# ILS MARKET UPDATE

***Breaking New Ground***

WILLIS CAPITAL MARKETS & ADVISORY

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***The Insurance Industry Experts***

***New York | London | Hong Kong | Sydney***

Willis

Capital Markets & Advisory

## Q4 2016 Market Outlook

***"The ILS market not only continues to grow in AUM and influence but also continues to diversify"***

The ILS market continues to grow in assets under management (AUM) and influence in part by diversifying in product form. This growth and diversification adds some complexity and nuance to a market that was originally more limited in scope. As such it may be helpful to change how to follow the market going forward.

That does not mean disregarding the old metrics entirely but simply supplementing those metrics with new ones. This is similar to how the many ways we now consume media have complicated things for advertisers. Broadcast TV ratings still matter. However, viewing rates for cable as well as downloads of top shows matter too.

**What Is the Size of the ILS Market?**

The simplistic view is to focus on three numbers to measure the size of the market. These are ILS AUM, annual cat bond issuance and amount of cat bonds outstanding. ILS AUM grew in 2016 to $75 billion. In the past, it was clear what that meant. Investors had relatively little leverage.

With the presence of leverage in its various forms, $75 billion in AUM no longer means $75 billion in limit. Many sidecar arrangements cap the supported limit at a modeled return period (e.g., 250 years). Sidecar and reinsurance premiums provide additional leverage, as do excess of loss fronting arrangements. Ideally we need to filter the AUM growth metric by leverage and by product form to better understand the changing impact of ILS.

***"Cat bond issuance will increase with both a marginal demand from investors for more liquidity supported by a wave of maturities in early 2017"***

Our 2017 baseline is that we expect AUM to grow at a similar pace to 2016. Nonetheless, leverage will grow more rapidly as investors use fronting and similar techniques to enter insurance and reinsurance. This could mean more capacity and more competition even if AUM grows more modestly.

Similarly, cat bond issuance and outstanding cat bond capacity no longer tell the story of market success as a whole. Instead, these figures remain the most transparent piece of the overall ILS market. They speak to the depth and breadth of the ILS investor base. Cat bond market share grows when players who require more liquidity become more prominent. Many of the more established players are happy to trade illiquidity for higher rates and less competition. In contrast, a minority of the established investors as well as investors newer to the sector favor the liquidity and transparency of the cat bond product.

Our baseline is that cat bond issuance will increase fueled by both preexisting demand from investors for more liquidity and a further by wave of maturities in early 2017. This year could see $6 billion to $7 billion in new nonlife cat bond deals or perhaps even more. It is still too early to say that this trend toward cat bond issuance growth is more than cyclical.

Why? Recently, the established players seem to be winning. Most of the AUM growth is new assets for old players rather than for truly new players. The short term trend toward relatively more cat bonds could become more permanent if we see the balance tilt back towards more new entrants in the ILS investor arena.

## Q4 2016 Market Outlook (Cont'd)

***"Peril diversification will continue as investors are looking to take on more risks "***

### What Perils Does the ILS Market Handle?

Traditionally, ILS peril distributions are based on cat bonds alone. This still remains a serviceable proxy for the overall market although leverage creates some real distortion. As with rated reinsurers, ILS investors enjoy maximum leverage for perils that are not peak perils. If investors need leverage to be more competitive with a specific peril, fewer diversifying cat bonds will occur relative to ILS investments with more accessible leverage. As such, nonpeak perils are actually more prominent than the cat bond figures would suggest. A second order distortion is that outside of the peak zones unmodeled perils take on increasing importance resulting in additional understatement of portfolio risk derived from nonpeak perils.

Our take is that peril diversification will continue in 2017 at a modest pace. Investors are looking to take on more risks if it means becoming more relevant to ceding companies. In doing so they need to achieve appropriate economics and couple that with a good understanding of risks. Good will cannot overcome bad math. Transparency, alignment, and simplification, however, can help ILS investors participate along with experienced underwriters outside the traditional well modeled property cat space.

***"Intermediaries seeing many different aspects of the market at the same time are well positioned"***

### Pricing and Convergence

To the extent ILS-supported limit rises more rapidly than limit in the market as a whole, our expectation for 2017, it will tend to put downward pressure on risk spreads and corresponding risk margins (risk spreads minus expected loss) across the many different ILS products. All else equal, this decline in margins also puts downward pressure on end investor returns (e.g., the returns to ILS fund investors.) In the current situation, rising rates on USD ILS collateral tend to counteract the decline in risk spreads so long as the rising yields do not represent increased credit risk to any great extent.

Thus, in the short term, investors can have higher returns even with declining risk margins because of the increasing collateral yields. As such, risk margins have become a useful but incomplete metric for projecting ILS investment returns.

The larger message is that the mixture of hard numbers and soft data now necessary to understand market trends makes the ILS space a little more opaque to both investors and ceding companies. In some ways this represents further "convergence" of ILS with traditional reinsurance. In both cases, the largest intermediaries see many different aspects of the market at the same time and are well positioned to sort the wheat from the chafe for clients.

