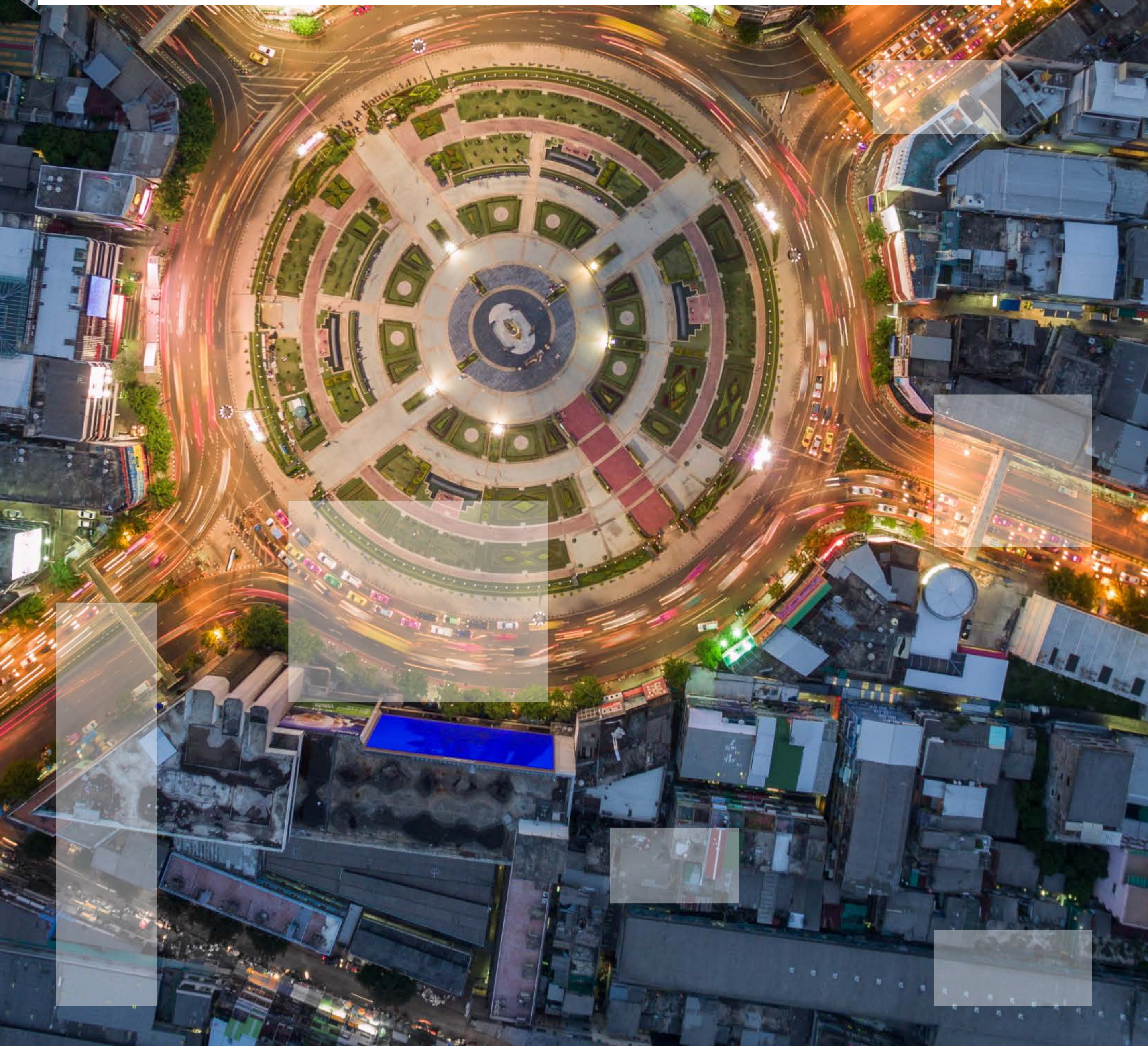
ILS Market Update

ILS Market Update: Appetite Rises with Understanding

May 2019



Willis Towers Watson Securities

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ILS Market Update

Q1 2019 market perspective: the impact of models on ILS

It is model convention time. Literally thousands will travel to Florida, Texas and other hospitable tourist destinations. ILS attendees will come armed with questions about 2017, 2018 and the future. Undoubtedly, they will leave with some answers and even more questions.

