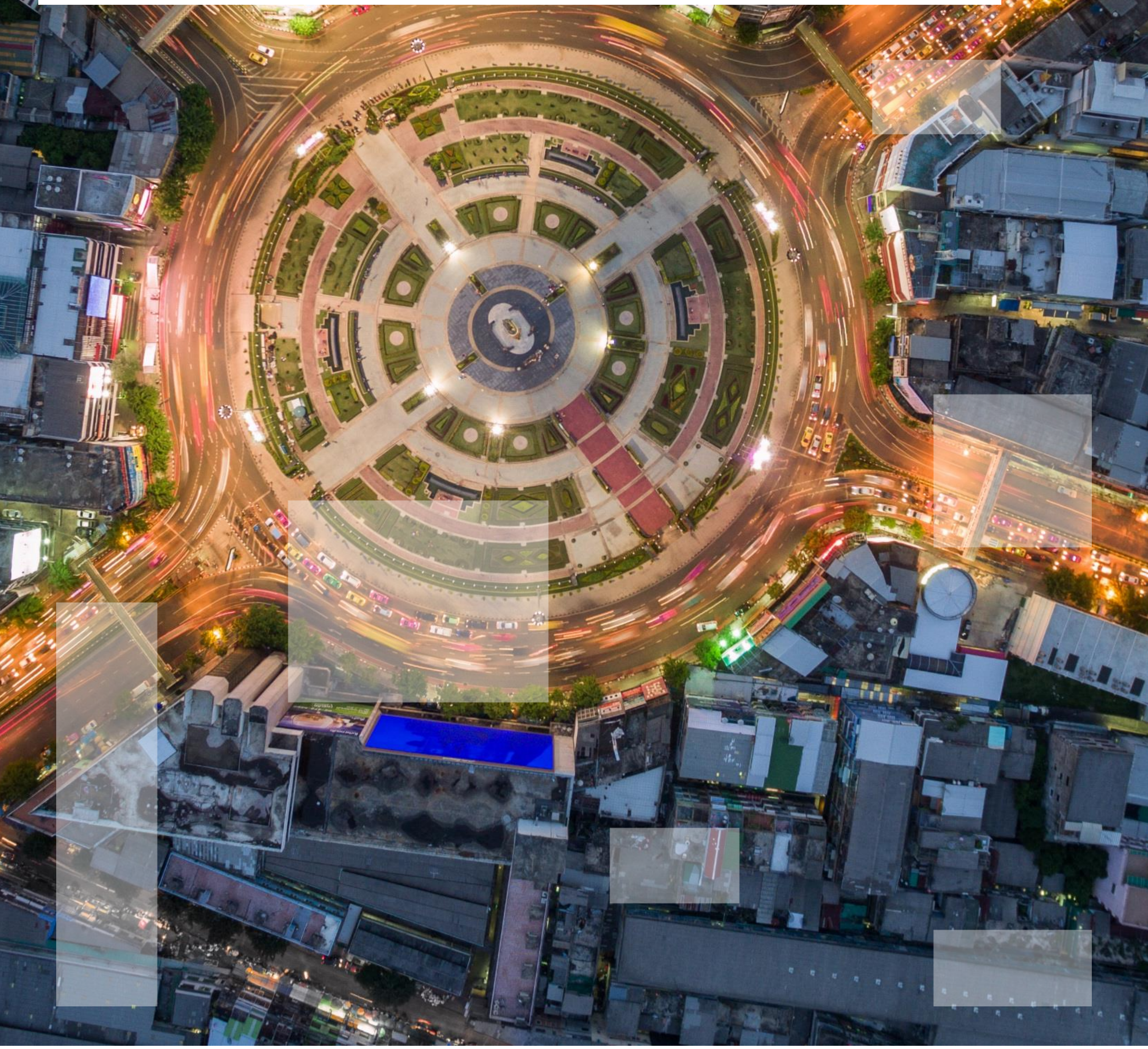
ILS Market Update

Growth through innovation

July 2018



Willis Towers Watson Securities

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ILS Market Update

Q2 2018 market perspective: Diversification by risk and product

With the 2017 losses slowly fading in the rearview mirror, the ILS market is roaring forward through the first half of 2018. Cat bond issuance is at or near record levels, and non-life ILS assets under management (AUM) continue to grow. Where might the road lead?

"Ceding insurers and reinsurers want to have more risk transfer options at a better cost, and ILS delivers."