## Q4 2016 Cat Bond Market Issuance Overview

***"$2.1 billion of non-life capacity issued in Q4 2016"***

After a quiet summer, the market activity picked up and the fourth quarter of 2016 saw $2.1 billion of non-life catastrophe bond capacity issued through five transactions (Q4 2015 saw $1.4 billion issued through 5 deals).

All fourth quarter issuances were sponsored by repeat sponsors and a number of them brought several new perils for those cedants: Assicurazioni Generali's Horse Capital I transfers Motor Third Party Liability risk (the first bond to do so since AXA's FCC SPARC in 2007) while XL Bermuda's Galilei I Re covers Australia Tropical Cyclone and Australia Earthquake (the last such bond being QBE's Venterra Re in 2013)

*($ in millions)*

### Non-Life Q4 2016 Cat Bond Issuance[(a)]

| Sponsor | Issuer / Tranche | Issue | Maturity | Amount | EL | Spread | Basis | Risk | Trigger |
|---|---|---|---|---|---|---|---|---|---|
| XL Bermuda | Galilei Re Ltd. 2016-1 A-1 | Dec-16 | Jan-20 | $75 | 9.55% | 13.25% | Ann AGG | US Named Storm, NA Quake, Europe Windstorm, Australia Tropical Cyclone, Australia Quake | Industry Index |
| XL Bermuda | Galilei Re Ltd. 2016-1 B-1 | Dec-16 | Jan-20 | $125 | 4.98% | 8.00% | Ann AGG | US Named Storm, NA Quake, Europe Windstorm, Australia Tropical Cyclone, Australia Quake | Industry Index |
| XL Bermuda | Galilei Re Ltd. 2016-1 C-1 | Dec-16 | Jan-20 | $175 | 3.02% | 6.25% | Ann AGG | US Named Storm, NA Quake, Europe Windstorm, Australia Tropical Cyclone, Australia Quake | Industry Index |
| XL Bermuda | Galilei Re Ltd. 2016-1 D-1 | Dec-16 | Jan-20 | $175 | 2.03% | 5.25% | Ann AGG | US Named Storm, NA Quake, Europe Windstorm, Australia Tropical Cyclone, Australia Quake | Industry Index |
| XL Bermuda | Galilei Re Ltd. 2016-1 E-1 | Dec-16 | Jan-20 | $200 | 1.45% | 4.50% | Ann AGG | US Named Storm, NA Quake, Europe Windstorm, Australia Tropical Cyclone, Australia Quake | Industry Index |
| Assicurazioni Generali | Horse Capital I DAC / Class A | Dec-16 | Jun-23 | $89 | 1.32% | 4.00% | Ann AGG | Motor Third Party Liability | Indemnity |
| Assicurazioni Generali | Horse Capital I DAC / Class B | Dec-16 | Jun-23 | $89 | 2.90% | 6.25% | Ann AGG | Motor Third Party Liability | Indemnity |
| Assicurazioni Generali | Horse Capital I DAC / Class C | Dec-16 | Jun-23 | $89 | 5.90% | 12.00% | Ann AGG | Motor Third Party Liability | Indemnity |
| American Strategic | Bonanza Re Class A | Dec-16 | Dec-19 | $150 | 1.80% | 3.75% | OCC | US Named Storm & Severe T-Storms | Indemnity |
| American Strategic | Bonanza Re Class B | Dec-16 | Dec-19 | $50 | 2.69% | 5.00% | OCC | US Named Storm | Indemnity |
| CEA | Ursa Re 2016-1 | Nov-16 | Dec-19 | $500 | 2.18% | 4.00% | Ann AGG | US Quake | Indemnity |
| USAA | Residential Re 2016-2 Cl 2 | Nov-16 | Dec-17 | $80 | 6.35% | zero [(b)] | OCC | US Tropical Cyclone, EQ, Sev. T / Winter Storm, Wildfire, Volcanic Eruption, Meteorite Impact, Other | Indemnity |
| USAA | Residential Re 2016-2 Cl 3 | Nov-16 | Dec-20 | $150 | 3.29% | 5.25% | OCC | US Tropical Cyclone, EQ, Sev. T / Winter Storm, Wildfire, Volcanic Eruption, Meteorite Impact, Other | Indemnity |
| USAA | Residential Re 2016-2 Cl 4 | Nov-16 | Dec-20 | $170 | 1.72% | 3.50% | OCC | US Tropical Cyclone, EQ, Sev. T / Winter Storm, Wildfire, Volcanic Eruption, Meteorite Impact, Other | Indemnity |
| | | **Q4'16 Total:** | | **$2,118** | | | | | |

