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IMPROVING RISK MANAGEMENT AND ACCOUNTS FOR THE WORLD

## REINSURANCE

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### Agenda

- **Reinsurance Sector Ratings & Outlook**
  - Reinsurance Major Rating Factors
  - Chile Earthquake
  - Property catastrophe Criteria
- **Reinsurance – Importance to Ratings**

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### Ratings Profile: Global Reinsurance

Ratings Profile At Jan 1: 2008 v 2009 v 2010

Rating	2008	2009	2010
AAA	5%	5%	5%
AA	19%	21%	16%
A	58%	60%	70%
BBB	16%	12%	7%
Lower	2%	2%	2%

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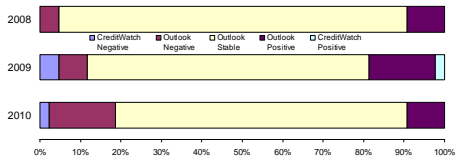
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### Global Reinsurance Outlook: Stable



As of 1/1 of each year, 43 interactive ratings.

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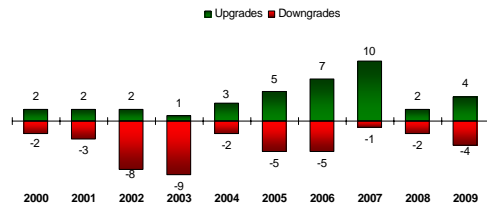
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### Ratings Trends: Global Reinsurance



Multiple rating actions within a given year are included

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### Reinsurance Major Rating Factors

- **Industry Risk**
  - Potential threat of new entrants (low barriers to entry), Substitute products or services, Regulatory risk
- **Competitive Position**
  - Competitive advantage: distribution channel, underwriting, pricing power, scale, diversification (sector and/or line of business).
- **Management and Corporate Strategy**
- **Enterprise Risk Management (ERM)**
  - Risk controls, optimization of earnings and capital
- **Operating Performance**
- **Capitalization/Reinsurance**
- **Investments and Liquidity**
- **Financial Flexibility/Reinsurance**

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**Global Reinsurance Outlook: Positive Rating Factors in our Opinion**

- Capitalization substantially rebuilt in 2009.
- Strong underwriting results for full year 2009.
- Relatively defensive stance on investments and unrealized investment loss position unwinding.
- Continued robust liquidity.
- Evidence that perceived enhancements to ERM are starting to deliver tangible benefits.

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**Global Reinsurance Outlook: Negative Rating Factors in Our Opinion**

- Increased competition at January 1 2010 renewals and modestly declining premium rates in property and casualty lines.
- Current macro-economic environment continues to impact premium volume and rates (primary market influence).
- Some concerns over recent/current accident year reserving for casualty reinsurance lines.
- Lower investment returns will likely represent a drag on earnings.

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**Key Messages: ERM**

- Reinsurers appear to have learned lessons following a sequence of shock losses in the past decade (catastrophe and asset volatility).
- Awareness of asset risk is evident.
- Screening for emerging risk is now driving management action (inflation).

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**Key Messages: Financial Flexibility**

- **Financial flexibility / capital market access has moderately improved in 2010.**
  - However, capital regeneration through earnings continues to be the most reliable.
- **Many reinsurers have revisited their tolerances for both asset and catastrophe risk.**



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**Chile Earthquake**

**Earthquake in Chile: Estimated Range of Insured Losses (\$4-10B)**

- February 27, 2010 – Magnitude 8.8 EQ off the coast of southern Chile.
- Chile is located along the Pacific Ring of Fire (an area where large numbers of earthquakes and volcanic eruptions occur in the basin of the Pacific Ocean) one of the most active seismic zones.
- The country has experienced about 13 quake events of magnitude 7.0 or more over the last four decades.
- RMS (Catastrophe Modeling Firm), noted that one positive outcome of Chile's history of powerful earthquakes is that building standards are some of the most stringent globally and are generally much higher than in the rest of South America.
  - Near 50% of all the properties in Chile have been built in the past 40 years when building codes have been in force. Most residential buildings are made of reinforced concrete, which acts as a buffer against ground shaking.
- **Earthquake losses can also take a long time to mature because of potential structural damage to buildings that may not be recognized right away.**



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**Property Catastrophe Criteria/Capital Charge**

