



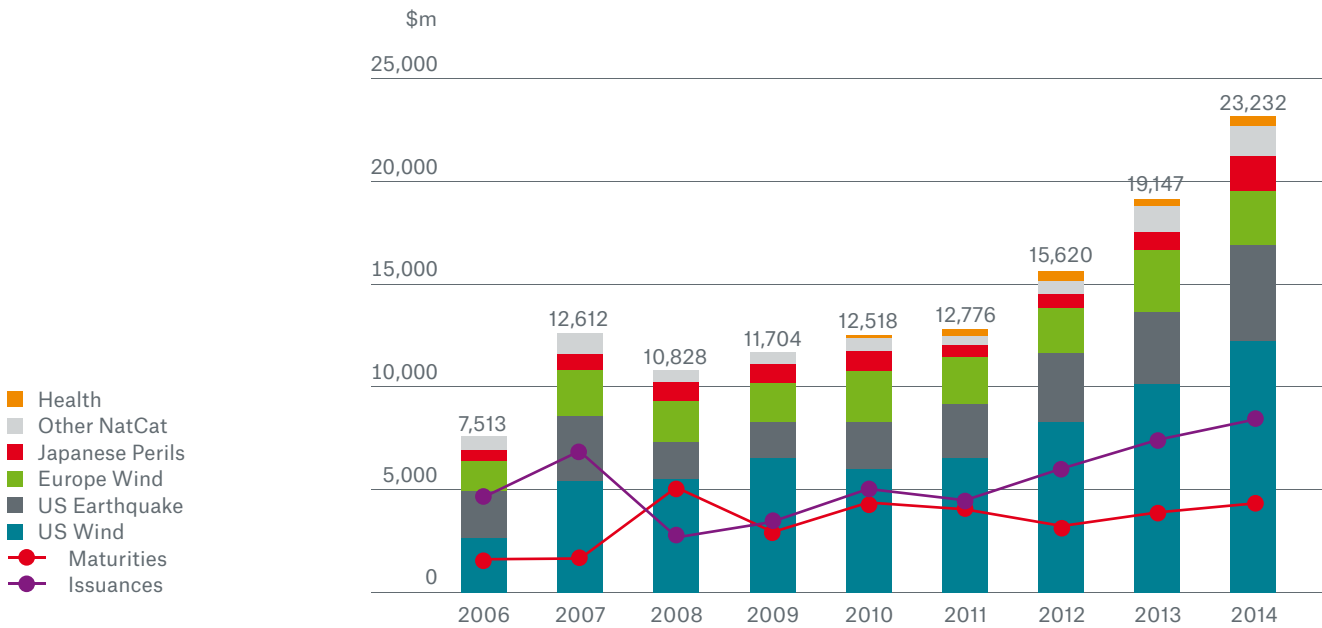
Insurance-Linked Securities (ILS) Market Review 2014 and Outlook 2015

Market Review

Another year of growth demonstrates the ILS market's increasing acceptance as an alternative asset class

For the third year in a row, the cat bond market experienced material capital inflows, increasing total notional outstanding by 21%, to \$23.2bn. Annual issuance volume amounts to \$8.4bn. At year-end 2014, cat bond cover for US wind alone reached roughly the size of the total cat bond market of three years ago.

ILS Market - Outstanding, Issued and Maturing Volume*

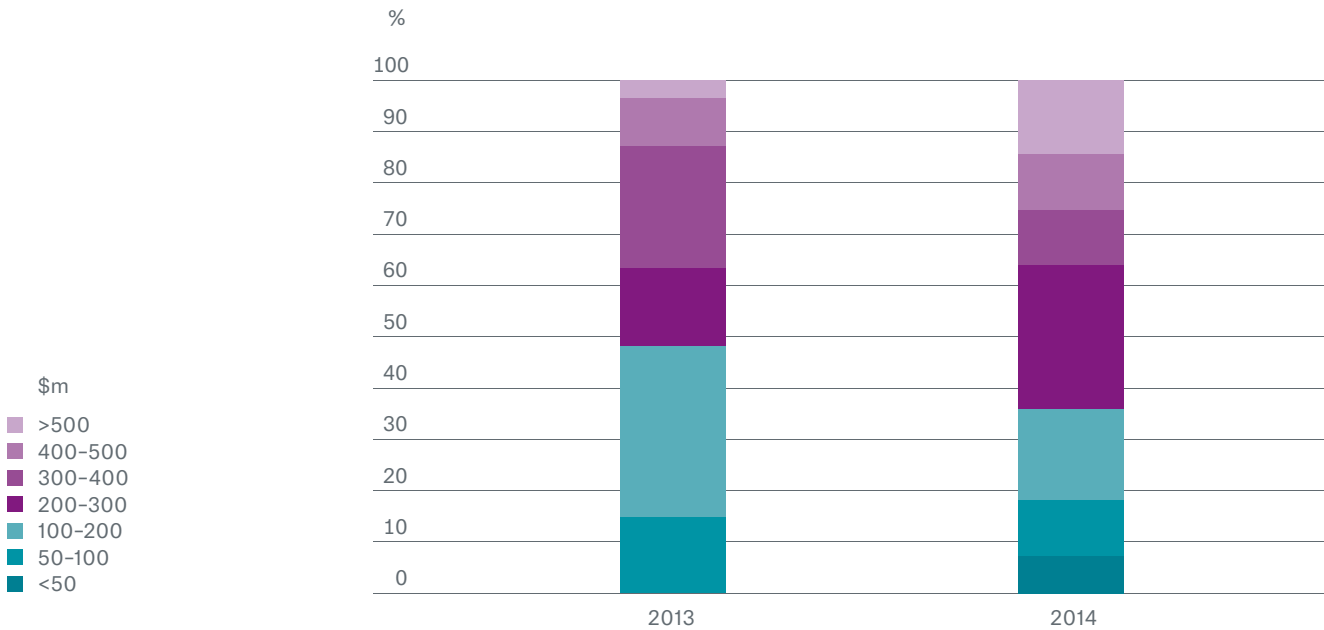


* Excluding Mortality transactions; cat bonds with Euro-denomination were converted into \$-amounts using the exchange rate on the respective day of issuance
Multi-peril cat bonds were split into single perils based on their contribution to expected loss

Market Review

The typical cat bond issuance size increased and brought the market closer to other, more mainstream asset classes. Last year about 50% of cat bond transactions were issued in deal sizes below \$200m, but in 2014 more than 60% of placements total \$200m or more, with a quarter reaching an issuance size of \$400m or more. With the largest cat bond ever, Florida's Citizens Property Insurance Co. successfully tapped the market via its Everglades Re Series 2014-1 with an issuance size of \$1.5bn in the second quarter.