Drivers of change

Before getting to some possible answers, it makes sense to consider what is driving the market's continued success. The first obvious answer is that ceding insurers and reinsurers want to have more risk transfer options at a better cost, and ILS delivers. Second, end investors are largely sold on the portfolio diversification benefits of ILS and want to increase their allocations with investments linked to natural catastrophe ("nat cat") reinsurance still their primary focus.

There are some less obvious factors too. First, some research analysts have said the lack of a big price bump on the back of the 2017 losses makes the idea of a property cat reinsurer relying solely on equity without some access to ILS capital essentially untenable. This has caused a race to create even more partnerships with ILS capital to stay competitive.

Second, insurance, in addition to reinsurance, is starting to become a growth area for ILS. Investors are trying to grow AUM and realize this offers a lot of potential, especially if the investors can manage some risks beyond nat cat. In response, some insurers and corporate risk managers are now trying to position to play offense or defense to this trend.

"We continue to see innovation in the structure in which risk is converted to investible form."

Directions

We continue to see innovation in the structure in which risk is converted to investible form as well as an effort to offer more risks and ILS structures reflecting the diversity in investors and in risk transfer needs.

One example is the continued growth in ILS backing quota share type arrangements on a semipermanent basis. Sources of risk have ranged from insurance portfolios to

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reinsurance portfolios, to facilities arranged by intermediaries for the benefit of their customers. While purely tactical sidecars may have not disappeared entirely, they have played next to no role in providing capacity following the 2017 losses. New relationships with ILS complement rather than fully replace the relationships protection buyers have long held with insurers and reinsurers.

The near future may also continue to see more ILS penetration in insurance. For now, this will be in partnership with traditional insurers providing fronting paper for, or sharing risk with, an ILS-backed investment vehicle. That said, as has started in the reinsurance space, some investors may ultimately source their own paper to transact without insurance partners. In this area, the next year or two will continue to see experimentation and growth, with any dramatic impacts on industry structure such as we have previously seen in the reinsurance space apparently still a few years off.

A final trend to watch is continued expansion beyond nat cat risk. This is a trend with promise and peril. It can help make a wide range of insurance more available and affordable and help cover the protection gap. On the other hand, nat cat risk still has some advantages in modeling and diversification. The good news is that the expansion so far is mindful of and has addressed these differences vis-à-vis nat cat in various ways. If successful, an ILS market much larger than would be possible on nat cat alone seems likely.

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Q2 2018 ILS market issuance overview

"The second quarter of 2018 saw $4.0 billion of underwritten widely distributed non-life ILS capacity."

The second quarter of 2018 saw $4.0 billion of underwritten widely distributed non-life ILS capacity (issued through fourteen cat bonds). Despite falling short of Q2 2017's record-breaking issuance, Q2 2018 is the third most active Q2 to date (behind Q2 2017's $6.2 billion issued through nineteen bonds and Q2 2014's $4.5 billion issued through thirteen bonds).

Following a first quarter that was dominated by diversifying transactions, Q2 issuance was dominated by U.S. Wind and Peak Multiperil deals ahead of the core wind season. Of the $4.0 billion issued, $2.6 billion will provide Peak Multiperil protection, while the remaining $1.4 billion is specific to U.S. Wind. Some of these deals merit further discussion.

More than a decade had passed since Aspen Insurance engaged the ILS market, but in Q2 2018, Aspen returned to the market with Kendall Re 2018-1. The single tranche will provide retrocessional protection from a variety of perils including: U.S. Named Storms, North American Earthquake, U.S. Severe Thunderstorms, U.S. Wildfires, U.S. Winter Storms and Europe Windstorms. The tranche features an industry index trigger on an annual aggregate basis with a term of three years. The issue has an expected loss of 2.64% with a risk spread of 5.25% that fell below its initial guidance of 5.50% to 6.00%. The bond was upsized 66% from an initial guidance of $150 million to $250 million.

"Recently enacted regulations have set out a framework for the ILS market to engage in U.K.-based deals."

Historically, SCOR has utilized Ireland for the vast majority of its participation in the ILS market, but recently enacted regulations have set out a framework for the ILS market to engage in U.K.-based deals. This $300 million tranche features an industry index trigger on an annual aggregate basis with a four-year term covering U.S. Named Storms, North American Earthquakes and European Windstorms. This issue was initially marketed with a risk spread of 6.00% to 6.50% and settled at 6.00% with an expected loss of 3.20%. It will be interesting to see if the new ILS regulatory landscape of the U.K. will lead to broader ILS-accommodative legislation outside of traditional ILS-friendly jurisdictions.

