ILS MARKET UPDATE

ILS outlook upbeat amid a persistent soft market

WILLIS CAPITAL MARKETS & ADVISORY

January 2016

The Insurance Industry Experts

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Capital Markets & Advisory

Notwithstanding the lower headline nonlife cat bond number, the broader ILS market remains healthy

El Nino brought some interesting weather to the world in 2015 from droughts in Australia, to a benign Atlantic hurricane season and an unusual December tornado outbreak. What it did not bring is any outsized losses to reverse the soft market for ILS and reinsurance more broadly.

Last year this time, traditional reinsurers were lamenting the supposedly irresponsible behavior of ILS investors in driving property cat premiums lower. A funny thing happened on the way to an even softer market at the end of the 2015: most ILS investors showed pricing discipline; however, many of those same reinsurers did not. As a result cat bond spreads became marginally less competitive in 2015, in particular for remote U.S. hurricane risks.

2016 Outlook: OK for the Cat Bond Market But Good for the Broader ILS Market

Will 2016 see more of the same in terms of relative value in spreads? It might, if reinsurer capital continues to grow putting further downward pressure on rates. Some things could change this besides cat events such as a sharp drop in the value of insurer investments or a pattern of reserve strengthening.

Assuming things continue along the same path though, nonlife cat bond issuance may still rebound from 2015's $6.2 billion total, perhaps closer to $7 billion even in the absence of a catalyst. That is because some of the drop from 2014's record cat bond figures to 2015 resulted from idiosyncratic factors such as deal renewal dates that will reverse in 2016. In fact, the number of deals increased year-over-year.

Notwithstanding the lower headline nonlife cat bond number, the broader ILS market remains healthy. We see a gradual transition beyond nat cat to life, accident and health as well as casualty. Collateralized re and private cat bonds continue to grow in importance. Finally, sidecars and similar investor quota shares have become routine. Overall aggregate nonlife ILS capital grew to $70 billion with net inflows.

ILS growth will not depend entirely on the development of index products or the penetration of cat bonds into the corporate space

Sources of Growth: Some More Important Than Others

We do not believe that continued growth depends entirely on the development of index products or the penetration of cat bonds into the corporate space. Certainly news like the expansion of PERILS into Turkey and the commitment of Lloyds to publish a market index is welcome. Notwithstanding the unbridled enthusiasm of investors and the index providers themselves, new indices have failed to generate substantial ILS growth outside of a hard market. This is because many ceding companies (reinsurers excepted) lack confidence that the indices correlate sufficiently well with their exposures in the real world outside of the well formatted output of a cat model. Ultimately, they need to believe that the products will efficiently hedge tail risk for further growth to occur.

We do not think a parade of cat bonds for corporates is likely. Yes, there are some good applications for a handful of corporates with unique needs. Still, the underlying economics for fully collateralized cover just do not make sense given the diversification in a portfolio of insured corporate risks. It is just math.

Q4 2015 Market Outlook (Continued)

Further ILS growth can come from other sources such as higher leverage and a broader range of risks

The good news is that further ILS growth can come from other sources. First, investors continue to benefit from increasingly varied sources of leverage including via capped quota shares, fronting, retrocessional reinsurance as well as asset-based lending. The overall level of leverage remains modest. In contrast, reinsurers and insurers hold almost no capital whatsoever against diversifying risks (e.g., earthquakes in Iceland) that have little or no impact on risk of ruin measures such as TVaR (Tail Value at Risk). A little additional leverage can make ILS capital more useful. For example, modest leverage could help ILS penetrate the corporate market where fully collateralized cat bonds cannot.

Second, the march to a broader range of risks will continue. 2015 saw increased life, accident and health activity in ILS. 2016 may see more of the same but may also see the return of other property and casualty risks beyond nat cat. This requires both ceding companies and investors to take some risks. Success will require both innovation and investment.

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2016 should be exciting not only to see what happens when El Nino recedes but also to see – assuming it continues – how ceding companies, intermediaries and investors react to the continued soft market.