Number of Cat Bond Transactions Split into Buckets of Issuance Size*



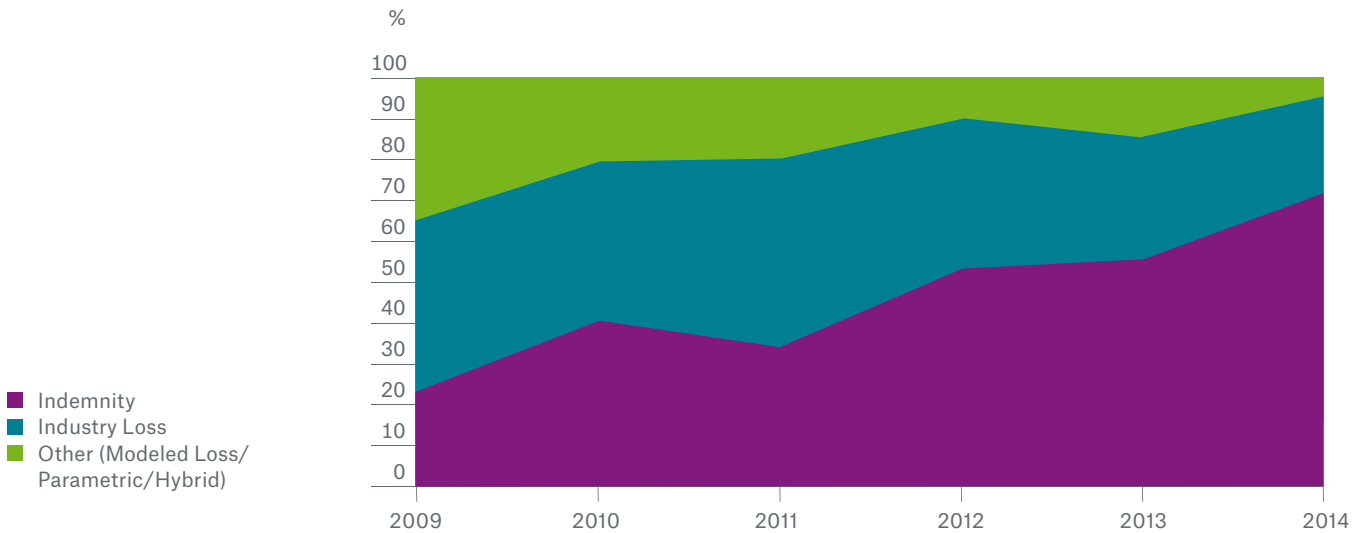
* The number of cat bond transactions per bucket was put into relation to the overall number of cat bond transactions

Market Review

A major driver of net inflows into the cat bond market was institutional investors entering this market through specialist ILS funds. In 2014, those funds could further increase their dominance in the field, and their expertise in sourcing and analyzing reinsurance risk has been driving acceptance of indemnity deals. The share of such transactions on total outstanding notional grew to 72%, expanding 16 percentage points, thereby diminishing the use of parametric triggers that were once preferred by cat bond investors. The increased comfort of institutional investors in assessing non-standard indemnity risk was also demonstrated by the fact that indemnity triggers were used evenly by repeat and first-time issuers. While indemnity triggers from first time issues were far less accepted in the past, 72% of bonds issued by either group were indemnity based in 2014. Without the basis risk from parametric transactions, indemnity triggers as the “new normal” have made the cat bond market more reasonable for cedents.

Munich Re gives more insight on the disclosure requirements for indemnity cat bonds in our Knowledge Box (see page 13).

Trigger Types (in % of Outstanding Capacity)



Market Review

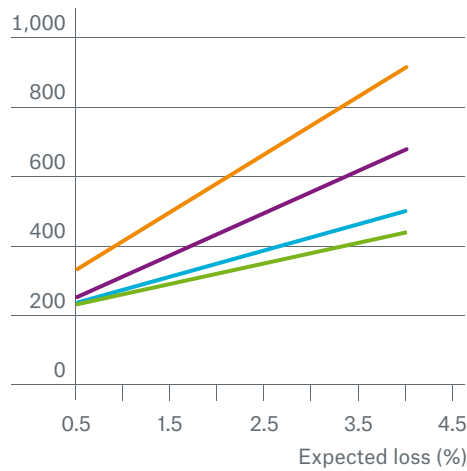
Market standards continue to shift toward cedent-friendly structures

Large demand from investors trying to employ capital led to a tightening of risk spreads. On a seasonally adjusted basis, US wind rates decreased by 8%, while the unadjusted general market rates came out 7% lower at year-end.

Cat Bond Pricing Forecast*

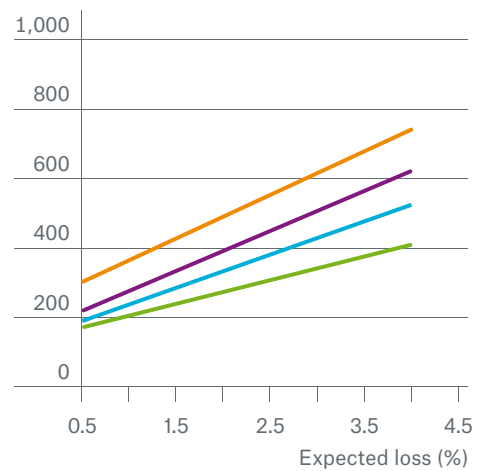
2013

Risk Spread (bps)



2014

Risk Spread (bps)



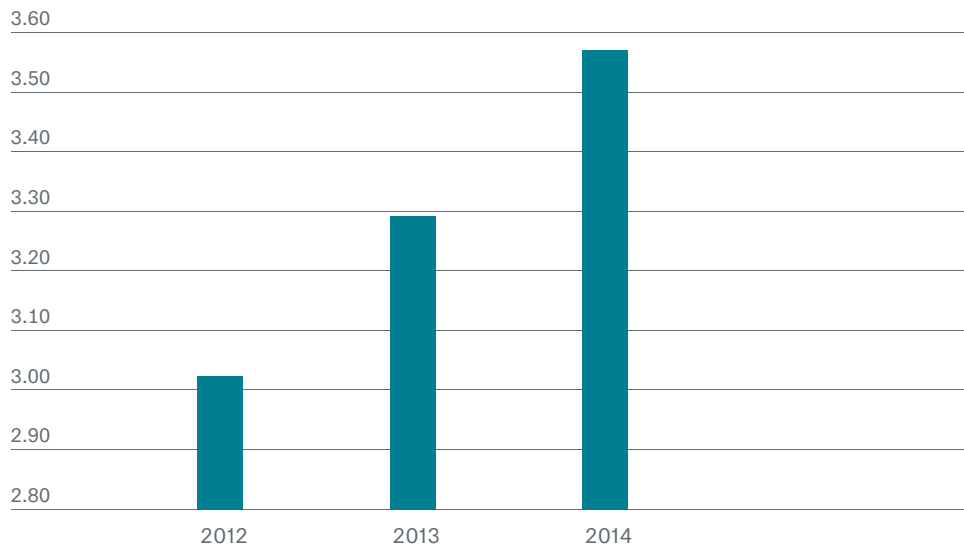
- US Wind
- US Earthquake
- Others
- Europe Wind