Q2 2018 saw TransRe enter the ILS market with their first catastrophe bond under the special purpose insurer Bowline Re. This single tranche issue will support retrocessional protection from a variety of perils including: named storms, earthquakes and severe thunderstorms across North America. The tranche features a four-year term. The $250 million of coverage (upsized from $200 million) will provide protection on an annual aggregate based on weighted industry loss indices. The layer has an expected loss of 1.60% and will pay a risk spread of 4.50%

"Another new ILS market entrant in Q2 2018 was Frontline Insurance."

Another new ILS market entrant in Q2 2018 was Frontline Insurance, which secured $350 million of protection through two tranches ($250 million of Class A Notes and $100 million of Class B Notes). Both tranches will feature indemnity triggers on a per occurrence basis. The initial covered area will be Florida, North Carolina, South Carolina and Alabama. The updated covered area will be all 50 States and the District of Columbia as Frontline has already indicated that it intends to begin underwriting business in Georgia and Virginia in 2019. The Class A tranche has an expected loss of 4.04% and will pay a risk spread of 7.00%. The Class B tranche offers a risk spread of 11.75% at an expected loss of 8.13%.

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Non-life Q1 2018 ILS issuance[(a)]

($ in millions)

Sponsor	Issuer/Tranche	Issue	Maturity	Amount	EL	Spread	Basis	Risk	Trigger
Frontline	Frontline Re 2018-1 A	Jun-18	Jul-22	$250	4.04%	7.00%	Cascading OCC	US Wind	Indemnity
Frontline	Frontline Re 2018-1 B	Jun-18	Jul-22	$100	8.13%	11.75%	Cascading OCC	US Wind	Indemnity
SCOR	Atlas Capital UK 2018	May-18	Jun-22	$300	3.33%	6.00%	Annual Agg.	Peak Multiperil	Industry Index
TWIA	Alamo Re 2018-1	May-18	Jun-21	$400	1.81%	3.25%	Annual Agg.	US Wind	Indemnity
Travelers	Long Point Re III 2018-1	May-18	Jun-22	$500	1.29%	2.75%	OCC	Peak Multiperil	Indemnity
TransRe	Bowline Re 2018-1 A	May-18	May-22	$250	1.81%	4.50%	Annual Agg.	Peak Multiperil	Industry Index
FL Citizens	Everglades Re II 2018-1 A	May-18	May-21	$250	2.26%	4.75%	Annual Agg.	US Wind	Indemnity
USAA	Residential Re 2018-11	May-18	Jun-19	$100	8.54%	zero[(b)]	Annual Agg.	Peak Multiperil	Indemnity
USAA	Residential Re 2018-13	May-18	Jun-22	$200	0.98%	3.25%	Annual Agg.	Peak Multiperil	Indemnity
Nationwide	Caelus Re V 2018-1 A	May-18	Jun-21	$125	0.80%	3.50%	Annual Agg.	Peak Multiperil	Indemnity
Nationwide	Caelus Re V 2018-1 B	May-18	Jun-21	$75	1.86%	4.50%	Annual Agg.	Peak Multiperil	Indemnity
Nationwide	Caelus Re V 2018-1 C	May-18	Jun-21	$175	3.64%	7.50%	Annual Agg.	Peak Multiperil	Indemnity
Nationwide	Caelus Re V 2018-1 D	May-18	Jun-21	$75	5.85%	10.50%	Annual Agg.	Peak Multiperil	Indemnity
Everest Re	Kilimanjaro Re 2018-1 A	Apr-18	May-22	$63	9.50%	12.50%	Annual Agg.	Peak Multiperil	Industry Index
Everest Re	Kilimanjaro Re 2018-1 B	Apr-18	May-22	$200	2.35%	4.65%	Annual Agg.	Peak Multiperil	Industry Index
Everest Re	Kilimanjaro Re 2018-2 A	Apr-18	May-23	$63	9.50%	12.50%	Annual Agg.	Peak Multiperil	Industry Index
Everest Re	Kilimanjaro Re 2018-2 B	Apr-18	May-23	$200	2.35%	4.65%	Annual Agg.	Peak Multiperil	Industry Index
LA Citizens	Pelican Re IV 2018-1 A	Apr-18	May-21	$100	1.08%	2.25%	OCC	US Wind	Indemnity
Aspen	Kendall Re 2018-1	Apr-18	May-21	$225	2.64%	5.25%	Annual Agg.	Peak Multiperil	Industry Index
AIIC	Integrity Re 2018-1 A	Apr-18	Jun-22	$75	1.46%	3.75%	Cascading OCC	US Wind	Indemnity
AIIC	Integrity Re 2018-1 B	Apr-18	Jun-22	$4	6.41%	9.50%	Cascading OCC	US Wind	Indemnity
UPC	Armor Re II 2018-1 A	Apr-18	Jun-20	$100	1.27%	3.50%	Cascading OCC	Peak Multiperil	Indemnity
Safepoint	Manatee Re II 2018-1 A	Apr-18	Jun-21	$160	1.26%	4.25%	Cascading OCC	US Wind	Indemnity
Safepoint	Manatee Re II 2018-1 B	Apr-18	Jun-21	$40	4.63%	7.75%	Cascading OCC	US Wind	Indemnity
		Q2'18 Total:		**$4,030**					