***"The first issuance of the quarter was USAA's Residential Re 2016-2"***

The first issuance of the quarter was Residential Re 2016-2, sponsored by USAA. This transaction secured $400 million of indemnity cover on a per occurrence basis. The transaction provides coverage against U.S. tropical cyclones, earthquake, severe thunderstorm, winter storm, wildfire, volcanic eruption, meteorite impact and all other events classified as natural disaster or severe weather. All its three tranches priced at the bottom end of guidance. Class 3, with an expected loss of 3.29%, priced at a spread of 5.25%, while upsizing by 50% to $150 million. Class 4, with an expected loss of 1.72%, priced at a spread of 3.50%, while upsizing by 70% to $170 million. Whereas Class 3 and Class 4 have a four year term, Class 2 is the only tranche with a one year term and is structured as a zero-coupon bond. With an expected loss of 6.35%, it priced at 92.25 but did not upsize.

Source: WCMA Transaction Database as of 12/31/2016. Aggregate data excludes private ILS deals with a size smaller than $100 million.

(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. Galilei Re 2017-1 priced in2016 but closed in 2017 and therefore is excluded.

(b) Residential Re 2016-2 Class 2 was a discount rate.

## Q4 2016 Cat Bond Market Issuance Overview

***"Repeated sponsors CEA and ASI are back in the market "***

Following last year's $250 million placement, the California Earthquake Authority (CEA) sponsored a new indemnity bond, Ursa Re Ltd. 2016-1 providing protection on an annual aggregate basis through a three-year term against California earthquake risk. The deal has an expected loss of 2.18% and priced at the upper end of the guidance with a spread of 4.00%. The transaction upsized by 67% to $500 million.

Bonanza Re 2016-1 is the second catastrophe bond sponsored by American Strategic Insurance. The bond is divided in two tranches, both featuring an indemnity trigger on a per occurrence top and drop basis. The $150 million Class A Notes provide coverage against named storms and severe thunderstorms while the $50 million Class B Notes provide coverage against named storms only both on a three-year basis. The transaction priced below initial price guidance due to strong investor demand: Class A Notes with an expected loss of 1.80% priced at 3.75% while the Class B Notes, with an expected loss of 2.69%, priced at 5.00%. Bonanza Re invests the note proceeds in IBRD notes.

***"Horse Capital I DAC is an innovative structure to mitigate a deterioration of Generali's MTPL loss ratio"***

Assicurazioni Generali S.p.A. (AG), the largest insurance group in Italy and the third largest in Europe by total gross premiums written, is the sponsor of a €255 million insurance linked security: Horse Capital I DAC. This is an innovative structure to mitigate a deterioration of Generali's MTPL loss ratio in Italy, France, Germany, Spain, Austria, Switzerland and Czech Republic. The loss ratio is calculated on an accident year basis reflecting the true performance for that year. The transaction provides indemnity protection for a three year period reducing the volatility of the loss ratio and solvency ratio of one of Generali's core lines of business. Due to strong investor demand, it priced within the initial price guidance and each of the three tranches upsized to €85 million from the initial €60 million target. This deal confirms the ability of ILS investors to prioritize and support well structured innovative ILS transactions opening opportunities to reduce volatility for many business lines.

***"XL returned to the market with twin Galilei Re Series to secure more than $1 billion of capacity"***

XL Bermuda returned to the market with twin Galilei Re Ltd. Series 2016-1, issued before the end of 2016, and Galilei Re Ltd. Series 2017-1 targeting a January issuance. Both series provide cover on an industry loss and annual aggregate basis against U.S. named storms and earthquakes, European windstorms, Australian tropical cyclones and earthquakes. This is the first cat bond using PERILS index in the context of Australian risk. Structured across five tranches of notes each, the two series are identical apart from duration: while the 2016-1 tranches provide three year coverage, the 2017-1 tranches provide four year coverage. XL Catlin has elected to separate them to maximise investor demand over the peak December to January renewal period and to gain the benefits of the different durations of coverage.

During marketing, Galilei Re 2016-1 upsized by 50% to $750 million, while pricing moved towards the upper end of the guidance for most of the tranches. The $75 million Class A-1 tranche, with an expected loss of 9.55%, priced at 13.25%, the top end of the guidance, while upsizing by 20%. The $125 million Class B-1, with an expected loss of 4.98%, priced at 8.00%, the lower end of the guidance, while doubling in size. The $140 million Class C-1, with an expected loss of 3.02%, priced at 6.00%, the lower end of the guidance, while upsizing by 40%. The $175 million Class D-1, with an expected loss of 2.03%, priced at 5.25%, the top end of the guidance, while upsizing by 40%. Finally, the $200m Class E-1, with an expected loss of 1.45%, priced at 5.25%, the top end of the guidance, while upsizing by 60%. We will include Galilei Re 2017-1 tranches in the next ILS Market Update.