- **Tax adjusted Net aggregate 1/250-year property Probable Maximum Loss (PML) with two premium offsets.**
- **The catastrophe capital charge is Tax Adjusted (US = 35%).**
- **First premium offset, the catastrophe related premium embedded in the property book will be removed from the premium risk charge to avoid double count of required capital.**
- **Second premium offset, the net aggregate 1/250-year PML will be reduced by 70% of the associated catastrophe Net Written Premium.**
  - For both Insurers and Reinsurers – this premium offset reflects the view that premiums could be collected early in the year that would reduce a prospective PML loss later in the same year.
- **The capital charge is applied on all property (personal & commercial) exposures on a global basis. The total portfolio PMLs are expected to be calculated for all perils (wind, earthquake, tornado/hail and flood (non-US), and zones combined.**
  - Therefore, diversification by peril and location is applied.



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**Property Catastrophe**

**Why a 1/250-year PML?**

- We believe the capital charge should capture historical volatility.
- Hurricane Katrina based on the various vendor models measured between a 1/20 and 1/30 year event for the US, but this scenario increases to a 1/250 year event or 1/500 year event for certain states (Louisiana, Mississippi) specifically.
  - For the US only, a 1/250 year occurrence is possible with a hurricane hitting Miami – according to some of the vendor models.
- Insurance and reinsurance companies considered Hurricane Katrina and the 2005 hurricane season in aggregate to be a 1/100 year event.
- Insurance and reinsurance companies considered the Southeast hurricanes in 2004 to be a 1/20-1/50 year event in aggregate.
- According to vendor models, the 10 typhoons in 2004 that hit Japan are considered roughly a 1/120-year return period in aggregate.
- Chile Earthquake – potentially second largest insured earthquake loss after Northridge in 1994.



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**Property Catastrophe**

**Why a 1/250-year PML (Continued)?**

- Recognizing that models are not perfect, and the potential for increasing frequency and severity – we believe the capital charge also needs to capture prospective volatility.
- U.S. insured losses due to natural catastrophes are doubling about every 10 years.
- The severity of property catastrophe risks may increase with population growth in coastal areas, inflation, and higher building values.
  - In the U.S., more than 50% of the U.S. population now lives within 50 miles of a coastline.



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**Reinsurance – Importance to Ratings**

- Reinsurance Risk is incorporated into ratings and major rating factors, with varying degrees of importance depending on each company's risk profile.
  - Company utilizing significant reinsurance protections – may be the overwhelming ratings factor.
  - Company with excess capital and minimal use of reinsurance, may be less important.
- Reinsurance Risk is incorporated in ratings on a quantitative basis (capitalization) and on a qualitative basis as well.
- Reinsurance Risk and Controls are incorporated as part of our ERM review.



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**Reinsurance – Importance to Ratings**

Quantitative Basis

- **Capital Model:**
  - Reinsurance recoverables are charged based on credit risk and amount of recoverable (historical loss).
  - The natural catastrophe exposure charge (1/250 net aggregate property PML) is applied on a net basis – so, reinsurance is applied and reduces the gross PML to a net capital charge.
    - Side-cars, catastrophe bonds, ILS and other forms of reinsurance may receive credit in the capital model based on a transaction level review in each case.

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**Reinsurance – Importance to Ratings**

Qualitative Basis

- **Could a company adjust its level of reinsurance utilization, would this impact competitive position or not? (line size, capacity offered)**
  - The selection of a retention involves a compromise between stability and cost.
  - A relatively low retention provides earnings stability but is expensive. (specifically, post-event cost may be too expensive)
- **Due to reinsurance, does the insurance company insure large single risks (or a large number of smaller risks) in excess of what the capital base can safely support?**
  - Is reinsurance purchased to protect against frequency or severity, or both? (mitigate volatility, generate steady earnings)
- **Ability to access reinsurance? (financial flexibility)**

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**Reinsurance Risk**

Qualitative Basis

- **Why is reinsurance utilized? (reduce capital charges including catastrophe charges).**
- **How is reinsurance purchased? (committee approach, purchased by segment or at a corporate level)**
- **Does company monitor reinsurance quality? (low or non-rated companies)**
- **Does company monitor concentrations?**
- **Does company utilize reinsurance to manage pricing cycles? Optimize earnings? (ERM)**
- **What is the process to monitor reinsurance quality? (ERM)**
- **What is the process to update the reinsurance program as conditions change? (ERM)**

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