* Regressed Curves based on secondary market risk spreads as of year-end 2013 and year-end 2014; seasonality-adjusted for US wind and Europe wind

The graph above illustrates regressed curves of cat bond secondary market risk spreads as of year-end 2013 and 2014, categorized into individual perils. The curves have further flattened over the last year, meaning sponsors optimize multiples as they increase expected loss, i.e. seek cover in lower layers. Cedents used the favorable market environment to lock in cover for a longer duration, which increased to 3.6 years on average.

Average Risk Period

Years

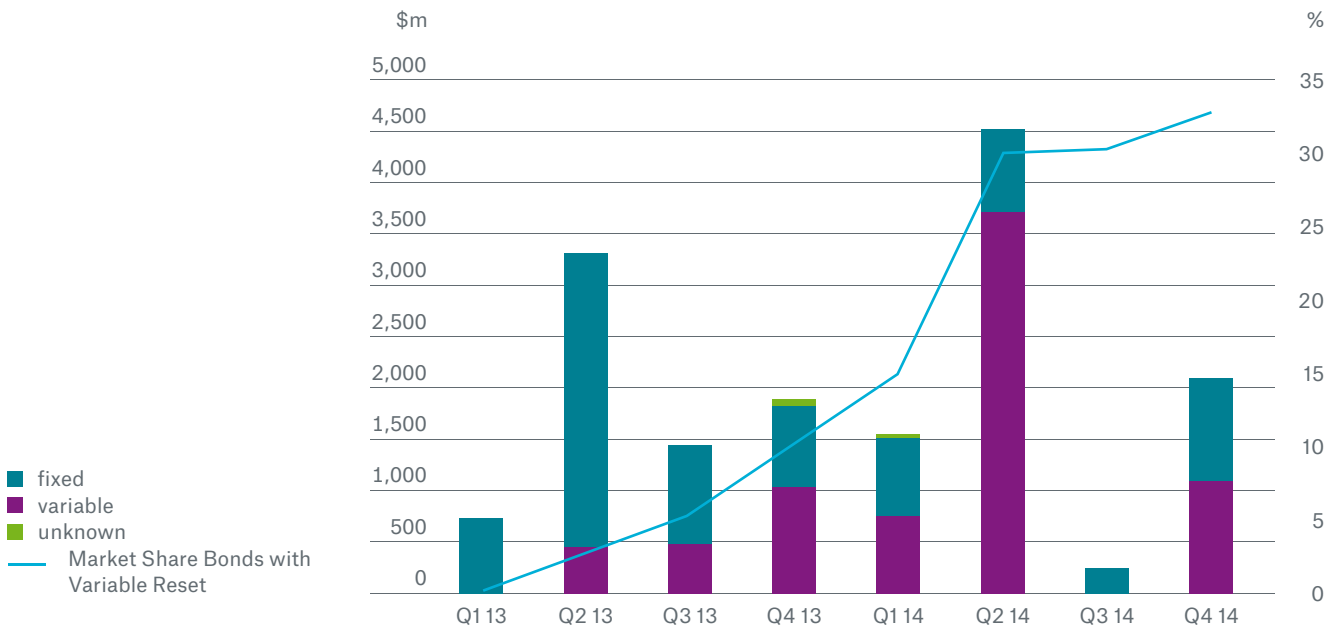


Market Review

The downside of long durations used to be the challenge in managing the cat bond within the overall reinsurance program, while reflecting portfolio growth and shrinkage. A long-time market standard required the modeled expected loss and attachment probability not to exceed their initial values, resulting in a yearly movement of the cat bond cover within the reinsurance program. Variable resets allow the program to maintain a constant coverage layer, making it easier to manage the placement of reinsurance programs over time.

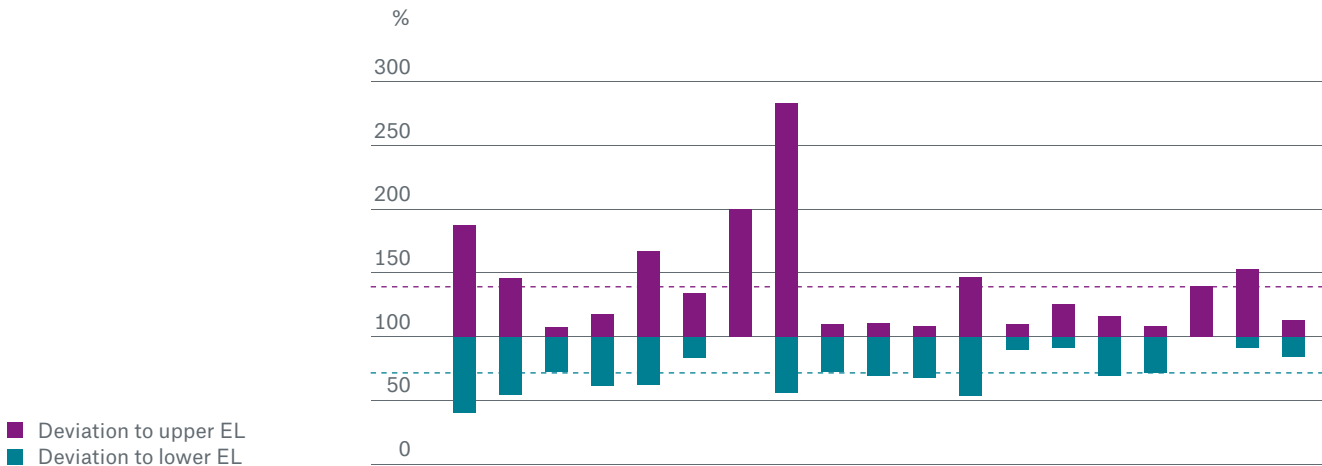
The share of cat bonds using variable resets rose to more than 30% in 2014, indicating a shift in market standards. Specifically, the majority of Q2 issuance drove this rather disruptive shift in market practice.

ILS Issuance Volume Split into Variable and Fixed Reset



The graph below shows all 19 deals which included variable resets in 2014. The 100%-line represents the initial expected loss of each transaction. On average the variable resets allowed for expected loss increases of 40% and decreases of 30%, with some deals providing even more flexibility.