## BCAR Impact on ILS

*"A.M. Best recently updated the draft criteria with its proposed calculation of both the U.S. and Non U.S. Property & Casualty BCARs"*

*"These updates could drive additional demand for reinsurance and ILS covers, although to a lesser degree than originally anticipated "*

### Overview

Best's Capital Adequacy Ratio ("BCAR") is a measure of the strength of an insurance company's balance sheet and is used by A.M. Best in its rating methodology for (re)insurance companies. A.M. Best recently updated the draft criteria from earlier 2016 with its proposed calculation of both the U.S. and Non U.S. Property & Casualty BCARs. The implementation of the new BCAR model and credit rating methodology has been pushed back to Q4 2017. Companies susceptible to catastrophic events should note the changes to the treatment of catastrophe risk in the proposed model which will continue to have an impact on reinsurance and ILS cover needs for P&C companies.

### Proposed revision

One main change is that catastrophe risk is now treated as a separate risk category (B8) in Net Required Capital (NRC) and is no longer included in Adjusted Capital (AC). A.M. Best will use the all perils PML on a per-occurrence worldwide view rather than use the separate HU and EQ perils. The original proposal released last spring included the cat risk on an after-tax basis outside of the covariance formula in the NRC. After the update, the treatment of cat risk is now included in the covariance formula on a pre-tax basis.

A. M. Best will continue the stress test event in AC with a 1-100 after-tax net PML for all return periods. Another change is that A.M. Best will now calculate multiple BCARs, based on several return periods. Preliminary criteria used the 1-20, 1-100, 1-200, 1-500 and 1-1000 year returns to calculate BCAR. After review of public comments, A.M. Best has removed the 1-1000 return period and will include the following: 1-20, 1-100, 1-200, 1-250 and 1-500 (for ERM purposes only). The 1-250 will replace the 1-500 and the 1-1000 return periods as the most stringent BCAR test. There will be two important thresholds for the 1-250 return period. Companies with a score greater than 10 at the 1-250 will be considered for "Very Strong" BCAR capital as a starting point for the rating process, and those with a BCAR score greater than 25 at the 1-250 will be considered for "Strongest" BCAR capital. A.M. Best will then apply the building block approach for Best's Credit Rating Methodology (BCRM) which begins with Balance Sheet Strength, and then includes Operating Performance, Business Profile, ERM, and a Comprehensive Adjustment.

The recent updates to BCAR do not change our opinion that these updates could drive additional demand for reinsurance and ILS covers, although to a lesser degree than originally anticipated following the first release of the draft criteria. As A.M. Best uses the relevant PML on a per-occurrence view, ILS markets, particularly well suited to support aggregate and singleshot covers, will be penalized over rated-entities more suited to providing reinstatable covers.

### Methodology Comparison

Previous Methodology: $$\text{BCAR} = \frac{\text{Available Capital}}{\text{Net Required Capital}}$$

Proposed Methodology: $$\text{BCAR} = \left(1 - \frac{\text{Net Required Capital}}{\text{Available Capital}}\right) * 100$$

Note: Commentary provided by Deborah Griffin, SVP at Willis Re in New York.

## WCMA Panel: LMG's ILS Initiative

In this section we ask our panel of industry representatives to provide their view on the London Market Group's ("LMG") initiative to implement a new regulatory and tax framework for ILS.

Full panel available at www.willis.com/Client_Solutions/Services/WCMA/Publications

***Q: London is the biggest (re)insurance centre in the world but it has yet to see any non-life ILS business domiciled or issued. Why is this and what are the key features that London can bring to the ILS market?***

**Julian Enoizi:** Yes, London is the biggest reinsurance centre in the world, but the likes of Bermuda have successfully carved out a niche market in ILS. This stems from the support in the early years of the cat bond market. Bermuda not only possessed the necessary infrastructure and knowledge that supported the reinsurance and ILS market, but also offered attractive tax advantages. London needs to compete with the likes of Bermuda from both a tax and regulatory perspective. The approval process for launching an ILS needs to be as efficient and expedient as other jurisdictions. If London can't meet the timeframe of other jurisdictions for the launch of a Protected Cell Company (PCC) and the launch of individual cells or ILS, it is difficult to see how it will attract the issuance of ILS that cover similar perils. London's expertise and knowledge in (re)insurance and capital markets mean that it can become a significant player in the ILS market, but rather than simply being an alternative to the likes of Bermuda it should seek to create unique selling points, or become a centre of excellence in other perils.

***Julian Enoizi*** *(CEO at Pool Re)*

**Luca Albertini:** The key criteria are ease and speed of execution and cost. EU domiciled sponsors sometimes have a preference for EU domiciled SPV, but it is not necessary for the sponsor to be in the same country as the SPV. For London to impose itself as a jurisdiction for cat bond SPVs it would need to demonstrate it is at least as efficient as other comparable jurisdictions. At the same time, a growing community of insurance linked managers has established in London, including non-London based managers opening a London operation. The London based ILS community would benefit from the ability to transact domestically using structures such as protected cell companies. London can therefore provide infrastructure which is useful to the local ILS community to support execution of private placement transactions sourced or managed via the London market.