Source: Willis Towers Watson Securities Transaction Database as of 6/31/2018. Aggregate data exclude most private ILS deals.
(a) All issuance amounts reported in or converted to USD on date of issuance. EL for HU deals is based on WSST conditioned catalog for AIR and medium-term catalog for RMS.
(b) 88.25% of par value.

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Q2 2018 ILS market issuance overview

"For the fourth consecutive year, we have seen a Bellemeade series issuance."

Among other deals:

For the fourth consecutive year, we have seen a Bellemeade series issuance. Bellemeade Re 2018-1 will provide indemnity protection against potential losses arising from mortgage insurance payouts. The sponsor is Arch Capital Group (formerly United Guaranty under AIG). This particular issuance is the largest of the Bellemeade series (at a size of $374 million) and will cover a portfolio of mortgage insurance largely written between July and December of 2017. The notes have been split into three tranches. The rated M-1B tranche saw $198 million offered through a Rule 144A placement as well as an additional $400 thousand offered through a Reg S placement. This senior tranche has received a BBB Morningstar rating. The Class M-2 notes comprised $157 million of the notes and were offered via a Rule 144A placement in their entirety. Lastly, the Class-B1 tranche had a size of $19 million, and was also issued solely through a Rule 144A placement. The three tranches feature a ten-year term structure. In aggregate, the four Bellemeade issuances have provided $1.3B of reinsurance protection. Andrew Ripper, CEO of Arch's Global Mortgage Group, commented via press release stating, "Executing transactions like this on a programmatic basis is a critical part of running a sustainable mortgage guaranty business. Not only does it provide us with catastrophic risk protection, it also gives us timely feedback from unbiased third parties on how they view the risk in the U.S. mortgage market."

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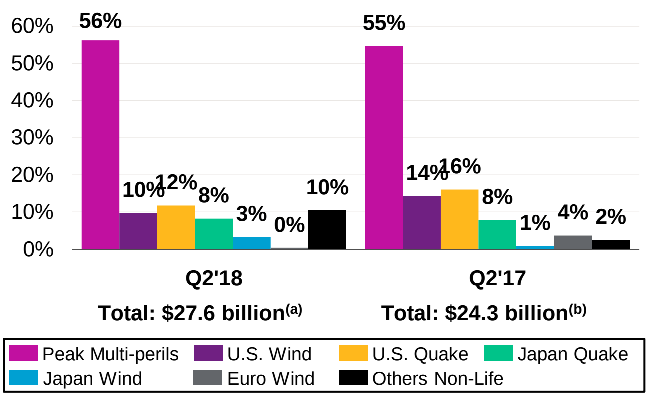
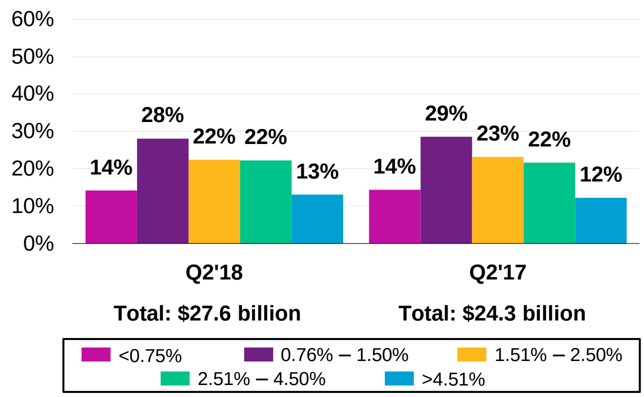
Q2 2018 ILS market statistics