Models have always played an important role in ILS and may become even more important going forward, just not necessarily in the way most people think. Or course, catastrophe models help investors assess and price the catastrophe risks they write. The recent events – in particular the California wildfires – have stressed the importance of high-quality data running through well-tested models as well as the value of seasoned underwriters' judgment of risks. However - and this is where ILS differs most meaningfully from traditional property catastrophe reinsurance - the ILS market relies on models beyond the initial pricing assessment largely due to the importance of collateral and the means for financing it. First, in conjunction with cedant reporting, both catastrophe models and actuarial models help investors value their investments on a post-loss basis. Second, traditional financial valuation models also play an important role in ILS investment and trading. The last few years have taught the ILS community valuable lessons on the theory, practice, and promise of these various models.

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Actuarial models

2017 and 2018 may have had an even greater impact on post-loss valuation. Catastrophe-focused reinsurers are not unfamiliar with the occurrence of loss-creep. Each event has unique characteristics. As such, past loss development patterns can inform but not predetermine loss development for new events. Additional reserves may be added on top of reserves reported by cedants. This in turn filters through to surplus if the losses are not further retroceded. Some investors went into 2017 and 2018 with essentially the same understanding of loss-creep potential as reinsurers and communicated the same to their end investors. Unfortunately, other ILS funds appeared to have failed to appreciate and communicate the potential for loss creep on a transparent basis to their end investors. The second group is now up to speed.

Transparency in post-loss reporting is becoming an important differentiator for cedants. Without transparency, financing and trading becomes more challenging. Investors can still provide capacity with less transparency, but they need to price for the additional unforced uncertainty. Of course, transparency will still not eliminate reserve volatility that is simply inherent to the business.

"It turns out that ILS funds were also all over the map in pricing for the pace of collateral release at the time of investment, with many making no explicit adjustment whatsoever in pricing at the time of investment."

In addition, this enhanced understanding on all sides, to include cedants, has had a flow-through impact on collateral release arrangements. While still not perfect, the arrangements are negotiated with a better awareness of the economically realistic potential outcomes.

As an aside, traditional actuarial work focuses much more on the loss pick itself and related volatility but not as much on the payout pattern pick and associated volatility. This remains true, but as collateral release arrangements increase in importance there is an increasing demand to focus on the payout pattern. Understanding payout patterns has a knock-on benefit in making catastrophe models more useful tools for investors - as the loss cost and investment return can better take into account the form of collateral release, whether in a cat bond investment or otherwise.

It turns out that ILS funds were also all over the map in pricing for the pace of collateral release at the time of investment, with many making no explicit adjustment whatsoever in pricing at the time of investment. End investors who did not understand loss-creep, and were shown portfolio pro forma returns not taking into account the impact of collateral release (which certainly can be modeled), may be the most perturbed by the experience of the past two years.

Valuation models

"When changes in the liquid market are ignored for the wrong reasons in valuing illiquid instruments, it can lead to potentially misleading valuations, understating volatility and a portfolio mix skewed to illiquidity."

Finally, the last few years have also severely tested valuation models. While this period further harmonized the views of traditional reinsurers and ILS funds in other areas, the same cannot be said for ILS investment valuation where practices most decidedly have not harmonized. Valuation is not really an issue for most non-life reinsurers because they typically do not mark their reinsurance contracts to market in the absence of loss activity. In contrast, it is a big issue for ILS funds and end investors because valuation of ILS linked to reinsurance contracts and associated net asset values can have a significant impact on fund entry and exit by end investors as well as management fees and access to leverage.

Valuation may differ from investor to investor not only because of differential treatment of reserves and payout patterns but also because of the extent to which illiquid and partially liquid positons are marked to model versus marked to market. If cat bond prices change 20%, do related private investment prices change 20%? If dead cat spreads increase, this strongly implies lower valuations on illiquid positions. Is this taken into account? When changes in the liquid market are ignored for the wrong reasons in valuing illiquid instruments, it can lead to potentially misleading valuations, understating volatility and a portfolio mix skewed to illiquidity.