Expected Loss Range of Variable Reset in 2014



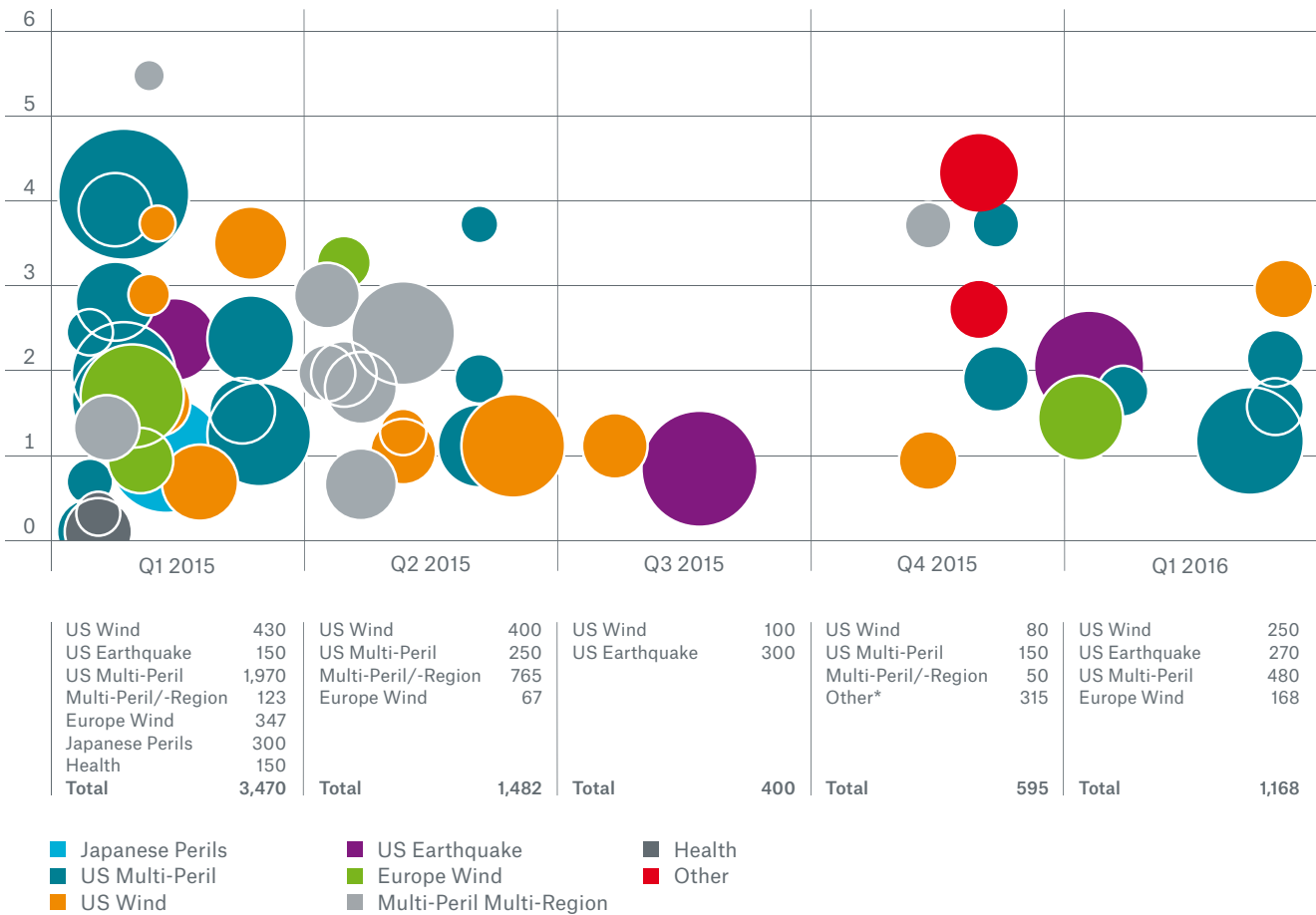
Market Outlook

Large number of expiring transactions supports new issuances

In the first half of 2015 the market faces a total of \$4.95bn of maturing cat bond volume, greater than any full-year maturing volume since 2009; 70% of that is due in the first quarter. Repeat sponsors will capitalize on the resulting investors' reinvestment demand by renewing expiring deals but first-time sponsors will also be attracted by those market conditions.

Upcoming Maturities (\$m)*

Expected Loss (%)

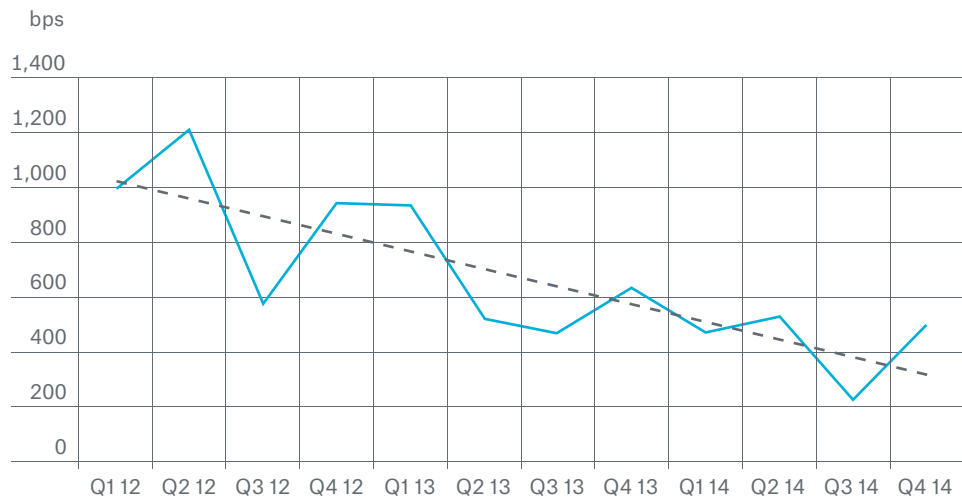


* Excluding mortality transactions; cat bonds with Euro-denomination were converted into \$-amounts using the exchange rate on the respective day of issuance

Market Outlook

Cat bond investors currently find that risk adjusted returns have tightened significantly over the last three years to a level of approx. 400 bps. Munich Re believes this trend could level off in 2015 due to certain minimum return requirements on the buy-side that may cause investors to reach further into the levered ILS product spectrum, including sidecars and certain collateralized reinsurance placements.