Par outstanding by risk peril

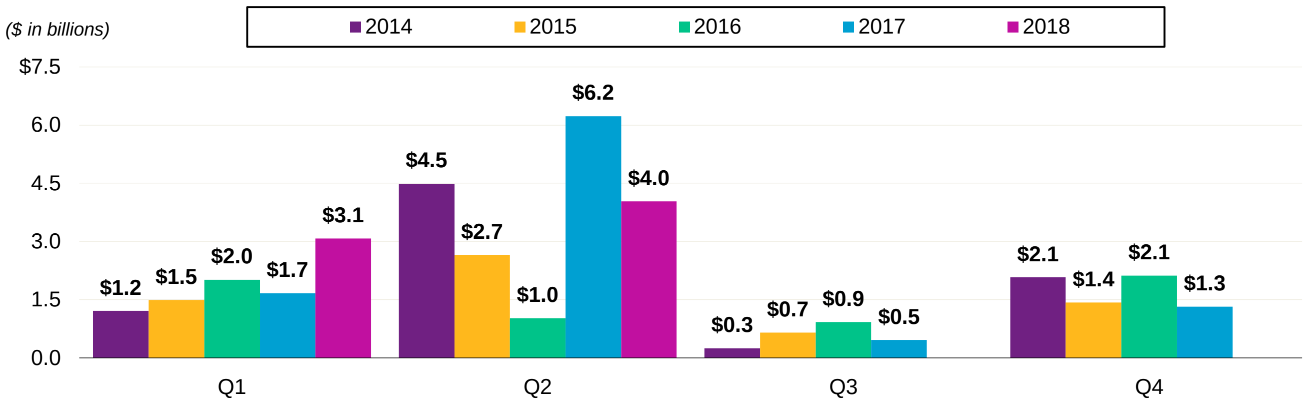


Par outstanding by expected loss at issuance

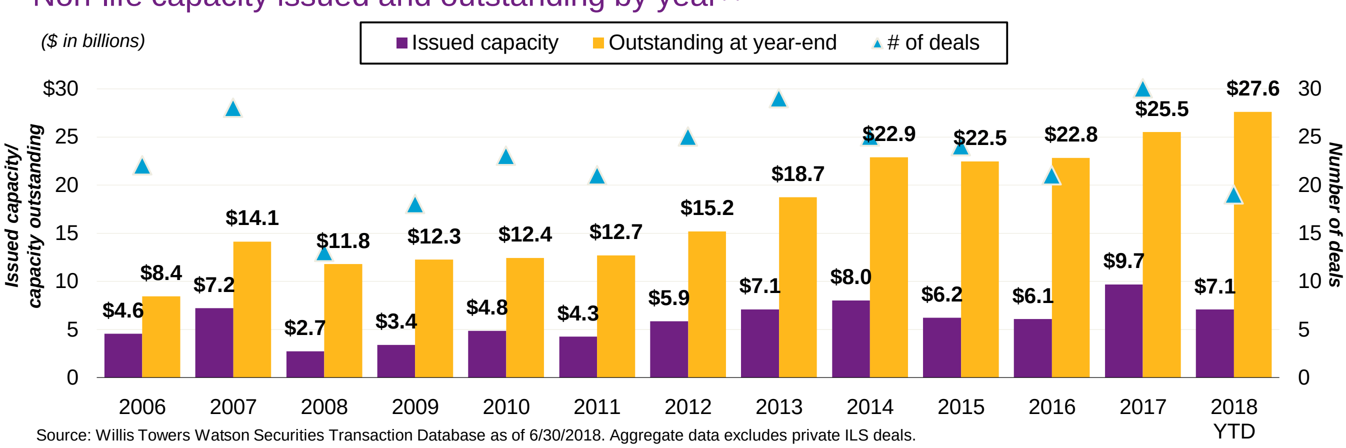


Source: Willis Towers Watson Securities Transaction Database as of 6/30/2018.
(a) In aggregate, 66% of all capacity outstanding exposed to U.S. Wind.
(b) In aggregate, 69% of all capacity outstanding exposed to U.S. Wind.