**Joanna Buckenham:** The previous issuance framework in the UK for ISPV structuring and regulation has not previously been conducive to either ease of transacting or tax efficiency. It therefore fell short as any sort of viable alternative to other jurisdictions responding to a growing market. The new ILS regulations that are presented for review in the current government consultation process, together with the accompanying tax exemption provisions, address these issues. The global financial community will be well served by this new framework: the concentration of expertise in (re)insurance underwriting, modelling, broker/advisory skills, investor access and legal, tax and accounting support that London as a financial services hub brings together, combine to make a compelling environment in which to develop an ILS market.

**Katherine Coates:** The key challenges to locating an ILS vehicle in the UK are tax and regulatory. The proposed UK ILS regulations will introduce a tax regime which will look to the investor and not charge the ILS vehicle itself on its profits from risk transformation activities. They will also introduce protected cell company structures to the UK which will allow sponsors to utilise a cost effective and bankruptcy remote ILS vehicle for UK based insurance securitisation. Finally, the PRA and FCA will introduce a more streamlined regulatory process for ISPVs which will be Solvency II compliant. Once in place the new regulations will mean that the UK becomes the first onshore centre with suitable ILS regulations, and this, together with the strength and the expertise of the London insurance market, should enable the rapid development of an ILS market in London.

Note: The views expressed herein by the people interviewed are their personal views and do not reflect the views of their employer or Willis Capital Markets & Advisory or their respective affiliates.

## WCMA Panel: LMG's ILS Initiative (Cont'd)

**Julian Enoizi:** The tax situation appears to have been resolved from the recent Treasury paper, but it will be imperative that the approval process is efficient and competitive with other jurisdictions. A significant difference in the approval process timeframe will only do London a disservice. However, London should seek out unique selling points – it shouldn't simply look to steal business from other jurisdictions. It has demonstrated leadership in its ability to understand and cover a wide range of risks and perils. Areas in which it could continue to develop are foreign aid bonds, cyber and terrorism. There is a great opportunity here for London to develop expertise in these areas, and it is possible, given the uncertainty of the risk covered, that a longer timeframe to approval might be justifiable.

**Luca Albertini**: The key issue is educating the local regulator on how to apply Solvency II to the very specific matters of ILS transactions. We have seen a couple of features in the proposed regulation which look more restrictive than what is required in another Solvency II compliant jurisdiction and in other Solvency II equivalent jurisdictions, and we are working with the regulator to explain why such features are not only not necessary but would also create a very unfavourable regime in London. I am personally confident that we can address the regulator concerns and have a competitive regime.

***Q: What are the key issues raised by the consultation especially in light of the fact that the new ILS regulation must be Solvency II compliant?***

**Joanna Buckenham:** Solvency II brings some challenges but it also adds positives which should be reassuring for those considering the UK for new ILS transactions. Speed to market will be an important aspect for such entities and approval response times will be critical in ensuring a vibrant and efficient market - particularly around key renewal dates. However, this must be weighed against a thorough and robust approval process which maintains the credibility of the UK as a trusted regime for financial market tools. The Risk Transformation Regulations 2017 and their tax counterpart are in draft form. If the UK is to be successful as a domicile for ILS, then the regulations and supporting framework must be clear and practicable. There are elements of the regulations where clarification (or elaboration) could be helpful, including funding requirements and the treatment of contingent assets. It is also crucial that any lack of definitional certainty that exists in the current drafting does not hinder the potential for new initiatives. For example, reinsurer-sponsored ILS fund manager platforms are one of the faster growing areas of the market. It is precisely in the converging of traditional protection buyers with ultimate ILS risk transfer solutions where London should be able to offer meaningful flexibility and creativity.

**Katherine Coates**: The main issues raised by the consultation relate to the regulatory requirements for ISPVs in order for them to be Solvency II compliant and to enable cedants to obtain appropriate regulatory credit for reinsurance placed with an ISPV. If the requirements, as interpreted by the PRA, are either unclear or too onerous then the UK will not be as attractive as other Solvency II compliant markets such as Gibraltar or Malta, or be able to compete with non Solvency II equivalent locations such as Bermuda (though generally equivalent, equivalence does not currently cover special purpose insurers) or Guernsey. The key areas for further discussion with the PRA and the FCA are the interpretation of the fully funded requirement and the timing of the application processes for initial authorisation and for approval of individual cells.

***Luca Albertini***
*(CEO at Leadenhall Capital Partners)*

**Joanna Buckenham**
*(Representative LMG)*

***Katherine Coates***
*(Partner at Clifford Chance)*

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## WCMA Panel: LMG's ILS Initiative (Cont'd)

***Q: How can the ILS London initiative help the ILS market to develop to the next stage rather than just take business from existing platforms?***

**Luca Albertini:** The key advantage of the London initiative is not just to bring revenues from the SPV business in London but would be to give London the infrastructure to allow its large domestic reinsurance and ILS community to transact smoothly without the typical issues linked with cross border trading. Creating the right infrastructure could help attract new ILS players to London rather than just SPVs. Further to this it would be a great success if the infrastructure was so efficient as to attract SPV business from non-London domiciled players.