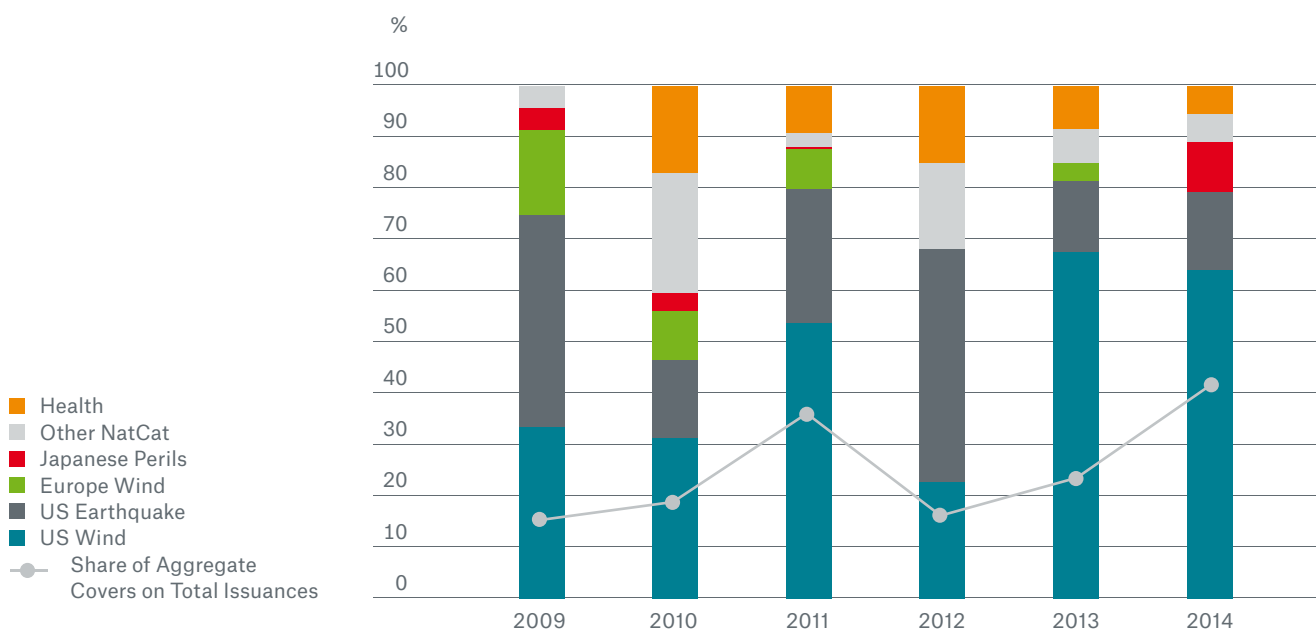
Volume Weighted and Risk Adjusted Return of New Issuances



Market Outlook

With regard to aggregate covers, 2014 has proven that the ILS space is willing to take on that risk, with more than 40% of total issuance volume coming from aggregates. Class 2 of Zenkyoren's Nakama Re underscored this development by offering an additional new feature that allows the sponsor to choose the applicable coherent three-year aggregate period within its five-year term at its own discretion. The tranche was upsized from \$100m to \$200m and was priced at the midpoint of initial price guidance. For 2015 Munich Re expects cedents to further make use of the ILS market's willingness to accept aggregate structures.

Share of Aggregate Covers on Total Issuances & Issuance Volume Split into Perils of Aggregate Bonds only*

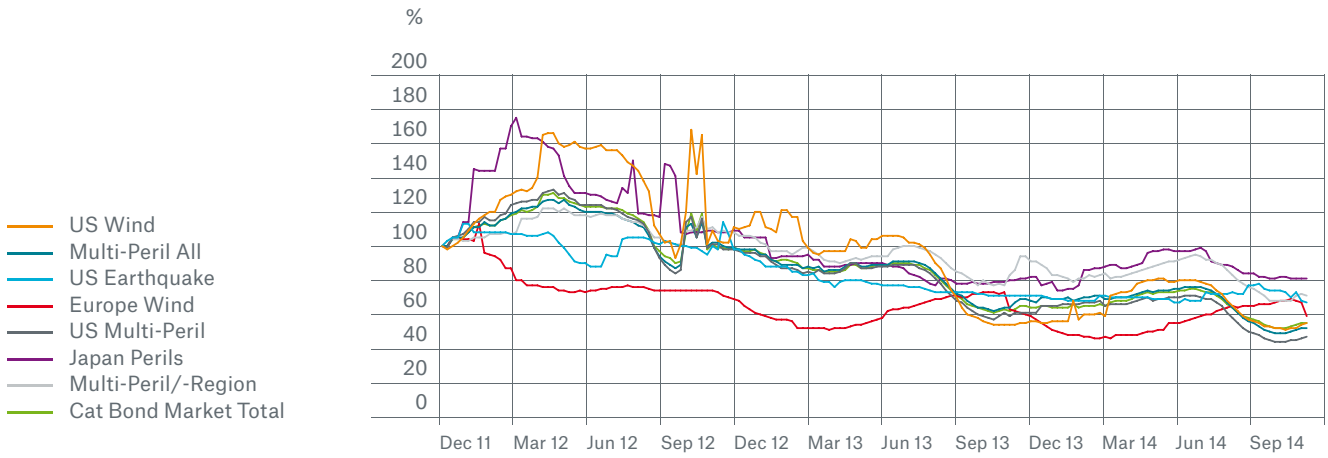


* Multi-peril cat bonds were split into single perils based on their contribution to expected loss

Munich Re expects inflows from pension funds into ILS to continue in 2015, although there might be some changes in the way this capital is employed. Lacking breadth and volume, the cat bond market will likely lose market share, while specialized funds target collateralized reinsurance to build sizable exposure. The increased availability of leverage for both this product class and the expanding sidecar market has attracted multi-strategy hedge funds back to the scene, and we believe their demand will further drive the issuance of levered, high-risk products. On the other end of the risk spectrum, material demand is building up in remote risk transactions that might grow into a cash substitute role for generalist investors who do not follow specific ILS investment strategies. For unlevered transactions, we would see the sweet spot of the market, i.e. the area of broadest interest, to be in the return range of 5-7% based on current multiples, with clear market preference for non-peak zone risk.

