



State of the Reinsurance Market - Insurance Linked Securities, Poised for Growth?

Larry McClure, FCAS – Senior Actuary, Travelers

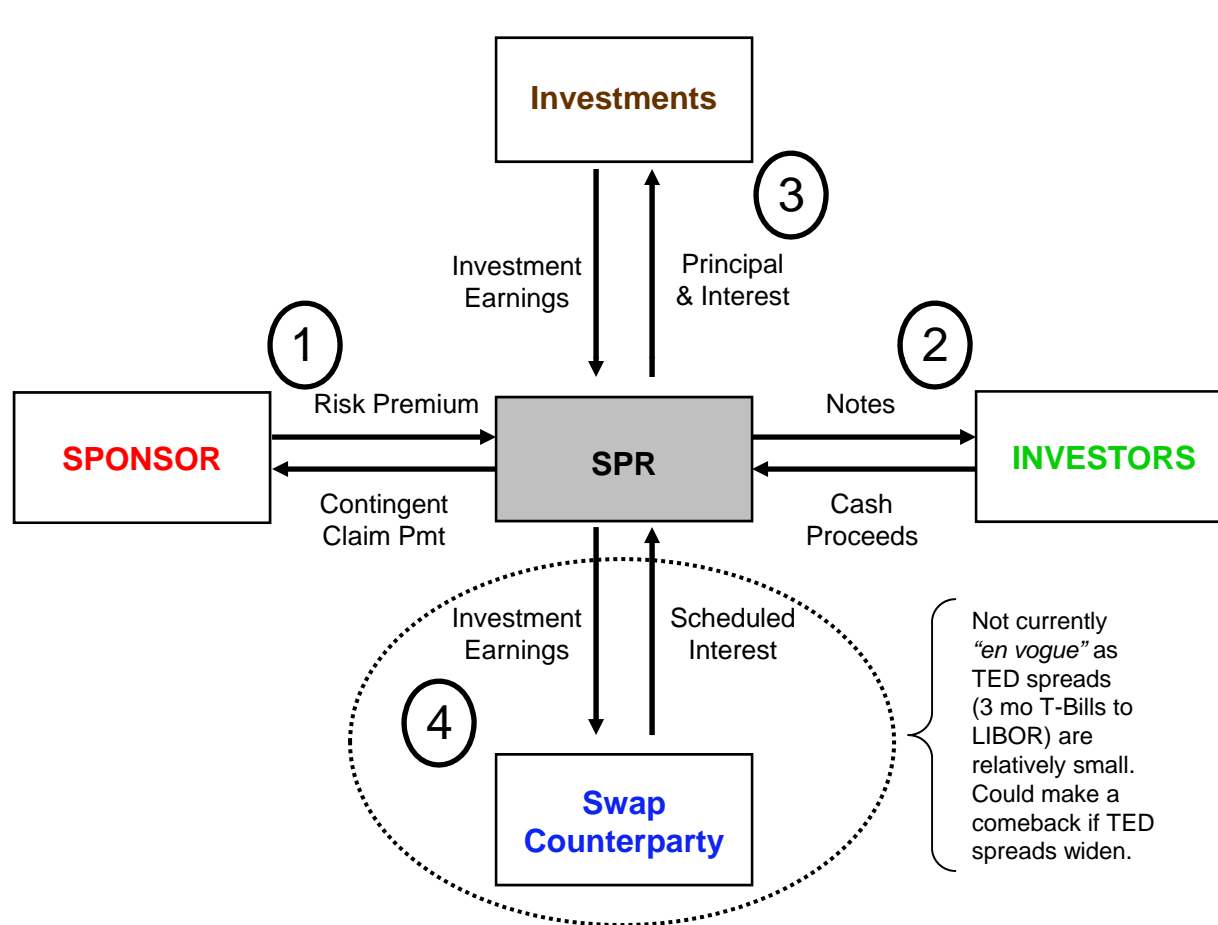
What are Insurance-Linked Securities?

- Insurance-Linked Securities (ILS) are an asset class comprised of a number of financial instruments whose values are derived from insurance risk.
- A Catastrophe (“Cat”) Bond is a specific type of ILS that provides the sponsor with collateralized, and often multi-year, reinsurance protection.
 - Sponsors are generally a primary insurer or reinsurer, but can also include governmental entities and corporations.
 - Cat Bonds allow sponsors to obtain reinsurance protection from a new pool of capital separate from traditional reinsurers.
 - Money managers, hedge funds, and pension funds represent a new pool of capital for insurers and reinsurers.
 - Investor capital provides collateralized cover.
 - Investor capital sits in a segregated collateral trust account. If a covered event occurs, dedicated funds are available, virtually eliminating the credit risk inherent in traditional reinsurance.
 - Cat Bonds are “principal at risk” notes. If the triggering event occurs, the investors’ principal amount is imperiled.