**Joanna Buckenham:** London - and the Lloyd's market - has always had a tremendous ability to source capital because so much underwriting expertise is concentrated here. This is the corollary to the above premise that the UK can be a fulcrum for bringing together cedants looking to defray risk with a broad range of end investors. The broadening of the collateralised sector needs to be underpinned by the right range of specialisms to help facilitate ILS design and ensure investor confidence. Leveraging the intellectual capital of the London market should enable a set of ILS products to emerge which are complementary and accretive to those currently offered in other jurisdictions.

**Katherine Coates:** It is hoped that London will not only be a popular location for cedants but also for investors, particularly those based in Europe. This should create additional capacity, enabling additional risks to be covered through ILS. This additional capacity will also be needed for new and evolving risks in mature and developing insurance markets. This might include cyber risks, extreme mortality, environmental risks in new areas and other risks where there are currently protection gaps because of lack of capacity or lack of appetite in the traditional insurance markets. The insurance expertise in the London market amongst the brokers and the underwriters will support the development of ILS into new areas of risk.

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***Q: Do you think London can become a global centre of ILS issuance outside of Europe?***

**Julian Enoizi:** Leaving the EU will certainly not be positive for London to attract ILS from European cedants, in fact it would not be of any surprise if other European centres saw an opportunity to develop their own ILS market. The development of an ILS centre in Asia might also see an opportunity to capture business in Europe, which would have otherwise been regarded as the prerogative of London.

**Luca Albertini**: I believe that as long as there is a London market for (re)insurance and there are fund managers based in London actively participating in the London market, ILS activity will not be materially impacted by the current discussions on the relationship between the UK and the EU after Brexit has been completed. For the pure SPV business looking at EU based sponsors, Brexit could make London marginally less attractive, but given the tax regime in the UK, the Solvency II compliance (rather than equivalence), and the well regarded regulator, I would be surprised if London is viewed by EU sponsors at the same level of Bermuda, Cayman or Guernsey.

**Joanna Buckenham:** We are still at a stage where there is a great deal of uncertainty about post-Brexit Britain. However, so long as London remains a centre of financial significance – which it doubtless will do – then I believe issuers and funds will find the UK attractive as an ILS platform.

**Katherine Coates:** Provided that the new regulations combine adequate protection for cedants and investors with efficiency for sponsors, there is no reason why the UK should not be an attractive market for ILS, both within Europe and for cedants and investors outside Europe. It may be more difficult initially for the UK to compete with Bermuda in relation to US based cedants and investors as the Bermudan market is well established for US based business. However, if the establishment of a vibrant ILS market in the UK introduces further diversification of risks, then it is likely that US cedants and investors will also want to participate in the opportunities presented.

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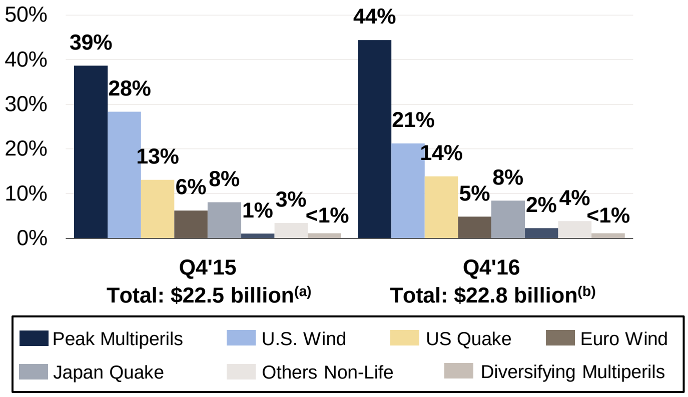
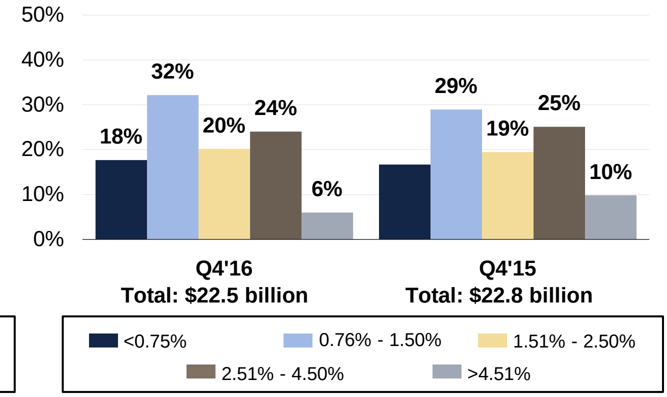
## Q4 2016 Cat Bond Market Statistics

