CONFERECE ON CATASTROPHIC RISKS
AND INSURANCE

22-23 November 2004

REINSURANCE AND THE MANAGEMENT
OF WEATHER RELATED RISKS

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Powerpoint presentation

This document is circulated for Session 1 of the Conference on Catastrophic Risks and Insurance, to be held on 22-23 November 2004 at the OECD Headquarters, 2 rue André Pascal, 75016 Paris, starting at 9:00 a.m.

For further information on this conference, please contact Cécile Vignial, Financial Markets Division (Cecile.Vignial@oecd.org), or Yosuke Kawakami or Morven Alexander, Outreach Unit for Financial Sector Reform (Yosuke.Kawakami@oecd.org or Morven.Alexander@oecd.org)
Reinsurance and the management of weather related risks

OECD conference on catastrophic risks and insurance

Natural catastrophes.....

- EQ San Francisco 1906
- Storms Europe 1990
- Typhoon Japan 1991
- Hurricane Andrew USA 1992
- EQ California 1994
- Lothar / Martin 1999
- Flood Europe 2002
- ...

... a history of underestimation!
What if…?
Probabilistic cat modelling

Considerable experience with weather related insurance, but
→ low-frequency hazard
→ insufficient (not representative) loss history
→ need for **probabilistic modelling** (representative event set, covering 10’000 – 100’000 yrs of hazard activity)
Nat cat top loss potentials

Insurance loss in USD billions:
- Top 3 events (nat cat and man-made) so far
- Loss potentials from events with a return period of 100 - 200 years

based on Swiss Re cat models
Natural hazard losses on the rise

Insured natural peril losses 70-04
per year, USD bn (price-indexed 2002)

- widening insurance coverage
- increased value concentration in high-risk areas
- higher vulnerabilities
- climate change (flood, storm?)

Source: Swiss Re sigma

1992: Hurricane Andrew, USD 20 mrd
1999: Lothar/Martin, USD 9 mrd
Challenge #1: Climate change

- Four Florida landfalling hurricanes in summer 2004 (first time since Texas, 1886)

- Devastating “hurricane” hits Brazil south coast in March 2004

→ hazard history no longer valid as benchmark?

→ need to adjust cat models?
Challenge #2: New weather insurance products

- Insurance linked securities (ILS, mainly “Cat bonds”): demand growth for very low-frequency, high severity events

- Weather derivates: strong demand growth from variety of weather (temperature, precipitation, wind) sensitive companies, lead by US, Europe and Asia catching up
Challenge #3: Emerging markets China and India

- One-third of the world’s total population
- Strong insurance market growth
- Prone to atmospheric perils (& other natural hazards)

OECD conference
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Source: Swiss Re Economic Research & Consulting