



## *Shifting Paradigms -- 2006*

### **Private Sector Risk Transfer Capacity – The Supply and Demand Equation Shifts for Natural Catastrophes**

Summary: *Insurers and reinsurers have paid record amounts for United States natural disaster losses in 2004 and 2005. In spite of that fact, the private sector reinsurance markets are providing record amounts of reinsurance capacity. Even with these substantial losses, the year over year supply of reinsurance increased as some reinsurers added capital and new reinsurers formed. Capital markets continue to be willing providers of capital to reinsurers assuming United States natural disaster risk. In addition other financial products such as catastrophe bonds are increasingly being used. While capacity remains satisfactory for most regions and perils, reinsurance capacity is temporarily short of the heightened new demand in Florida. The supply/demand equation has historically re-balanced over time. Proposed state and federal natural disaster reinsurance programs may impede this natural economic cycle. They should not crowd out private sector risk transfer capacity. As we learned following 1992's Hurricane Andrew -- the last paradigm shifting event for hurricanes -- markets need time to adjust but they are resilient and the supply/demand equation will come back into balance.*

#### First a Review of 2004 and 2005

\*7 of the 10 worst insured loss hurricane events in US history have occurred in the 14 months from August 2004 to October 2005<sup>i</sup>

\*Katrina, largest natural disaster insured loss ever: \$41 billion<sup>ii</sup>

\*2004 Hurricane Insured Losses: \$20 billion<sup>iii</sup>

\*2005 Hurricane Insured Losses (Katrina, Rita, Wilma (KRW)): \$56 billion<sup>iv</sup>

\*Reinsurers' share 2005: 66% Katrina, 50% KRW overall

\*Reinsurers' share 2004: estimated at 25% to 30%

\*Distribution of KRW losses<sup>v</sup>:

- US insurance 41%
- US reinsurance 11%
- Bermuda 24%
- Europe 13%
- Lloyds 9%
- Other 1%

*Summary: Record setting losses, large distribution of losses to worldwide reinsurance markets. Many reinsurers needed to raise additional capital to support future business opportunities.*

### The Reinsurance Supply Equation

*\*Post Katrina 2005 Capital Raising<sup>vi</sup>:*

- \$21 billion, insurers and reinsurers
- \$18 billion to Bermuda
- \$ 8.5 billion to 9 new start up insurers

*\*April/May 2006 capital raising primarily in reaction to constrained Florida market<sup>vii</sup>:*

- \$3 billion in “side cars”<sup>viii</sup>
- \$4 billion in catastrophe bonds<sup>ix</sup> (double previous amount of annual issuance)

*\*World Insurance Forum Winter 2006<sup>x</sup> survey:*

- \$40 to \$42 billion in property catastrophe excess of loss reinsurance would likely attach to a single large US event
- \$8 to \$10 billion in additional reinsurance available from other types of reinsurance including per risk excess, proportional and facultative cover

\*\$48 to \$52 billion in reinsurance likely attaching to an extremely large US event in 2006

*Summary: Capital markets supply \$28 billion in 8 months to meet expected demand for reinsurance. Reinsurers restored balance sheets, raised capital to write more business than was written in 2005. Substantial capital markets interest in sidecars and cat bonds as it became clear Florida would face a capacity crunch.*

### The Reinsurance Demand Equation

*\*Catastrophe Modeling<sup>xi</sup> Changes:*

*\*RMS May 2006 revises catastrophe modeling formulation:*

- Based on new data from 8 storms in two years, 1/250 event PML increased \$55 billion
- RMS estimates the additional insurance capital needed to support this PML increase at \$82 billion

*\*Rating Agency<sup>xii</sup> Changes:*

- AM Best revises catastrophe scenario tests needed for insurer ratings
- Standard and Poor’s applies reinsurance catastrophe scenario testing to primary insurers
- \*Net effect: additional capital needed just to support the same book of business as written in 2005 if insurer wants to maintain its financial strength rating.

*\*Exposure Increases:*

1,000 additional residents are moving into Florida each day, creating new demand for housing, particularly along the coast. Other states in Southeast are also showing growth.

*\*Underwriting Analysis:*

*\*Looking backward:*

- Revised future loss expectations based on actual loss experience
- Poor commercial lines underwriting data led to mistaken assessments of loss potential
- Underwriting data is slow to reflect the increase in the number of insured properties in peak zones due to housing construction boom
- Insurance to value errors, premium collected was incorrect since the cost to rebuild exceeded expectations due to insurance limits failing to keep pace with costs of construction and market values of property

*\*Looking forward:*

- Revised loss frequency expectations based on North Atlantic hurricane cycle
- Revised severity expectations based on continued exposure growth, demographic changes and demand surge

*Summary: Demand for reinsurance increased significantly as insurers strove to continue to write business with existing capital while trying to maintain rating agency financial strength ratings; and after updating underwriting analysis based on paradigm shifting analysis of future event probabilities. While reinsurance supply remained adequate for most regions and most perils, in Florida the demand for reinsurance temporarily outstrips the supply. As a result of the confluence of these various factors, reinsurance prices rose significantly. At the same time, based on rate filings, insurance premiums appear to be understated relative to risk*

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<sup>i</sup> Insurance Information Institute (III)

<sup>ii</sup> Insurance Services Office (ISO)

<sup>iii</sup> III

<sup>iv</sup> ISO

<sup>v</sup> Dowling and Partners

<sup>vi</sup> Dowling and Partners

<sup>vii</sup> Lehman Brothers, Dowling and Partners, Renaissance Re

<sup>viii</sup> “Side cars” are pools of capital dedicated to catastrophe risk, managed by professional underwriters

<sup>ix</sup> Lehman Brothers, Renaissance Re

<sup>x</sup> World Insurance Forum conducted a catastrophe focused conference in February 2006, survey completed in February with raw aggregate results published in March with post-conference materials.

<sup>xi</sup> Risk Management Solutions (RMS) is one of three main catastrophe modeling firms; insurers and reinsurers use catastrophe models to gain insight into possible losses from future events; models use historical loss data, historical storm track information, building and engineering data, economic value information and more to help insurers assess future loss potential. One of the reasons for the large RMS projected increase was a decision to factor in a higher frequency for storms due to the North Atlantic Ocean hurricane cycle.

<sup>xii</sup> The major rating agencies include: AM Best, Standard and Poor’s, Moody’s and Fitch. Insurance and reinsurance buyers use the rating agencies to help them determine the financial strength of insurers and reinsurers so that they can determine the likelihood of future claims being paid. Thus a higher rating is important to insurers and reinsurers so that they can be more competitive in the market. Rating agency ratings are different from solvency regulation assessment by insurance regulators.