Q4 2015 Cat Bond Market Issuance Overview

($ in millions)

Non-Life Q4 2015 Cat Bond Issuance[(a)]

Sponsor	Issuer / Tranche	Issue	Maturity	Amount	EL	Spread	Basis	Risk	Trigger
Zenkyoren	Nakama Re Ltd. 2015-1 1	Dec-15	Jan-21	$100	1.16%	2.88%	OCC	Japan Quake	Indemnity
Zenkyoren	Nakama Re Ltd. 2015-1 2	Dec-15	Jan-21	$200	0.86%	3.25%	Agg.	Japan Quake	Indemnity
Munich Re	Queen Street XI Re dac	Dec-15	Jun-19	$100	2.86%	6.15%	OCC	U.S. Wind Australian Cyclone	Industry loss index Modelled Loss
USAA	Residential Re 2015 Ltd. 2015-2	Dec-15	Dec-19	$125	3.65%	7.25%	OCC	Tropical Cyclone, EQ, Sev. T / Winter Storm, Wildfire, Volcanic Eruption, Meteorite	Indemnity
Everest Re	Kilimanjaro Re Ltd. 2015-1 D	Dec-15	Dec-19	$300	5.25%	9.25%	OCC	U.S. Wind & Quake	Industry loss index
Everest Re	Kilimanjaro Re Ltd. 2015-1 E	Dec-15	Dec-19	$325	3.00%	6.75%	OCC	U.S. Wind & Quake	Industry loss index
Amtrak	PennUnion Re Ltd. 2015-1	Oct-15	Dec-18	$275	2.05%	4.50%	OCC	U.S. Wind & Quake	Parametric Index
		Q4'15 Total:		**$1,425**					

Source: WCMA Transaction Database as of 12/31/2015.
(a) All issuance amounts reported in or converted to USD on date of issuance. EL for hurricane deals is based on WSST conditioned catalog for AIR and medium-term catalog for RMS.
Note: Data excludes private ILS deals with a size smaller than $100 million.
Data excludes €300 million Atlas IX Series 2016-1 marketed in 2015 but scheduled to close in 2016.

Q4 2015 Cat Bond Market Issuance Overview (Continued)

The fourth quarter of 2015 saw new issuance volume of $1.4 billion of non-life capacity. This capacity was issued through 5 transactions and 7 tranches (Q4 2014: $2.1 billion in 6 deals). Total non-life issuance for the year of 2015 was $6.2 billion (2014: $8.0 billion).

PennUnion Re, a corporate cat bond, was the sole deal with a first-time sponsor

All but one of the fourth quarter issuances were sponsored by repeat sponsors. The first deal of the quarter, PennUnion Re, sponsored by Amtrak's Bermuda captive company, Passenger Railroad Insurance, was the sole deal with a first-time sponsor. PennUnion Re is a three-year parametric deal providing protection on a per occurrence basis. The deal represented Amtrak's first catastrophe bond transaction and covered storm surge and wind resulting from U.S. named storms as well as U.S. quake. All perils feature parametric triggers with larger pay-outs for increasingly severe events, as often used for corporate sponsored cat bonds. As with Metrocat, the storm surge parametric trigger is based on calculation points at tidal stations. The transaction has a 2.05% expected loss and priced at a spread of 4.50%, at the bottom end of the initial guidance range of 4.50% to 5.25%. The transaction settled at $275 million in size, a 38% upsize with respect to the initial Amtrak's target.

Everest Re and USAA returned to the market with new issuances

After sponsoring two transactions and a total capacity of $950 million in 2014, Everest Re returned to the market with a $625 million deal which covers named storms and quake across the U.S., Canada and Puerto Rico for a four year period. The cat bond deal has two tranches and uses an industry loss index trigger on a per occurrence basis. The Class D tranche with a 5.25% expected loss is the riskier of the two while the Class E tranche has a 3.00% expected loss. Kilimanjaro Re 2015-1 more than doubled in total size before closing: the Class D tranche grew from $125 million to $300 million while the Class E upsized from $175 million to $300 million. The spread closed just below the mid-point of the initial range with the Class D notes settling at 9.25% and the Class E notes at 6.75%.

