ILS Annual Report 2020

Alternative Capital: Growth Potential and Resilience

AON

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Foreword

It is my pleasure to bring to you the thirteenth edition of Aon Securities' annual Insurance-Linked Securities (ILS) report. The study aims to offer an authoritative review and analysis of the ILS asset class and related developments in the market.

This report is intended to be an important and useful reference document, both for ILS market participants and those with an active interest in the sector. Unless otherwise stated, its analyses cover the 12-month period ending June 30, 2020.

The ILS market was tested by a number of events again this year across Asia Pacific, Europe, the US, and Australia (e.g. Hagibis Faxai, Ampham, Sabine, Dorian, California wildfires & Australian bushfires), and the COVID-19 global pandemic. ILS markets have shown resilience, and record issuances in Q4, 2019 and Q1, 2020 in the period ending June 30, 2020.

In the period under review, $9 billion of catastrophe bond issuance was secured, an increase of $3.5 billion year on year. During this interesting time in the market, ILS capital in place has decreased from $93 billion at this time last year to $91 billion. By June 30, 2020, catastrophe bonds outstanding were $28.8 billion, 1.5% less than June 30, 2019.

The period under review witnessed both new sponsors and repeat issuers come to market, along with new geographical coverages and innovations in the cat bond market. Following a market slowdown in April due to COVID-19, the primary market resumed busy activity in May and June respectively, with anticipated busy pipeline activity for Q3 and Q4 2020.

Aon's Weather, Climate & Catastrophe Insight: 2019 Annual report states over the last decade, natural catastrophes resulted in economic losses of $2.98 trillion and insured losses of $845 billion, creating a protection gap of 72%.

2019 was a fairly average year of catastrophic losses, with a few notable exceptions. In calendar year 2019, there were $232 billion in economic losses, and $71 billion in insured losses globally, leaving the protection gap – the portion of economic losses not covered by insurance – of 69%. This divergence of economic and insured losses continues to demonstrate the global protection gap. The half year 2020 has been a relatively calm period, with only $75 billion in economic losses, which is 23% below the average since 2000. Though well below the average economic loss, total insured losses sit at $30 billion to date, approximately 8%, about the average since 2000.

The 2020 edition of this annual ILS report, **Growth Potential and Resilience**, covers a wide range of topics in the ILS market, including:

- Aon Securities' Annual Review of the Catastrophe Bond Market;
- A review of ILS Transaction activity;
- An overview of ILS-Related Markets, including trends in ILW, Sidecars, Private Placements, and Debt Offerings;
- Growth Areas within ILS;
- A review of North America, Europe, and Asia Pacific activity;
- A dedicated section on Catastrophe Bond Collateral Solutions; and
- Market Participant Questionnaire.

We hope you will find this report useful and informative, and if you have any questions relating to the data herein, or any queries regarding any aspect of the ILS sector, please contact me or my colleagues.

Paul Schultz,
Chief Executive Officer, Aon Securities LLC

Aon Securities' Annual Review of the Catastrophe Bond Market

Overview

The July 1, 2019 to June 30, 2020 year in review saw a strong return to growth in the catastrophe bond market after a slightly below average prior year. Apart from no issuances in Q3, 2019, each quarter saw consistent, strong issuances. For reference, there was a record Q4 issuance of $2.2 billion quickly followed by a record Q1 issuance of $4 billion.[1] These preceded the strong issuance in Q2 2020 of $2.8 billion, which was dampened by the effects of COVID-19, driving a temporary pause in primary issuances across the Insurance-Linked Securities market. In total, $9 billion was placed in the year in review including life and health.[2]

The year in review brought new sponsors along with repeat issuers, and the expansion of perils and geographies. Given that US hurricane risk is readily available in the ILS market, investors have focused on diversifying perils at any opportunity, offering much tighter margins to modeled losses on non-US risk.

A selection of a new sponsor and one new transaction during the period was:

Herbie Re's first issuance by Fidelis secured $125 million of second event cover for both named storms and earthquake, a four-year transaction structured to resemble a second event Industry Loss Warranty (ILW).

The World Bank's Philippines $225 million earthquake and cyclone first transaction. The Philippines was a previously unavailable region to the ILS market, so investors were interested at the opportunity to take on both typhoon and earthquake risk on a modeled loss basis.

We expect similar innovation to continue in the ILS market as the years progress, with perils like business interruption or cyber in the short to medium term.