How ILS Emerged – A Brief History

- In 1992, Hurricane Andrew made landfall in Florida causing \$15.5b in insured losses.
- The resulting shortage of reinsurance capacity prompted reinsurers, banks, and academics to investigate new ways of transferring catastrophe risk outside the traditional reinsurance capital pool.
- In 1997, Residential Re, the first catastrophe bond, was sold to capital markets investors, protecting USAA against the risk of a major hurricane.
- Since then, approximately \$45 billion of cat bonds have been issued, providing protection to over 70 insurers, reinsurers, governments, and corporations for a multitude of risks.

Typical Cat Bond Structure



① The sponsor (insurer or reinsurer) enters into a financial contract with the Special Purpose Reinsurer (SPR).

② Investors purchase securities from the SPR which simultaneously enters into a reinsurance (or derivative) contract with the sponsor.

③ Proceeds from the securities offering are invested in high quality securities (typically US Treasuries) and held in a collateral trust.

④ (Optional) Investment returns can be swapped fixed-for-variable to a LIBOR-based rate by a swap counterparty

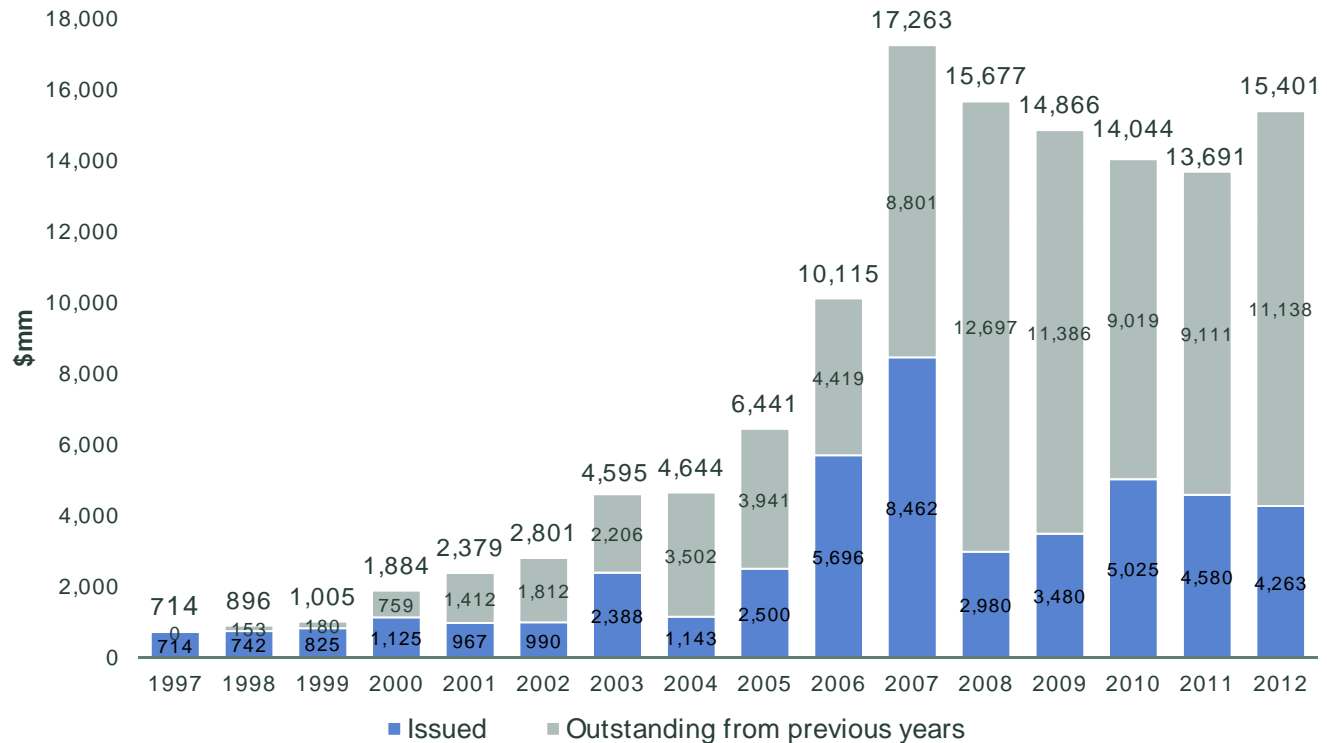
- Sponsors get collateralized reinsurance protection.
- Investors get risk premium & investment income from collateral account