Unfortunately, harmonization in valuation practices among ILS funds has occurred at a relatively slow pace. It is as if two automakers calculated the miles per gallon figures on new car stickers using totally different testing approaches: car buyers would complain and the method would change. If harmonization in valuation speeds up, it may spur substantial growth in ILS capacity - as end investors would likely gain further confidence in evaluating potential managers and making new allocations to the asset class.

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The last few years of loss activity have reminded us of the importance of data quality and accurate modeling as a complement to expert underwriting judgment. This is true not only for the initial pricing of the risk but also for valuation throughout the life of an ILS transaction. Cedants and investors alike are witnessing a gradual focus of the market in this direction - as the industry realizes the need to raise its game. It is critical that this effort does not stop halfway if we want to increase the confidence of the end investors in the space and restore the long-term relationship of trust that is the condition for a stable and efficient marketplace.

ILS Market Update

Q1 2019 ILS market issuance overview

“The first quarter of 2019 saw the issuance of over $1 billion of non-life ILS capacity across five cat bond tranches.”

“The ILS market has broken new ground through a number of private issuances seen in Q1 2019. Pool Re came to market with Baltic PCC Ltd, the first terrorism reinsurance bond ever and only the second ILS deal to primarily cover terrorism risk.”

The first quarter of 2019 saw the issuance of over $1 billion of non-life ILS capacity across five cat bond tranches. This figure is around one-third of the record-breaking activity observed in Q1 2018, and made Q1 2019 the lowest first quarter for total issuance in the past five years.

There is a strong theme of U.S. wind coverage across the cat bonds to come to market in Q1 2019. $450 million of capacity will provide protection for pure U.S. wind peril while a further $550 million will provide peak multiperil protection. Additionally, around $50 million of diversifying multiperil protection was issued.

Atmos Re DAC saw Italian insurer UnipolSai engage with the ILS market to deliver frequency protection against weather-related perils, a first for the cat bond market. Atmos Re consists of a single tranche of €45 million offering a risk spread of 4.50%, with an expected loss of 0.45%. The cat bond provides protection against atmospheric phenomenon, snow pressure and flood with an indemnity trigger on an annual aggregate basis. The cat bond itself is structured to include an event deductible of €1 million and an event cap of €24 million. This innovative feature is designed to protect UnipolSai against a series of small and midsized events.

Cape Lookout Re 2019-1, the first U.S. hurricane exposed cat bond of 2019, will provide the North Carolina Insurance Underwriting Association (NCIUA) with $450 million of protection against named storms and thunderstorms in North Carolina, on an annual aggregate basis. Hannover Re will act as a ceding reinsurer in this transaction, engaging in a retrocessional arrangement with Cape Lookout Re to provide the NCIUA with the aforementioned coverage. The notes will provide a risk spread of 4.25% and have an expected loss of 1.61%.

TransRe returned to the ILS market in Q1 2019 for the second iteration of their Bowline Re series. In contrast to the 2018 transaction, Bowline Re 2019-1 consists of two tranches of notes – of $100 million and $150 million in size, respectively. The cat bond backed layers will provide TransRe and its subsidiaries with four years of annual aggregate protection from named storms, earthquakes and thunderstorms with an industry loss trigger. The smaller, but less risky, Class A notes will pay a risk spread of

Non-life Q1 2019 ILS issuance[a]

($ in millions)

Sponsor[b]	Issuer/Tranche	Issue	Maturity	Amount	Expected Loss	Spread	Basis	Risk	Trigger
UnipolSai	Atmos Re DAC	Feb.19	Feb.22	$51	0.45%	4.50%	Annual AGG	Diversifying Multiperil	Indemnity
NCIUA	Cape Lookout Re 2019-1 A	Feb.19	Feb.22	450	1.61%	4.25%	Annual AGG	U.S. Wind	Indemnity
TransRe	Bowline Re 2019-1 A	Mar.19	Mar.23	100	1.53%	4.75%	Annual AGG	Peak Multiperil	Industry Index
TransRe	Bowline Re 2019-1 B	Mar.19	Mar.23	150	4.12%	8.50%	Annual AGG	Peak Multiperil	Industry Index
Allstate	Sanders Re II 2019-1 B	Mar.19	Apr.23	300	1.76%	12.25%	OCC/Annual AGG	Peak Multiperil	Indemnity
		Q1'19 Total:		$1,051					

Source: Willis Towers Watson Securities Transaction Database as of 3/31/2019. Aggregate data exclude most private ILS deals, life deals and mortgage deals

(a) All issuance amounts reported in or converted to USD on date of issuance. Expected loss for hurricane deals is based on WSST conditioned catalog for AIR and medium-term catalog for RMS.