After the May issuance, USAA returned to market in December and secured $125 million of indemnity cover on a per occurrence basis. Residential Re 2015-2 provides coverage against U.S. tropical cyclones, earthquake (including fire following), severe thunderstorm, winter storm, wildfire, volcanic eruption and meteorite impact. The notes priced at a spread of 7.25%, the upper end of initial guidance, and upsized by 25% to $125 million in size. The closest comparisons to Res Re 2015-2 are the two Class 3 notes issued in 2012 and 2013. Both have similar attachment points and expected losses and, although Res Re 2015-2 includes volcanic eruption and meteorite impact risks, Res Re 2012-2 and Res Re 2013-1 paid a much higher coupon to investors (respectively 12.75% and 9.25% vs. 7.25%).

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Q4 2015 Cat Bond Market Issuance Overview (Continued)

Queen Street XI largely mirrored the risks, spread and terms of Queen Street X

Munich Re's new $100m issuance is Queen Street XI Re dac. Queen Street XI largely mirrored the risks, spread and terms of Queen Street X. The new bond's first risk period lasts from Dec 2015 to May 2016: the one-year EL is 2.86% (vs. 2.91%) and the annualized EL is 2.82% (vs. 2.92%) The Notes priced at 6.15%, just slightly above the mid-point of the initial guidance while remaining stable in size. Queen Street XI is the first issuance to use an Irish 'designated activity company'. Following a change in the Irish regulation, new cat bond issuers in Ireland have to be registered as a DAC and existing cat bond vehicles will need to transition within 18 calendar months from the commencement on 1 June 2015 of the Companies Act 2014 of Ireland.

As in 2014, Zenkyoren's Nakama Re was the last issue of the year. The two tranches, which cover Japanese quake, amount to $300 million of cover. Again, both tranches feature an indemnity trigger but Class 1 provides per occurrence cover across a five year period while Class 2 provides aggregate cover for three overlapping three year risk periods for a total term of five years. Class 1 priced at the top end of the initial guidance settling at 2.875% while remaining at $100 million in size. Class 2 also priced at the top end of the initial guidance settling at 3.25% but doubled in size to $200 million.

Finally, currently in the market is Atlas IX Capital dac, a $300 million bond sponsored by SCOR Global P&C. The deal has been marketed in 2015 but it is scheduled to close in the first days of 2016. We will cover this deal in the next ILS Market Update.

Vita Capital VI Limited is the first extreme mortality bond brought to market by Swiss Re since 2012

In the life space, Swiss Re sponsored Vita Capital VI Limited which provides $100 million of mortality cover over a five year period. This is the first extreme mortality bond brought to market by Swiss Re since 2012 and the second this year after AXA's Benu Capital in April 2015. The notes provide protection for Australia, Canada and the U.K. and the key risks covered are pandemic or disease events. Terrorism for Australia and, for the final year only, Canada is specifically excluded from the coverage while terrorism for the UK is always included. The notes are linked to a mortality index trigger but each country is independent, with its own trigger and exhaustion levels.

WCMA Interview: Stefan Falk (SCOR)

Q: How did you get involved in the ILS space personally?

My first contact with the ILS space goes actually back to my university times when the 1997 Parametric Re cat bond sponsored by Tokio Marine & Nichido Fire Insurance was discussed as an example for alternative risk transfer techniques.

Since that time, I have been interested in the topic and followed developments accordingly. At my previous employer I then had the chance to work actively on risk transfer solutions involving the capital markets, in particular for life (re)insurance business. Today, it is part of my responsibility at SCOR to follow developments in the ILS space, from a Life & Health perspective. Being asked to take care of SCOR's first extreme mortality cat bond Atlas IX (Series 2013-1) was certainly a particular highlight in my career so far and a very interesting experience.

Stefan Falk *(Head of Operational Risk Management & Retrocession for SCOR Global Life)*

Q: Where is SCOR getting its extreme mortality risk exposure from?