Cat Bond Triggers & Basis Risk

- A variety of triggers can be used with Cat Bonds. The most common are:
 - Indemnity: Recovery based on the sponsor's actual losses.
 - Industry Index: Recovery based on an industry loss amount, such as PCS.
 - Parametric: Recovery based on actual reported physical event (maximum sustained wind speed / central pressure).
 - Modeled Loss: Recovery based on modeling an actual event using a pre-determined Cat model.
 - The trend has been toward an increased use of indemnity triggers for Cat Bonds, largely due to an increased awareness of model risk (RMS v11) and growing, albeit not universal, investor acceptance of this trigger.
- Basis Risk: When a trigger other than indemnity is employed, there is a risk that the loss determined by the trigger will not align with the actual losses incurred by the Sponsor.

Historical and YTD Cat Bond Issuance

- Issuance peaked in 2007.
- Issuance dropped off in 2008-09 due to the financial crisis, but market was open and available, albeit at wide spreads
- Estimates for full year 2012 are \$5b to \$7b
- 2012 includes the largest single tranche issuance to date (Everglades Re on behalf of Citizens of FL)
- Prospects for renewed period of expansion based on high investor demand for diversifying, relatively high-yield asset class.



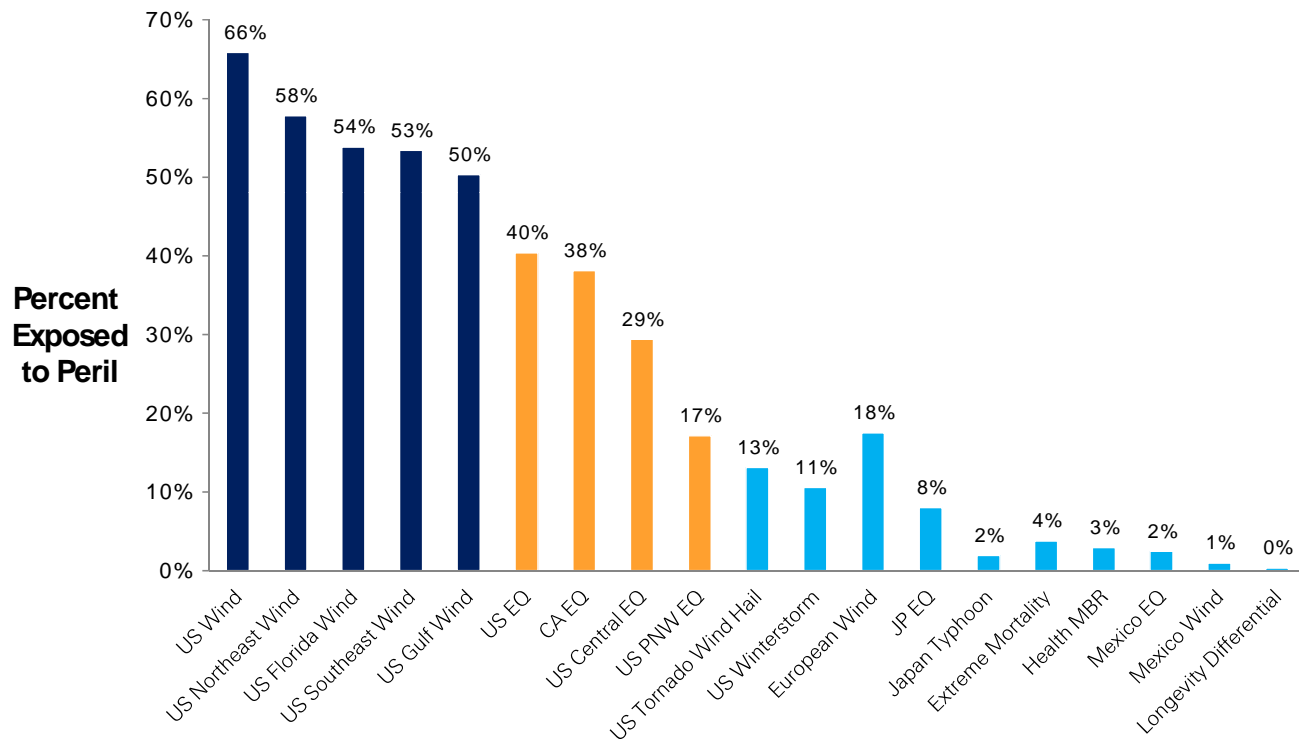
As of Aug 31, 2012
 Source: Swiss Re Capital Markets
 Current year reflects year-to-date totals

Historical and YTD Cat Bond Issuance

Outstanding Cat Bonds by Peril

US Wind represents the largest peril in the ILS space, consistent with its position as the most capital intensive peril in the global re-/insurance markets

Diversifying perils achieve tighter spreads and appeal to investors whose investment guidelines require them to be diversified within their ILS portfolio



Source: Swiss Re Capital Markets.