(b) If fronted, beneficiary is listed if known.

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Q1 2019 ILS market issuance overview (continued…)

4.75% and have an expected loss of 1.36%. The riskier Class B notes have a risk spread of 8.50% and an expected loss of 3.69%.

Allstate returned to the cat bond market with a structure designed to provide Allstate with protection from U.S. named storms, earthquakes, severe weather and fire. The cat bond backed layer notably will not cover any risks in Florida. Marketed initially as two separate tranches of notes, Sanders Re II now consists of just a single, $300 million-sized layer, offering a risk spread of 12.25%. The layer operates on both a per occurrence and aggregate basis, triggering at $2.75 billion and $3.54 billion, respectively. The notes have an expected loss of 1.57%

Alongside these highlighted transactions, the ILS market has broken new ground through a number of private issuances seen in Q1 2019. Pool Re came to market with Baltic PCC Ltd, the first terrorism reinsurance bond ever and only the second ILS deal to primarily cover terrorism risk. Baltic PCC Ltd will deliver £75 million of cover against property damage caused by a range of terror threats, including explosive devices and cyberattacks. Baltic PCC is also only the second cat bond domiciled in the U.K., following SCOR's Atlas Capital U.K. 2018 last year. Further, Orchard ILS Pte Ltd became the first cat bond to be domiciled in Singapore. Finally, Aetna came to market with their 10th Vitality Re transaction, issuing two layers of notes backing a combined $200 million of reinsurance coverage for their health insurance book.

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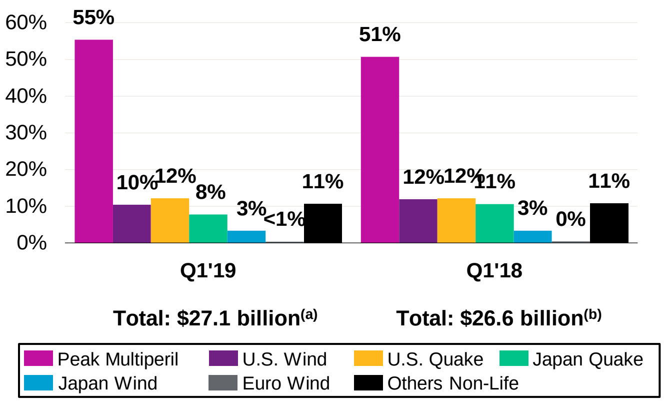
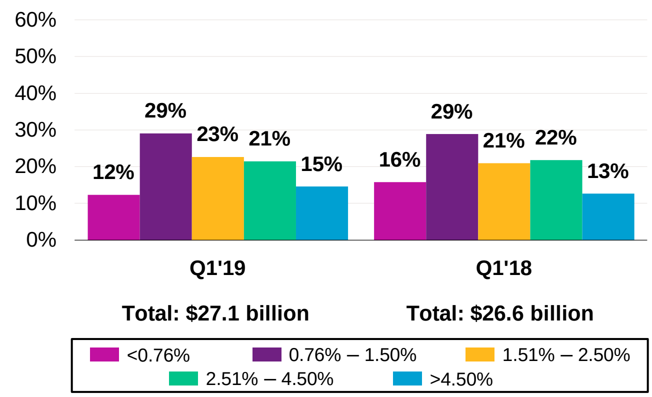
Q1 2019 ILS market statistics