When we talk about extreme mortality risk, we are typically talking about pandemic risk. Natural catastrophes and terror events certainly also represent a significant risk for a life reinsurer; however exposure to these events is usually limited as they only occur at a local level. Pandemic risk is different as we consider it a worldwide event without geographic diversification. SCOR as one of the leading life reinsurers assumes significant pandemic risk through the various forms in which it reinsures life insurance portfolios, e.g. through proportional reinsurance contracts such as quota shares and surplus share agreements. Such contracts typically provide coverage for all causes of deaths including deaths that arise from pandemics. In addition, proportional life reinsurance contracts usually provide for a full duration match hence reinsurance cover continues until the last policy in a portfolio expires which can be several decades from inception. Hence, adding new business each year results in a significant pandemic risk exposure accumulation over time.

Q: How does SCOR perceive and assess its extreme mortality risk internally?

Today, SCOR's overall portfolio roughly splits 50%/50% between P&C and life which underlines how dedicated SCOR is to the reinsurance of mortality risk. SCOR has built up appropriate modelling expertise to assess the exposure, which includes an assessment of the impact on P&C business and SCOR's assets. Pandemic risk exposure is explicitly reflected in SCOR's internal model and closely monitored against defined risk tolerance limits as part of SCOR's risk appetite framework.

Q: What were your motivations for accessing the ILS market with Atlas IX (Series 2013-1)? Are you using the ILS market in other forms than Atlas IX (Series 2013-1)?

I already mentioned that SCOR carefully monitors its pandemic risk exposure against defined risk tolerance limits. In the context of the regulatory changes driven by Solvency II, SCOR significantly strengthened its pandemic risk modelling capabilities in preparation for its internal capital model application. All this happened in parallel to two significant acquisitions (Transamerica Re in 2011 and the life reinsurance book of Generali US in 2013) that resulted in SCOR becoming the leader in the US Life reinsurance market with the corresponding increase in pandemic risk exposure. An extreme mortality cat bond represented an interesting option to partially mitigate the risk, in particular as we could rely on the experience of two extreme mortality swaps that expired in 2011. However, from the beginning of the Atlas IX (Series 2013-1) project it was clear that we were targeting a structure that represents more than a pure tail risk protection – something we believe to have achieved through an exceptionally low attachment point.

Note: Stefan Falk is Head of Operational Risk Management & Retrocession for SCOR Global Life and is not affiliated with Willis Capital Markets & Advisory or its affiliates. The views expressed herein by Mr. Falk are his personal and do not reflect the views of SCOR or Willis Capital Markets & Advisory or their respective affiliates.

WCMA Interview: Stefan Falk (SCOR) (Continued)

From a mortality risk perspective, we have so far no further ILS transactions executed, but we closely follow the developments in the ILS space and continue to cultivate our relationships with ILS investors and ILS service providers.

Q: How does the ILS market compare with the more traditional retro market for this peril?

When we started to look into potential risk transfer solutions to hedge part of SCOR's pandemic risk exposure back in 2011/2012 we also explored traditional solutions. Our experience at that time was that the available capacity was rather limited, despite the fact that a number of traditional markets started to develop some appetite for pandemic risk. In addition, there were structural features – such as the limited duration of available covers and questions around the trigger definition – that represented obstacles to overcome.

This compared with an extreme mortality cat bond, which represented a well-accepted risk transfer tool providing access to capacity that is more meaningful. The cat bond concept itself was something that SCOR has been very familiar with, also from its many P&C related cat bond transactions since 2000. In addition, SCOR benefitted from the favourable market conditions at that time and was able to secure protection at a competitive price.

Today, we observe that - potentially also due to the soft market conditions - traditional cat capacity providers continue to open up for pandemic risk. However, the ILS space is also changing with a continuous strong appetite for extreme mortality risk and more flexible structures e.g. in the form of swaps or collateralized reinsurance.

Q: Do you expect a change in the volume and the form of the extreme mortality risk you assume following the implementation of Solvency II? Are there features of the cat bond or any other ILS product that you would like to see change or evolve?