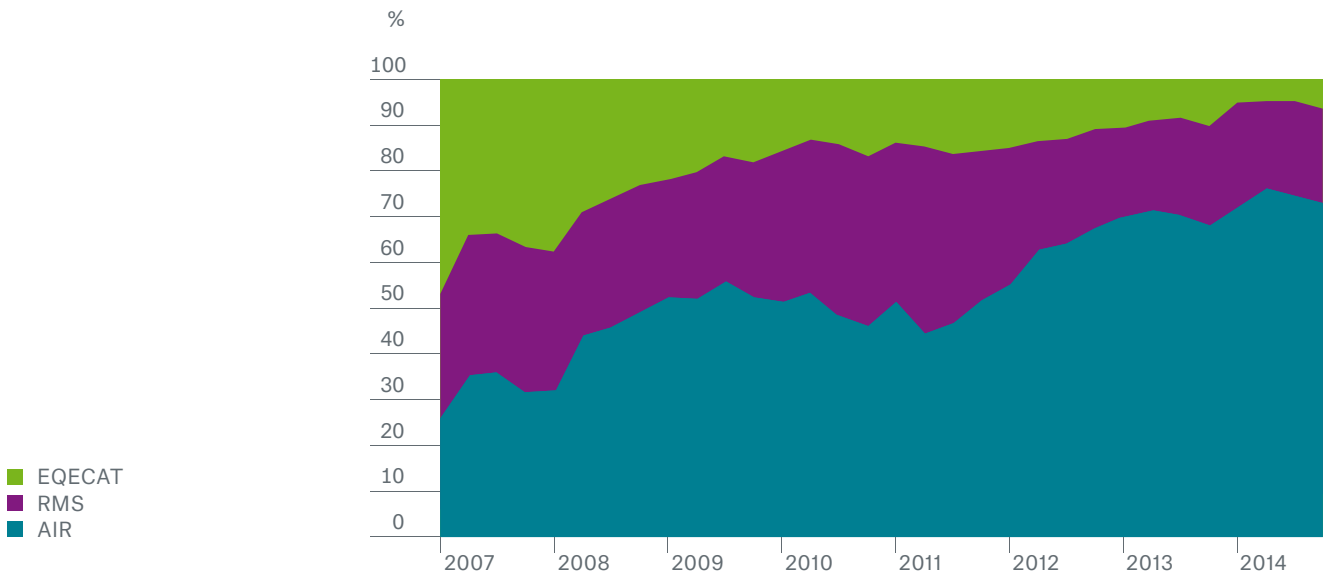
Market Factsheet

Cat Bond Risk Spreads (Indexed)*



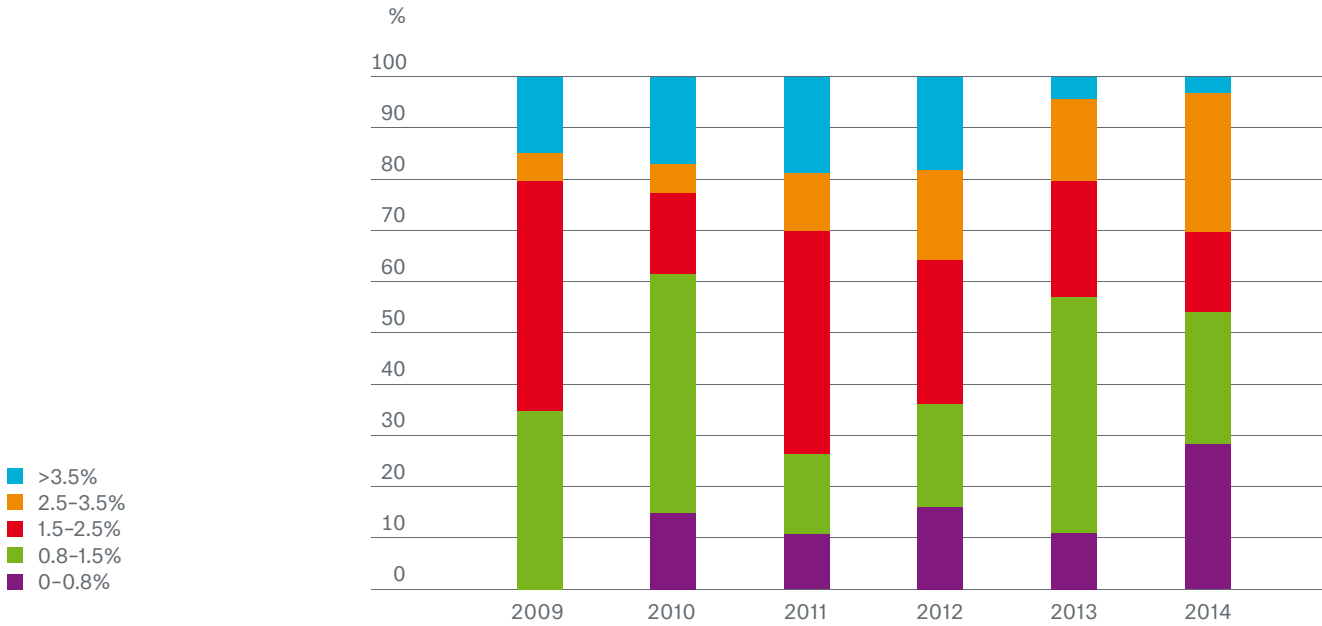
* Based on spreads derived from secondary market

Modeling Agencies (in % of Outstanding Capacity)

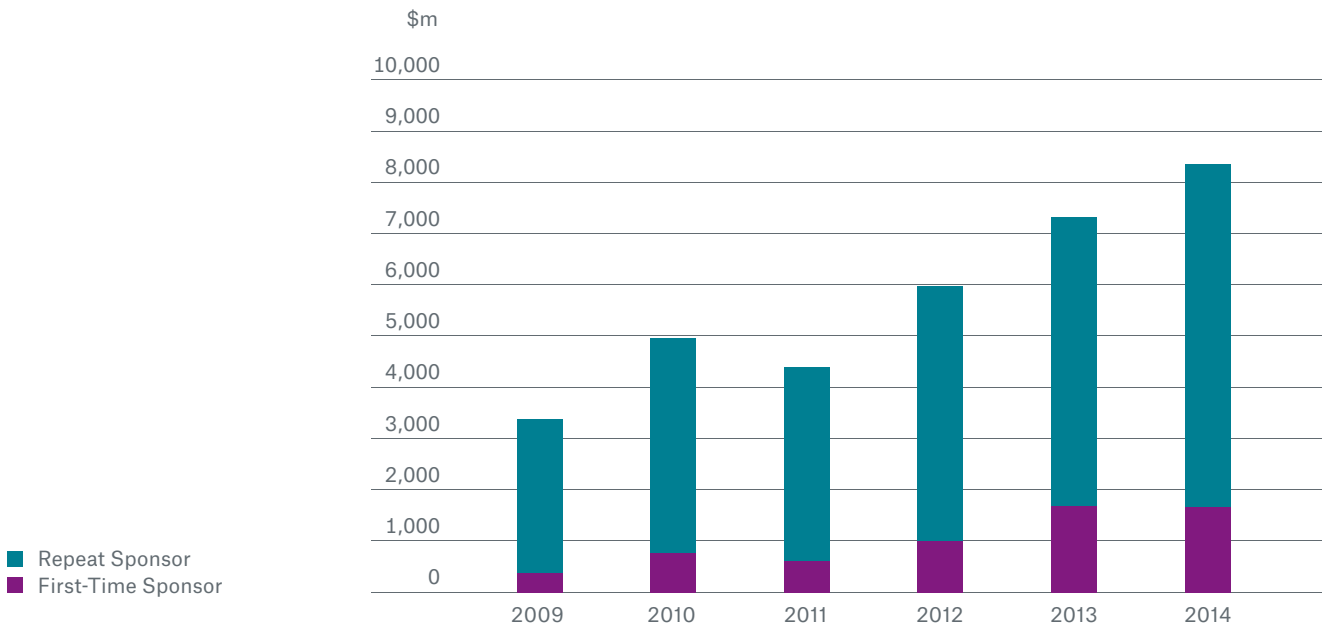


Market Factsheet

Expected Loss Ranges (in % of Issuance Volume)