### Par Outstanding by Risk Peril

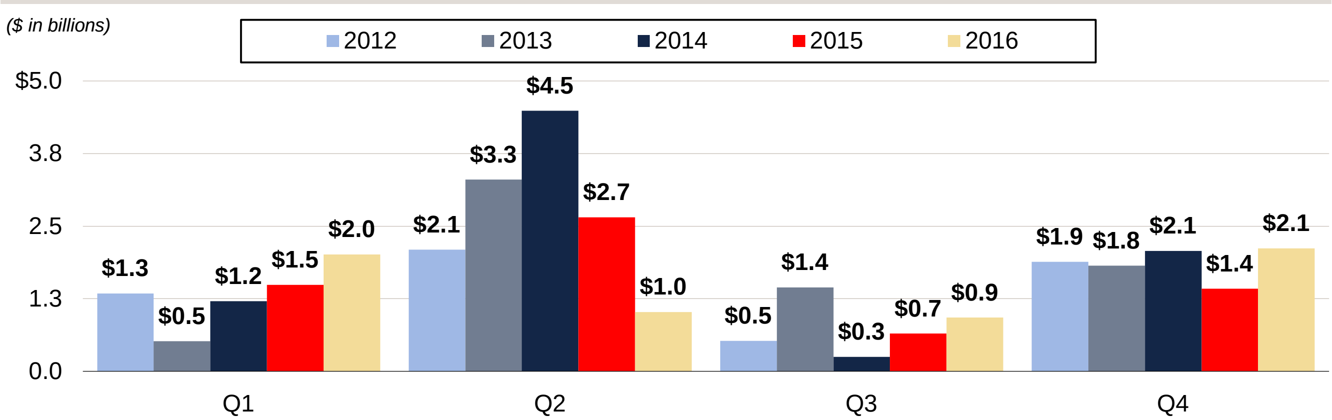



### Par Outstanding by Expected Loss at Issuance

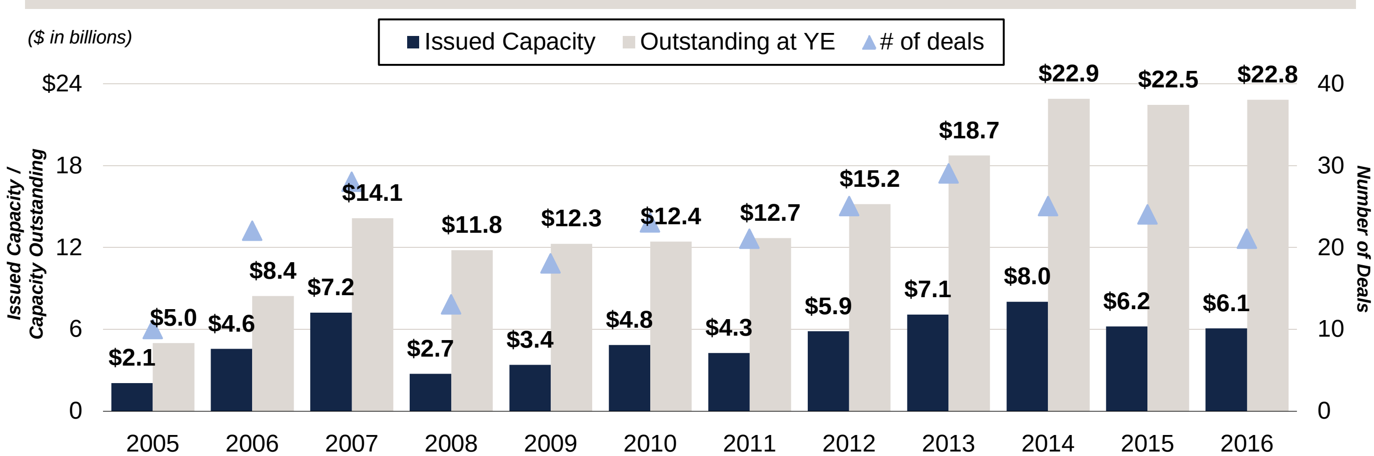



Source: WCMA Transaction Database as of 12/31/2016.
(a) In aggregate, 67% of all capacity outstanding exposed to U.S. Wind.
(b) In aggregate, 66% of all capacity outstanding exposed to U.S. Wind.