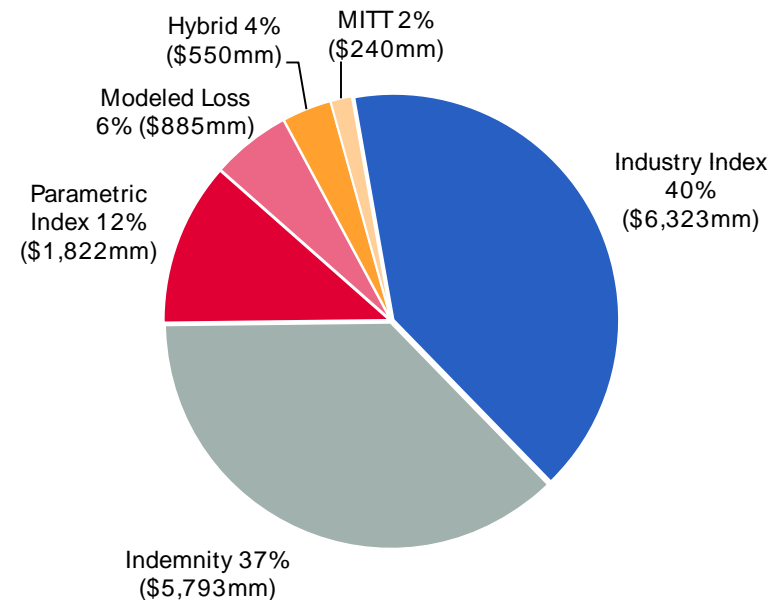
As of Aug 31, 2012 with percentages calculated based on notional amount. Percentages will not add due to multiple perils included in most bonds

Cat Bond Triggers Outstanding

Sponsors have increasingly looked at indemnity triggers in the past year, as they look to minimize their basis risk.

- Industry index is still the largest trigger outstanding, but is waning
- Traditionally, index-based transactions have typically priced tighter than indemnity transactions
- However, an indemnity trigger will offer a sponsor the lowest basis risk in a cat bond

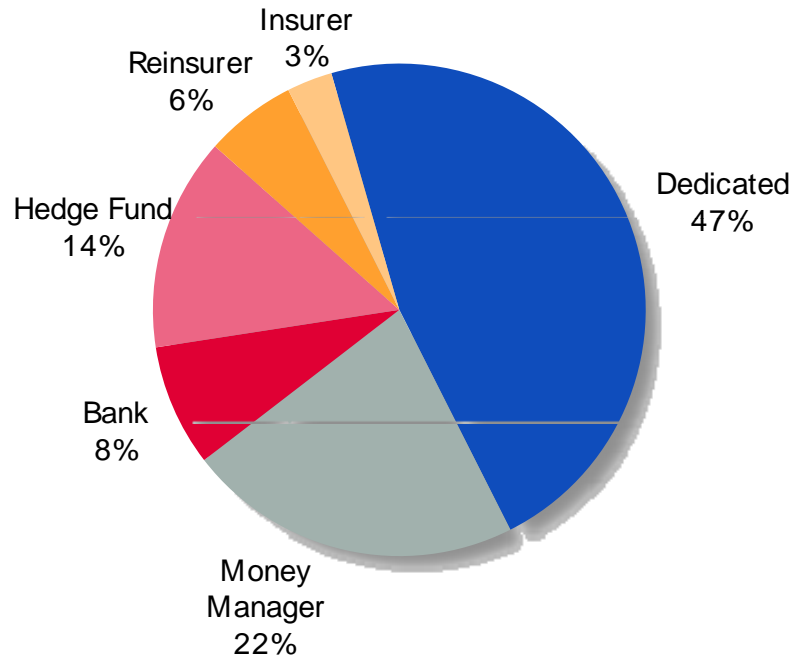
**Catastrophe Bond Trigger Breakdown
(Natural Catastrophe Bonds Only)**