ILS Issuance Volume Split into Sponsor Types*



* Excluding Mortality transactions; cat bond with Euro-denomination were converted into \$-amounts using the exchange rate on the respective day of issuance

Market Factsheet

ILS Issuances 2014 (I/II)

| | Transaction | | Cedent | Size (\$m) | Covered Perils | Trigger | Coverage Structure | Pricing (bps) | Issuance | Maturity | |
|---------------------------|-----------------------------|------------------------|------------------------------|---------------------|--|-------------------------------------|-----------------------------------|-------------------|------------------|-------------------|----------------|
| Q1 2014 | Skyline Re Ltd. 2014 | Series 2014-1 Class A | Cincinnati Insurance | 100 | US Earthquake, Severe Thunderstorm | Indemnity | Per Occurrence & Annual Aggregate | MMF + 1,400 | January 18, 2014 | January 18, 2017 | |
| | Vitality Re V Ltd. | Series 2014 Class A | Aetna | 140 | Health | Medical Benefit Ratio | Annual Aggregate | MMF + 175 | January 24, 2014 | January 19, 2019 | |
| | | Series 2014 Class B | | 60 | | | | MMF + 250 | | | |
| | Omamori Re | | | Tokio Millenium | 25 | US Named Storm, Severe Thunderstorm | PCS | - | January 2014 | - | |
| | Queen Street IX Re Ltd. | | | Munich Re | 100 | US Named Storm, Australia Cyclone | PCS/ Modeled Loss | Per Occurrence | MMF + 550 | February 26, 2014 | June 8, 2017 |
| | Gator Re Ltd | Series 2014-1 Class A | American Strategic | 200 | US Named Storm, Severe Thunderstorm | Indemnity | Per Occurrence & Annual Aggregate | MMF + 650 | March 10, 2014 | January 9, 2017 | |
| | East Lane Re VI Ltd. | Series 2014-1 Class A | Chubb | 270 | US Named Storm, US Earthquake, Severe Thunderstorm & Winter Storm | Indemnity | Per Occurrence | MMF + 275 | March 7, 2014 | March 14, 2018 | |
| | Kizuna Re II Ltd. | Series 2014-1 Class A | Tokio Marine & Nichido Fire | 200 | Japan Earthquake | Indemnity | Per Occurrence | MMF + 225 | March 14, 2014 | April 5, 2018 | |
| | | Series 2014-1 Class B | | 45 | | | | MMF + 250 | | | |
| | Merna Re V Ltd. | | | State Farm | 300 | US Earthquake | Indemnity | Per Occurrence | MMF + 200 | March 31, 2014 | April 7, 2017 |
| Riverfront Re Ltd. | | | General American | 95 | US Named Storm, US Earthquake, Severe Thunderstorm & Winter Storm | Indemnity | Per Occurrence | MMF + 400 | March 31, 2014 | January 6, 2017 | |
| Q2 2014 | Citrus Re Ltd. | Series 2014-1 | Heritage Property & Casualty | 150 | US Named Storm | Indemnity | Per Occurrence | MMF + 425 | April 17, 2014 | April 18, 2017 | |
| | Kilimanjaro Re Ltd. | Series 2014 Class A | Everest Re | 250 | US Named Storm | PCS | Per Occurrence | MMF + 475 | April 24, 2014 | April 29, 2018 | |
| | | Series 2014 Class B | | 200 | US Named Storm, US Earthquake | | Annual Aggregate | MMF + 450 | | | |
| | Citrus Re Ltd. | Series 2014-2 | Heritage Property & Casualty | 50 | US Named Storm | Indemnity | Per Occurrence | MMF + 375 | April 24, 2014 | April 24, 2017 | |
| | Lion I Re Limited | | | Generali | 260* | Europe Windstorm | Indemnity | Per Occurrence | EURIBOR + 225 | April 25, 2014 | April 28, 2017 |
| | Everglades Re Ltd. | Series 2014-1 Class A | Citizens | 1,500 | US Named Storm | Indemnity | Per Occurrence | MMF + 750 | May 2, 2014 | April 28, 2017 | |
| | Armor Re Ltd. | Series 2014-1 Class A | American Coastal | 200 | US Named Storm | Indemnity | Per Occurrence | MMF + 400 | May 7, 2014 | Dec 15, 2016 | |
| | Residential Re 2014 Limited | Series 2014-1 Class 10 | USAA | 80 | US Named Storm, US Earthquake, Severe Thunderstorm, Winter Storm, Wildfire, Volcanic Eruption and Meteorite Impact | Indemnity | Annual Aggregate | MMF + 1,500 | May 22, 2014 | June 6, 2018 | |
| | | Series 2014-1 Class 13 | | 50 | | | | MMF +350 | | | |
| | Sanders Re Ltd. | Series 2014-1 Class B | Allstate | 330 | US Named Storm, US Earthquake | PCS | Per Occurrence | MMF + 300 | May 25, 2014 | May 24, 2018 | |
| | | Series 2014-1 Class C | | 115 | | | | MMF + 325 | | | |
| | | Series 2014-1 Class D | | 305 | | | | MMF + 390 | | | May 24, 2019 |
| | Sanders Re Ltd. | Series 2014-2 Class A | Allstate | 200 | US Named Storm, US Earthquake, Severe Thunderstorm | Indemnity | Per Occurrence | MMF + 390 | May 30, 2014 | June 7, 2017 | |
| Aozora Re Ltd. | Series 2014-1 Class B | Sompo Nipponkoa | 99.58** | Japanese Typhoon | Indemnity | Per Occurrence | MMF + 200 | May 30, 2014 | April 7, 2017 | | |
| Nakama Re Ltd. | Series 2014 Class 1 | Zenkyoren | 150 | Japanese Earthquake | Indemnity | Per Occurrence | MMF + 225 | May 30, 2014 | April 13, 2018 | | |
| | Series 2014 Class 2 | | 150 | | | | Annual Aggregate | | | MMF + 250 | |
| Alamo Re Ltd. | Series 2014-1 | TWIA | 400 | US Named Storm | Indemnity | Annual Aggregate | MMF + 635 | June 26, 2014 | June 7, 2017 | | |
| World Bank - CCRIF 2014-1 | | | CCRIF | 30 | Caribbean Wind, Caribbean Earthquake | Modeled Loss | Annual Aggregate | L + 630/ min. 650 | June 30, 2014 | June 7, 2017 | |