As a consequence of Solvency II, the various risks that (re-)insurance companies are facing are transparently identified and evaluated, including pandemic risk. On the other hand, Solvency II allows to a certain degree to reflect diversification effects when determining overall solvency capital requirements. Hence, the question if a particular mortality protection eventually makes economic sense needs always to be seen against the specific situation of a company. We notice some increased interest for pandemic covers, but do currently not consider it to become a significant increase in demand for specific pandemic protection. Again, this needs also to be understood in the context that the proportional reinsurance SCOR is providing to its clients per se presents some form of pandemic protection as mentioned earlier.

There is a significant difference between P&C and extreme mortality bonds and the covered perils. The typical P&C cat bond provides protection against nat cat risks such as earthquakes or hurricanes which usually result in a very sudden loss. Consequently, it can be quickly assed if a cat bond is affected or not. Pandemic losses typically evolve over a longer period and there is a significant delay until the official mortality statistics are available on which the trigger mechanics are based on. Hence, sponsors face a liquidity outflow to pay reinsured claims while the corresponding bond payout will only happen with a delay of several months. Structural features that mitigate this delay in payout would certainly make the product more attractive. However, we clearly see the structures further improving with the recent transaction by AXA Global Life (Benu Capital) and Swiss Re (Vita VI) representing good examples.

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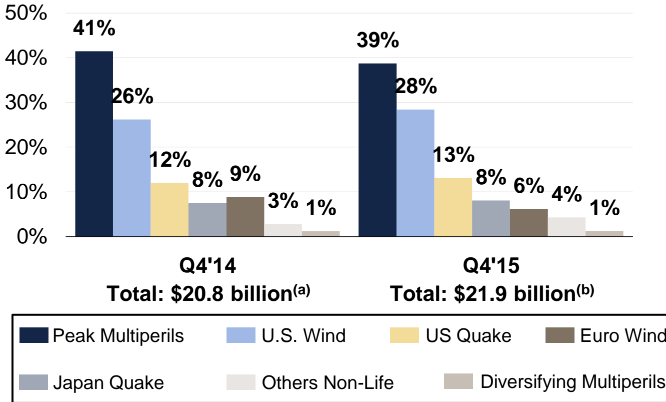
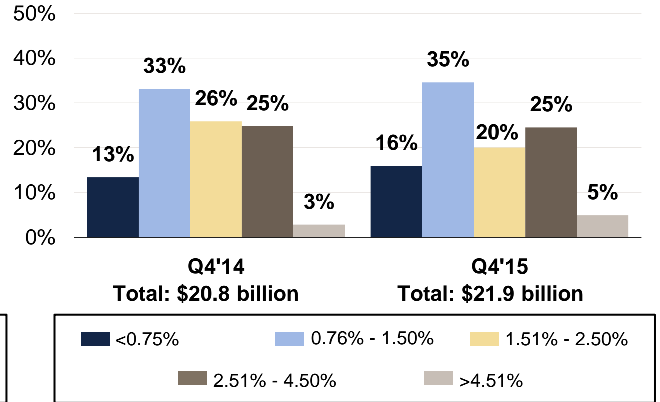
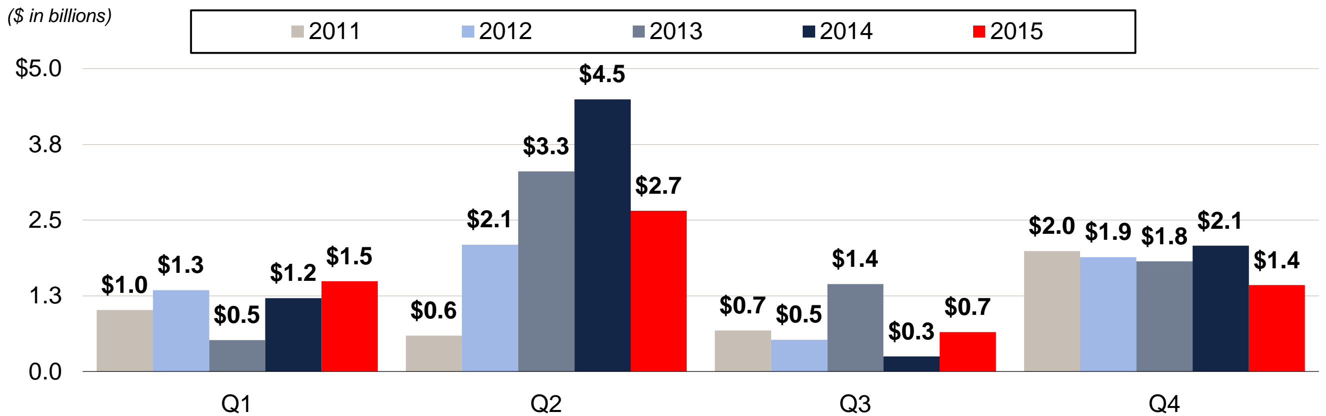
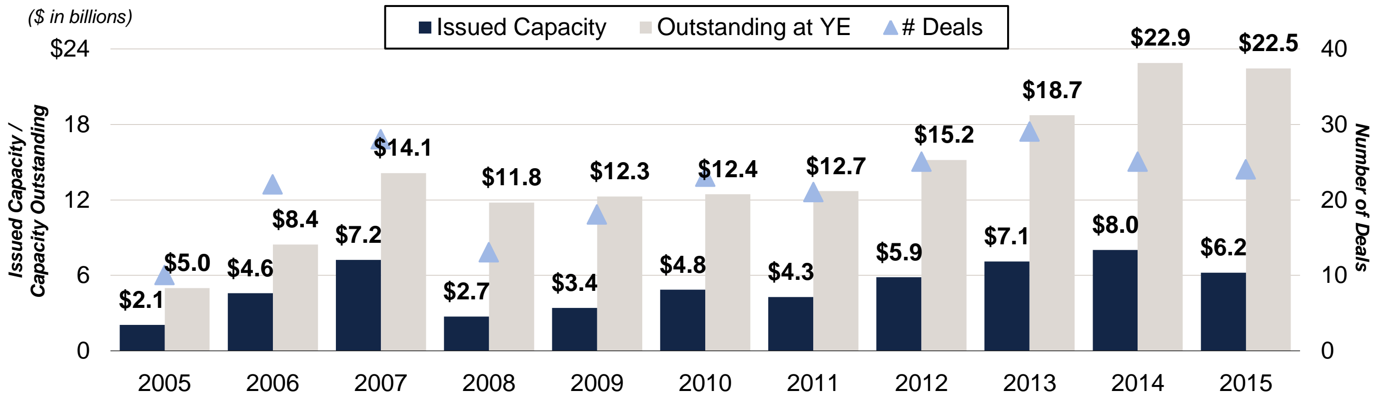
Q4 2015 Cat Bond Market Statistics