Par outstanding by risk peril

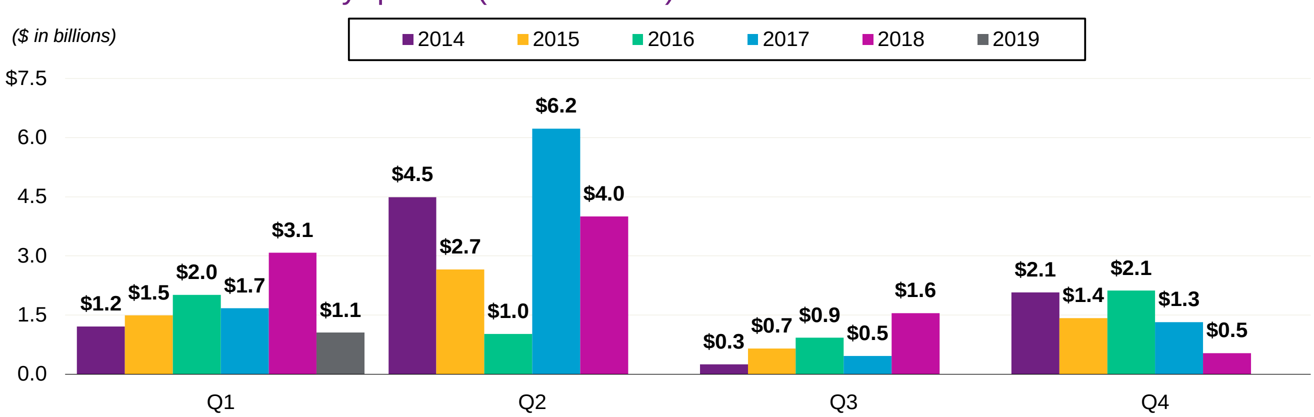


Par outstanding by expected loss at issuance

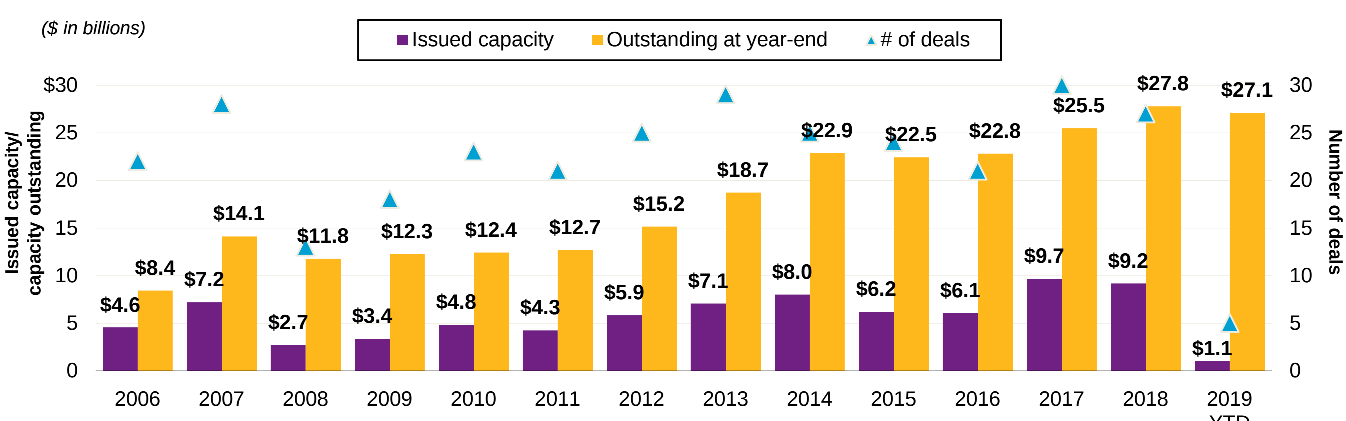


Source: Willis Towers Watson Securities Transaction Database as of 03/31/2019
(a) In aggregate, 65% of all capacity outstanding exposed to U.S. Wind.
(b) In aggregate, 63% of all capacity outstanding exposed to U.S. Wind.

Non-life ILS issuance by quarter (2014 – 2019)(c)



Non-life capacity issued and outstanding by year(c)



Source: Willis Towers Watson Securities Transaction Database as of 3/31/2019. Aggregate data excludes private ILS deals.
(c) All issuance amounts reported in or converted to USD on date of issuance. Outstanding amounts adjusted for actual principal losses.