### Non-Life Cat Bond Issuance by Quarter (2012 – 2016)[c]



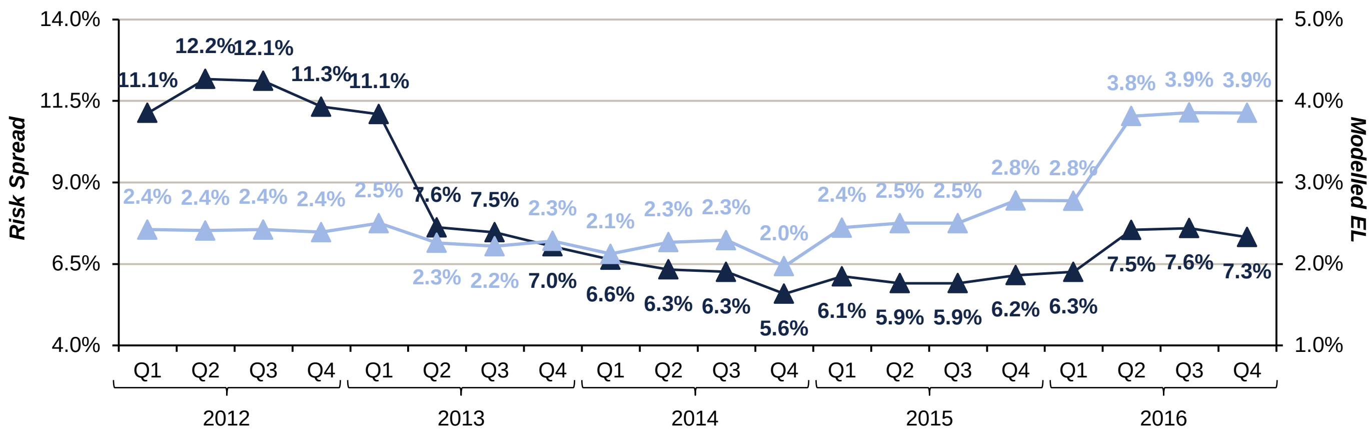

### Non-Life Capacity Issued and Outstanding by Year [c]



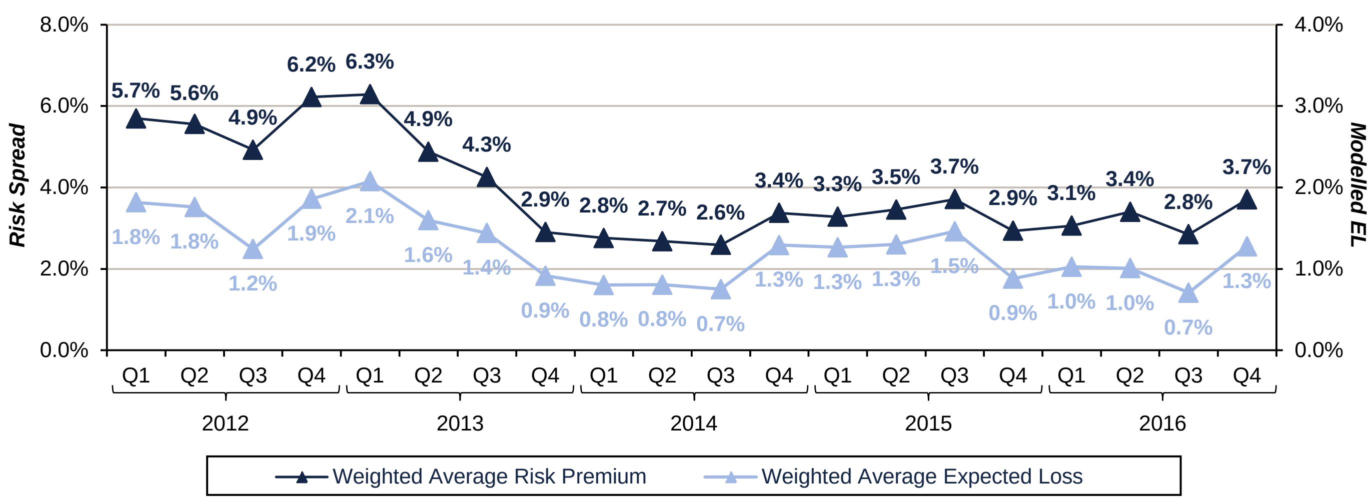

Source: WCMA Transaction Database as of 12/31/2016. Aggregate data excludes private ILS deals with a size smaller than $100 million.
(c) All issuance amounts reported in or converted to USD on date of issuance.

## Q4 2016 Cat Bond Market Statistics (Cont'd)

### 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 13/31/2016. Aggregate data excludes private ILS deals which, in some cases, have the potential for some of the liquidity present in more traditional underwritten Rule 144A cat bonds.
LTM = Last twelve months. Aggregate data is for primary issuance and does not reflect secondary trading.

## Secondary Market Trading Overview

***"Will the huge maturity schedule in early January dampen dreams of permanently wider spreads?"***

Investors have been singularly focused on keeping their money working and as a consequence the bid tone remained consistent throughout the quarter. Much of the trading understandably revolved around short dated paper with increased activity in December reflecting portfolio rebalancing. Investors gladly made room for the new primary issuances.

As 2016 came to a close market players assessed their portfolios and January 1st allocations, cash flows, and engaged in the usual banter as to whether Galilei Re represents wider spread or a deal size premium. The big question is: will the huge maturity schedule in early January dampen dreams of permanently wider spreads?

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