovation in distribution and delivery of financial products.**

FSE has developed a rigorous country risk management approach

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- Independent Estimates of Countries' Economic Exposures and Vulnerability to Natural Disasters;
- Quantification of Economic Benefits from Different Risk Transfer/Risk Hedging Arrangements;
- Selection of Best Risk Transfer and Financing Programs
- Review of premium rates and assistance in the design of risk transfer instruments

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National/Corporate Catastrophe Risk Management

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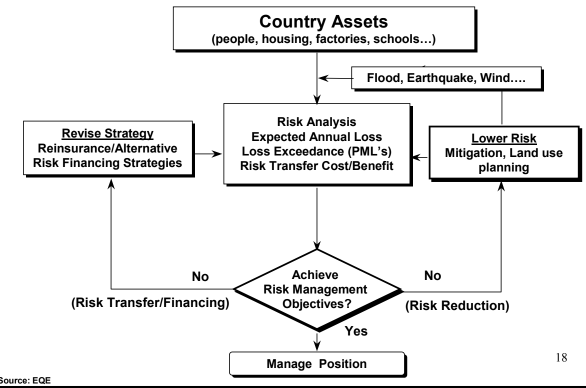

Source: EQE

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This involves a lot of technology

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- **Risk Identification and Measurement**
  – Extensive use of stochastic catastrophe risk models employing the latest scientific research on natural hazards and utilizing stock inventory and vulnerability data (EQECAT, RMS, AIR)
- **Loss control programs**
  – Loss prevention programs/national mitigation efforts/enforcement of building codes, construction supervision.
- **Risk transfer/risk financing**
  – Reinsurance
  – Government
  – Insurance Industry

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And we are developing a generic financing model

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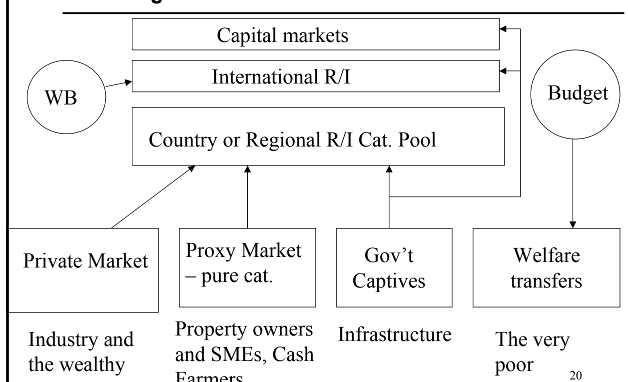

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When do the financial products work?

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- Relatively frequent, but not too frequent (Boston EQ - Tunisian drought - Bangladesh Flood) - cognitive effects
- The population has some experience of insurance – otherwise tax perception
- The funding process will support mitigation efforts - political cycle
- Reasonable data is available

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Even when the basics are in place there are challenges in building risk transfer systems

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- Lack of risk awareness at the government level and among population;
- Undeveloped insurance sector;
- Excessive reliance on the government as the reinsurer of last resort – moral hazard;
- Low country incomes;
- High degree of uncertainty with regard to expected economic losses.
- Distribution costs.
- Lack of public/ private trust.

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Our Track Record and Current Work Program

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- Turkish Catastrophe Insurance Pool – 2.5 million policies (assisted to the GoT with the institutional design, drafting of legal framework, and financing of TA and risk financing)
- South Asia Risk Management (India, Sri Lanka, Bangladesh) – completed; institutional design of a risk transfer program is about to begin
- Preparation of a cat insurance programs in Iran
- Preparation of cat insurance program in Romania
- Restructuring of the existing government risk financing program in Mexico
- Project preparation work in the Philippines
- TA for risk assessment in the Caribbean

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World Bank Lending Products and Advisory Assistance

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Risk Financing

- Contingent capital in support of government liquidity needs in the aftermath of natural disasters
- Financing of reinsurance premium
- Capital support of national cat pools risk financing programs

TA and Advisory Services

- Design of legal and institutional frameworks for risk financing;
- Assistance and lending for risk mitigation
- Independent risk assessments

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PART - II

Myths

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- Vulnerability to disasters is more of a small state's problem (meaning diversified economies have a natural hedge).
- Insurance is a panacea a) to manage risk due to natural disasters; and b) for the low income households and poor to manage income volatility due to disasters.
- Unlimited insurance/reinsurance capacity available.