* Euro-denominated transaction; Size in € is 190m

** Japanese Yen-denominated transaction; Size in JPY is 10,125m

Market Factsheet

ILS Issuances 2014 YTD (II/II)

| | Transaction | | Cedent | Size (\$m) | Covered Perils | Trigger | Coverage Structure | Pricing (bps) | Issuance | Maturity | |
|----------------|--|-------------------------|-----------------------------------|---------------------|--|---------------------------------|--------------------|---------------|------------------|------------------|-----------------|
| Q3 2014 | Golden State Re Ltd. Series 2014-1 Class A | | State Compensation Insurance Fund | 250 | US Earthquake | Modeled Loss | Per Occurrence | MMF + 220 | Sept 16, 2014 | January 9, 2019 | |
| | Kilimanjaro Re Ltd. | Series 2014-2 Class C | Everest Re | 500 | US and Canada Earthquake | Industry loss index | Per Occurrence | MMF + 375 | Nov 18, 2014 | Nov 25, 2019 | |
| Q4 2014 | Ursa Re Ltd. | Series 2014-1 Class A | CEA | 200 | California Earthquake | Indemnity | Annual Aggregate | MMF + 350 | Dec 1, 2014 | Dec 7, 2017 | |
| | | Series 2014-1 Class B | | 200 | | | | MMF + 500 | | | |
| | Residential Re 2014 Limited | Series 2014-2 Class 4 | USAA | 100 | US Named Storm, US Earthquake, Severe Thunderstorm, Winter Storm, Wildfire, Volcanic Eruption and Meteorite Impact | Indemnity | Per Occurrence | MMF + 480 | Dec 3, 2014 | Dec 6, 2018 | |
| | Tramline Re II Ltd. | Series 2014-1 Class A | Amlin | 200 | US Named Storm, US Earthquake and Europe Windstorm | PCS in the US, PERILS in Europe | Per Occurrence | MMF + 975 | Dec 5, 2014 | January 4, 2019 | |
| | Tradewynd Re Ltd. | Series 2014-1 Class 3-A | AIG | 100 | US, Canada, Mexico and Caribbean Named Storms and Earthquake | Indemnity | Per Occurrence | MMF + 500 | Dec 12, 2014 | January 8, 2018 | |
| | | Series 2014-1 Class 1-B | | 100 | | | | MMF + 675 | | | January 8, 2016 |
| | | Series 2014-1 Class 3-B | | 300 | | | | MMF + 700 | | | January 8, 2018 |
| Nakama Re Ltd. | Series 2014-2 Class 1 | Zenkyoren | 175 | Japanese Earthquake | Indemnity | Per Occurrence | MMF + 212.5 | Dec 19, 2014 | January 16, 2019 | | |
| | Series 2014-2 Class 2 | | 200 | | | | 3 Year's Aggregate | | MMF + 287.5 | January 16, 2020 | |

* Euro-denominated transaction; Size in € is 190m

** Japanese Yen-denominated transaction; Size in JPY is 10,125m

Knowledge Box

Indemnity cat bonds: disclosure requirements are a blessing and a curse

When sponsoring an ultimate net loss-based cat bond, certain standards have developed in the ILS market with regard to the extent of information the particular sponsor must disclose to investors. The figure below provides an overview of the components a sponsor generally has to disclose within an SEC-regulated ILS transaction, which are laid out to investors under the "Subject Business" section of the transaction's offering circular. The probabilistic modeling within the risk analysis section aside, the sponsor's Subject Business is the key piece of information contained in the offering circular that investors will scrutinize to make their investment decision and to set their individual pricing and volume commitment. As a result, a well-prepared Subject Business section is a key success factor for an ILS transaction.

General Disclosure Requirements for Indemnity Cat Bonds

| | |
|---|---|
| Coverage Terms | Description of Claims Management |
| <ul style="list-style-type: none">- Policy types- Deductibles, limits and exclusions- Policy terms & conditions and premium development | <ul style="list-style-type: none">- Claims handling procedures & staff- Use of independent loss adjusters- Loss reporting |
| Exposure Data | Underwriting Process |
| <ul style="list-style-type: none">- Total insured values and risk count aggregated and split by line of business, region, policy types, limit band and, e.g., year built, construction and occupancy code- Inuring reinsurance | <ul style="list-style-type: none">- Business/UW units (use of agencies)- UW guidelines and standards- Cat modeling and pricing tools- Decisions making process |
| Historical Losses | Description of the Ceding Insurer |
| <ul style="list-style-type: none">- Losses per historical event (event loss tables, claims received/paid, reserves)- Development experience | <ul style="list-style-type: none">- Client's organizational and ownership structure (including board of management)- Market shares- Recent regulatory, tax, legal and accounting changes (esp. law suits) |



Knowledge Box

For first-time sponsors in particular, providing the necessary information for the subject business section is a new and laborious process that can consume substantial resources. Aside from the general concern of disclosing a high level of information to a broad and partially anonymous investor community, avoiding this effort is usually the argument for sponsoring a non-indemnity transaction instead or no cat bond whatsoever. However, once this information set has been prepared the first time, cedents usually have all internal processes lined up to provide the same extent of information with much less effort for succeeding transactions. In particular, qualitative information within the claims management, underwriting processes and ceding insurer description can be “copy-pasted” and need only be updated if material changes have taken place within the company.

Despite this cumbersome process, the sponsor can benefit from such extensive disclosure. The purpose of the Subject Business section is to guarantee a uniform level of transparency within all cat bond issuances in a format regulated by SEC rule 144A. Aside from the positive impact a well-prepared Subject Business section should have on pricing and volume, a high standard of transparency regarding the sponsor's exposure and the bond's underlying risk is also aimed at mitigating operational risk of the transaction, ultimately to the benefit of the sponsor. By disclosing all information material to the bond's loss scenario, the ultimate beneficiary of the bond is shielded against potential allegations of having concealed important information. Consequently, the risk of a lawsuit from investors after such event is significantly mitigated. By contrast, traditional reinsurance markets have not yet developed a specific international standard for the cedent's disclosure, with most insurers and reinsurers relying on a mutual long-term relationship as a sound basis for negotiating potential claims.



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