Non-life ILS issuance by quarter (2014 – 2018)(c)



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



Source: Willis Towers Watson Securities Transaction Database as of 6/30/2018. 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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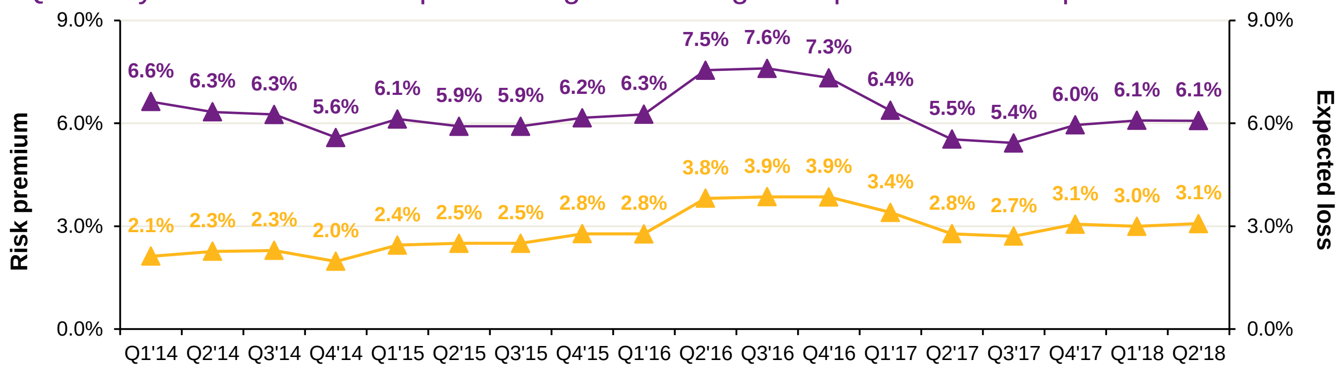
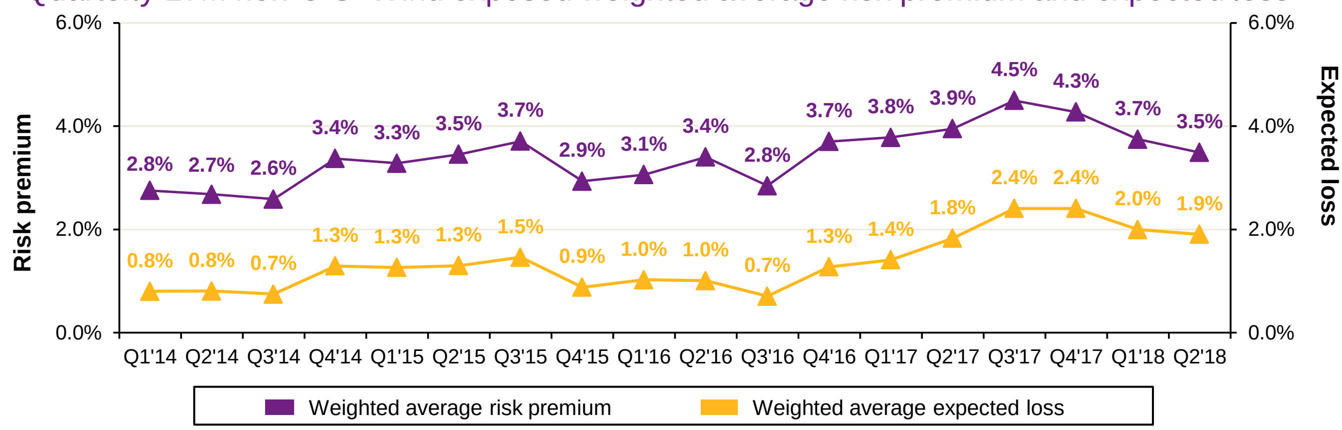
Q2 2018 ILS market statistics

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 6/30/2018. 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

"Robust trading has occurred across all perils and maturities with many managers focused on rebalancing and optimizing their portfolios."

No doubt about it. The ILS market remains strong post the various 2017 losses. End investors seem to have confidence in the market as evidenced by the strong buying in both primary and secondary markets. Robust trading has occurred across all perils and maturities with many managers focused on rebalancing and optimizing their portfolios. With capital still at the ready, coupled with the positive price movement due to seasonality we expect the bid tone to continue throughout the wind season. As opportunities emerge, investors will consider live cat; however, many continue to tread with caution given the perceived advantages of some market participants as losses emerge.

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