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Vulnerability to disasters is NOT limited to small state's

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Index of Vulnerability to Natural Disasters:

Vanuatu	727.17
Bangladesh	539.16
Trinidad & Tobago	523.13
India	510.67
The Bahamas	491.28
Mauritania	487.55
Antigua & Barbuda	430.77
Botswana	418.03

- Government of Turkey was forced to raise taxes following the Marmara EQ, also the stock market witnessed having trading following the EQ.
- Government of India imposed a 2% surcharge on direct taxes following the Gujarat EQ, which netted less 5% of estimated total losses.
- Fiscal indicators are much better measure than decline in GDPs.

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Is insurance a panacea for low income households and the poor

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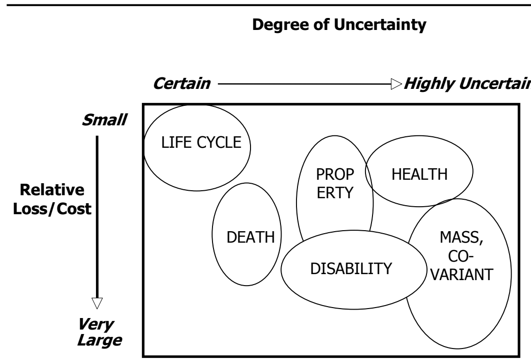

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Is insurance a panacea for low income households and the poor

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- Agriculture sector constitutes between 20-30% of GDP and provides employment to 40-50% of working population.
- Land holding patterns averages between 1 to 5 hectares.
- Failure of agriculture production affects the livelihood both the rural farm and non-farm sector.
- Till date NO VIABLE CROP and/or RURAL INSURANCE scheme operating.

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Is insurance/ reinsurance capacity an issue?

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If the events of past are any indication-

- Lack of reinsurance capacity in the Caribbean's following Hurricane Andrew in 1992.
- Lack of appetite for risk of small states.
- Lack of terrorism cover following September 11th.
- Drainage of reinsurance capacity following September 11th more than replacement.
- Shift in product Proportional to Excess of Loss by traditional reinsurers.

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Historical Excess of Loss Reinsurance Rates for OECS

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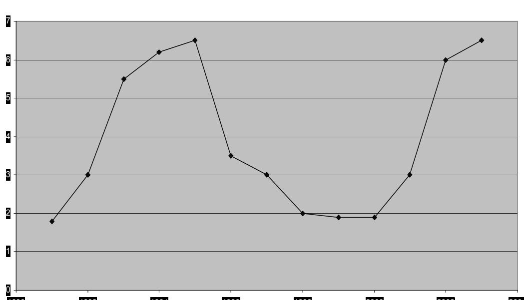
(middle layer of reinsurance)



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Latest Trends in the Global Reinsurance Industry

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- Poor investment returns, low interest rates and recent heavy losses led to 20-30% increases for personal lines in 2002 and additional 10-15% in 2003.
- Inflow of new capital insufficient to replace lost capital
- Flight to quality
- Active reduction of investment risk exposure
- Increased interest in ART products that make more
- More efficient use of limited capacity

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Conclusions

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- A combination of factors point to the need for creating a comprehensive catastrophe risk management program.
- World Bank can offer capital and technical support to the governments in support of their comprehensive risk management programs in the form of contingent liquidity facilities or with.
- Creation of well capitalized regional catastrophe reinsurance pool.

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