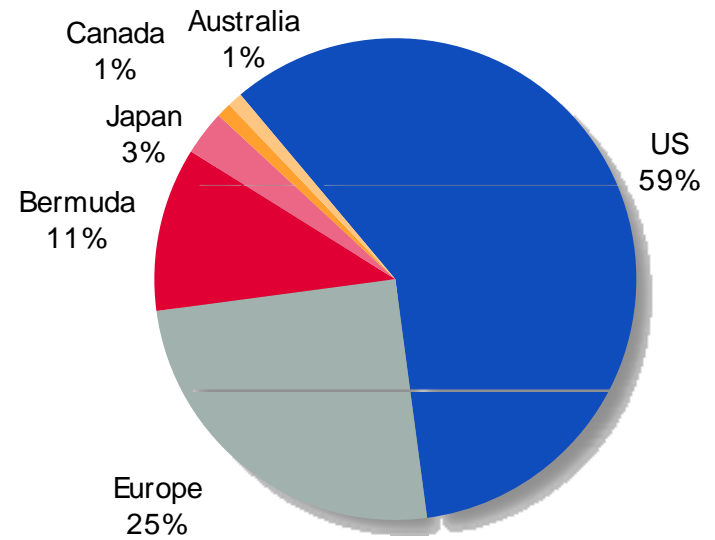
Source: Swiss Re Capital Markets.
As of Aug 31, 2012 with percentages calculated based on notional amount

Cat Bond Investor Segmentation

Investors by Type



Investors by Region



As of Aug 31, 2012
Source: Swiss Re Capital Markets

Why Consider Cat Bonds?

- Sponsor's Perspective – Cat Bonds...
 - are collateralized, thus no concern about counterparty credit risk
 - offer an alternate source of capacity
 - can provide structural features that traditional reinsurers may find challenging, such as aggregate covers, 2nd event covers, drop down covers, etc.
 - provide multi-year pricing / capacity stability
- Investor's Perspective – Cat Bonds...
 - provide investors with an assets class that is (largely) uncorrelated with more traditional assets classes (equities, corporate/government bonds), thus cat bonds are generally regarded as a diversifying assets class
 - provide attractive risk-adjusted yields, especially in the current low interest rate environment
 - have experienced relatively low volatility (to date)

State of the Cat Bond Market

- Cat Bonds represent a small, but growing, component of the risk transfer space.
- Most large primary insurers and reinsurers have utilized ILS capacity in some form, with many coming back for additional capacity.
 - ILS in the form of Collateralized Reinsurance comprises a large portion of the retrocessional market.
- Investor demand is high, especially for non-peak exposures, attributable, at least in part, to the persistent low-interest-rate environment.
 - Investors are searching for yield and are willing to look at new asset classes.
 - The diversifying nature of Cat Bonds within many investors' portfolios also increases demand.
 - Investors are becoming more comfortable with indemnity triggers, which are favored by many sponsors.
- Sponsor supply is growing steadily, but likely will not be sufficient to meet investor demand without significant price tightening.
- Market-makers continue to investigate new perils & geographies, but these seem unlikely to close the supply/demand gap in the short run.

Case Study: Long Point Re III Ltd.

- In June 2012, Travelers successfully sponsored Long Point Re III Ltd. Series 2012-1, its first indemnity cat bond
 - Travelers had previously sponsored two PCS-based transactions
- Long Point Re III covers certain Travelers business units for Hurricanes in certain Northeast states
- The Subject Business for the transaction includes the Personal Insurance segment as well as the Select Accounts and Commercial Accounts business units of the Business Insurance segment
 - Business units which cover large and/or unique exposures are excluded from the Subject Business
 - Feedback from investors was that they liked the "main street" nature of subject business

Long Point Re III Ltd.

Series 2012-1 Notes Class A Summary Terms

Ceding Company:	The Travelers Indemnity Company (and several of its affiliates)
Original Principal Amount:	\$250,000,000
Initial Modeled Trigger Probability^(a):	0.97%
Initial Modeled Exhaustion Probability^(a):	0.77%
Initial Modeled Expected Loss^(a):	0.88%
Modeling Firm:	AIR
Risk Period:	June 7, 2012 to June 7, 2015
Trigger:	Indemnity, per occurrence
Covered Event:	Hurricane
Covered Area:	Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia
Rating (S&P):	BB+ sf
Collateral:	Treasury Money Market Funds
Investor Spread:	6.00%

(a) As estimated by AIR, sensitivity case (Warm Sea Surface Temperature Conditioned Catalogue)