Source: WCMA Transaction Database as of 12/31/2015.
(a) In aggregate, 67% of all capacity outstanding exposed to U.S. Wind.
(b) In aggregate, 67% of all capacity outstanding exposed to U.S. Wind.

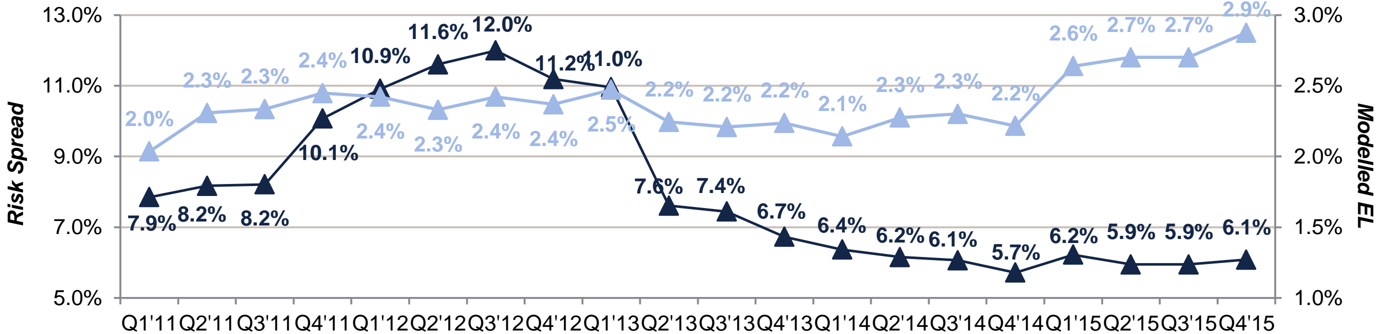




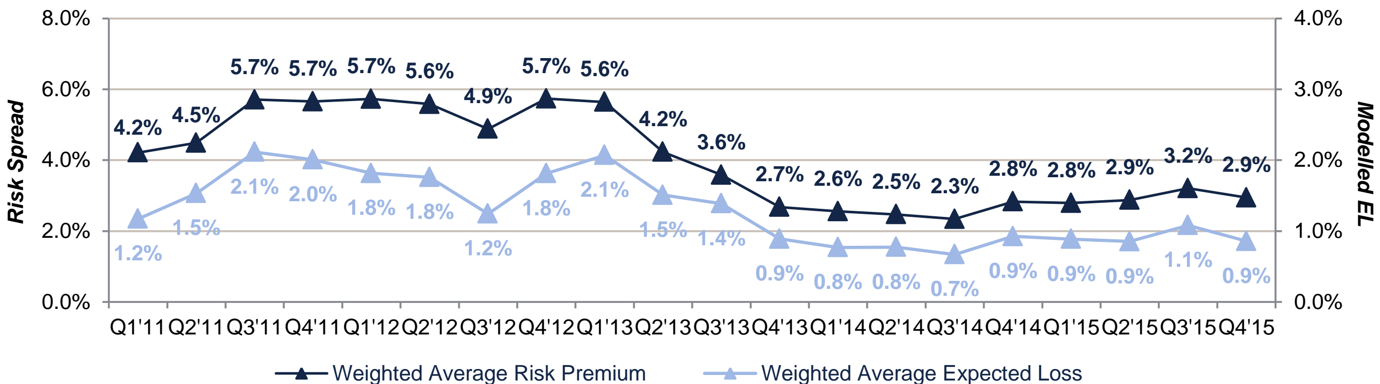
(c) All issuance amounts reported in or converted to USD on date of issuance.
Source: WCMA Transaction Database as of 12/31/2015.
Note: Data excludes private ILS deals with a size smaller than $100 million.
Data excludes €300 million Atlas IX Series 2016-1 marketed in 2015 but scheduled to close in 2016.

Q4 2015 Cat Bond Market Statistics (Continued)

Quarterly LTM U.S. Wind Exposed Weighted Average Risk Premium & Expected Loss



Quarterly LTM Non-U.S. Wind Exposed Weighted Average Risk Premium & Expected Loss



Source: WCMA Transaction Database as of 12/31/2015.
LTM = Last twelve months. Data is for primary issuance and does not reflect secondary trading.
Note: Data excludes private ILS deals which, in some cases, have the potential for some of the liquidity present in more traditional Rule 144A cat bonds.
Data excludes €300 million Atlas IX Series 2016-1 marketed in 2015 but scheduled to close in 2016.

Secondary Market Trading Overview

New issuances offered a variety of high-yield bonds

Q4 2015 trading was a function of positioning for the primary issuance. The primary calendar offered quite a selection of higher yielding bonds, and most investors found room to participate by adjusting accordingly in the secondary market. There was meaningful interest in short dated bonds with dead cats continuously trading in the 260-230 dm range. Now that wind season is over, we can expect spreads to drift down on U.S. hurricane bonds.

Hurricane Patricia was the event that drew the most attention this quarter with the Multicat Mexico parametric bonds being most affected. Many investors consider the bond a complete loss and it had traded down to the single digits before settling in around the 20/21 range. This hurricane was a gentle reminder of the benefits of maintaining a diversified portfolio.

Investors finished the year further positioned to on-board various ILS products and are now looking forward to the busy cat bond issuance season that traditionally comes in Q1 and Q2.

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