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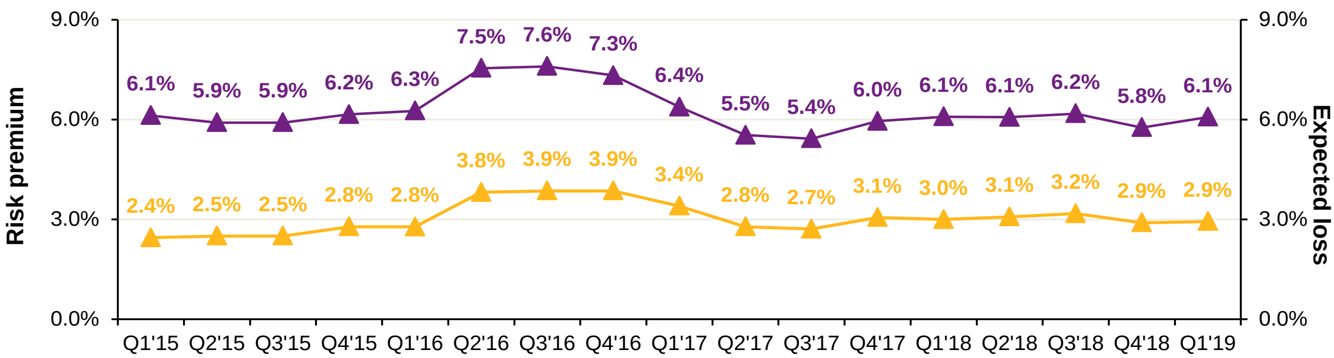
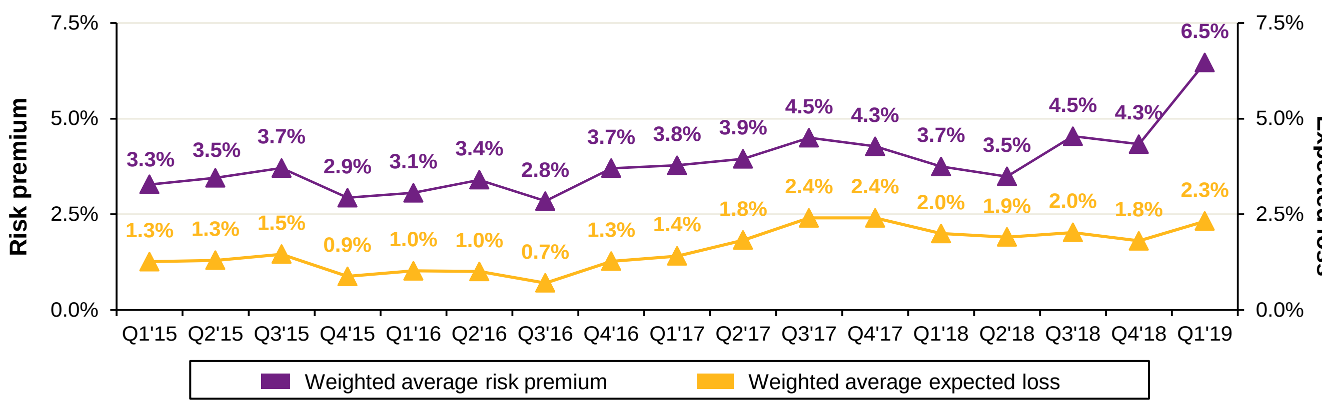
Q1 2019 ILS market statistics

Quarterly LTM U.S. wind exposed weighted average risk premium and expected loss



Quarterly LTM non-U.S. wind exposed weighted average risk premium and expected loss



Source: Willis Towers Watson Securities Transaction Database as of 3/31/2019. Aggregate data excludes private ILS deals.
LTM = Last 12 months. Aggregate data are for primary issuance and do not reflect secondary trading.

Secondary market trading overview

"Even in the face of limited primary issuance across Q1 2019, very little bid tone has been observed within the secondary market."

Even in the face of limited primary issuance across Q1 2019, very little bid tone has been observed within the secondary market. The several sellers coming to market this quarter have been met with limited enthusiasm. Meanwhile, yields continue to drift higher – with buyers reluctant to chase bonds. Seasonality is adding to the heaviness of the market, while loss affected bonds continue to be marked lower.

About Willis Towers Watson

Willis Towers Watson (NASDAQ: WLTW) is a leading global advisory, broking and solutions company that helps clients around the world turn risk into a path for growth. With roots dating to 1828, Willis Towers Watson has over 40,000 employees serving more than 140 countries. We design and deliver solutions that manage risk, optimize benefits, cultivate talent, and expand the power of capital to protect and strengthen institutions and individuals. Our unique perspective allows us to see the critical intersections between talent, assets and ideas — the dynamic formula that drives business performance. Together, we unlock potential. Learn more at willistowerswatson.com.

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