A selection of repeat sponsors during the period were, the California Earthquake Authority (CEA) with a new vehicle, Sutter Re Ltd., which raised $700 million in its debut to cover the Class A and Class F tranches, providing 3 and 4-year earthquake cover. Marketing of this transaction along with a few others helped to re-open the market after a brief pause due to the start of the coronavirus in the US. The large issuance size of this transaction, the largest in 2020 to date, **has shown the resilience of the ILS markets**.

The Metropolitan Transportation Authority ("MTA") returned to the catastrophe bond market purchasing protection to mitigate the impacts of storm surge and earthquakes affecting New York City's public transportation system. The $100 million MetroCat Re Ltd. 2020-1 catastrophe bond was structured on a parametric basis.

Government sponsors like FONDEN who have gone from their first issuance of $160 million in 2006[3] are now consistently bringing large transactions to the market, like the $485 million IBRD CAR transaction[4] that is described in further detail below.

There is a shift in placement timing from the traditional flow of issuances where most capacity centers around Q2, with repeat sponsors like Allstate, State Farm and USAA leading the quarter and a number of domestic insurers specializing in Florida seeking capacity to aid with 6/1 placements to end the quarter. This timing shift is representative of the increasing value of the catastrophe bond market outside of the typical insurance and reinsurance sponsors.

We are now beginning to see innovation in our market to broaden the investment opportunities for investors. One such example being the Sierra Re Ltd. transaction, which provides Bayview Asset Management in-time capital in the event of a large Earthquake on the west coast or South Carolina.

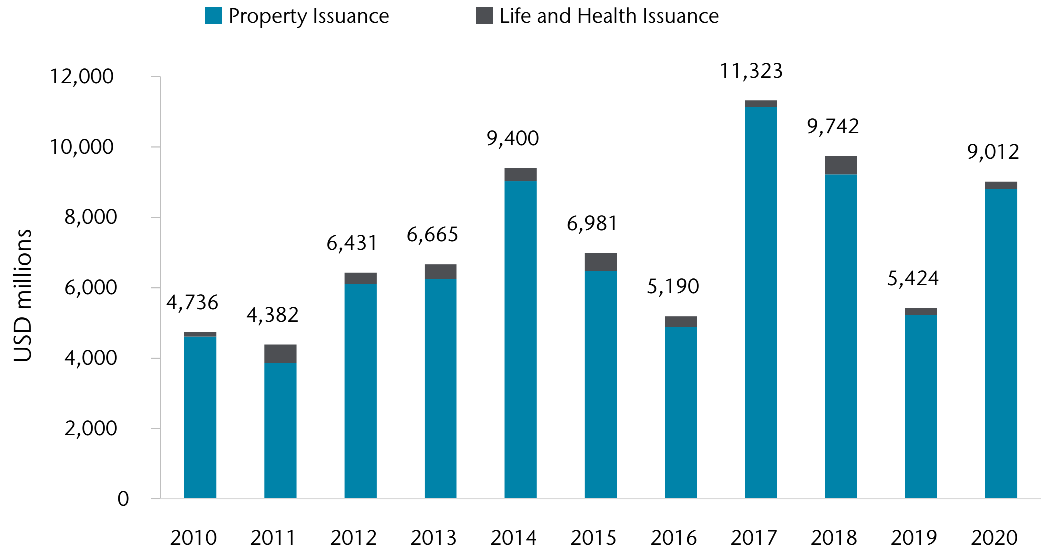
Another important highlight of the year was the resilience of the ILS market throughout the first few months of the COVID-19 pandemic. After a record first quarter, the catastrophe bond market paused with no issuances from the end of March until the end of April. The volatility in the equity and traditional debt markets drove capital providers' portfolio allocations away from their desired positions. The strong performance of the uncorrelated assets made this market a source of fresh capital to take advantage of distressed asset valuations. The ILS market reacted positively, with capital meeting selling pressure, driving only modest price movements, even at the very worst of the market. This has been especially promising, in comparison to the traditional markets, which did see more than modest hardening.

1 Aon Securities ILS Database
2 Aon Securities ILS Database
3 Artemis: *Cat-Mex Ltd.*
4 Artemis: IBRD / FONDEN *2020*

The movements in this market as compared to other asset classes have re-demonstrated the value in this market that was proven in the 2008 Financial Crisis and 2010 - 2012 European Debt Crisis. The fundamentals of this asset class have not changed and the characteristics of the out performance in this market versus comparable markets were well received by investors.

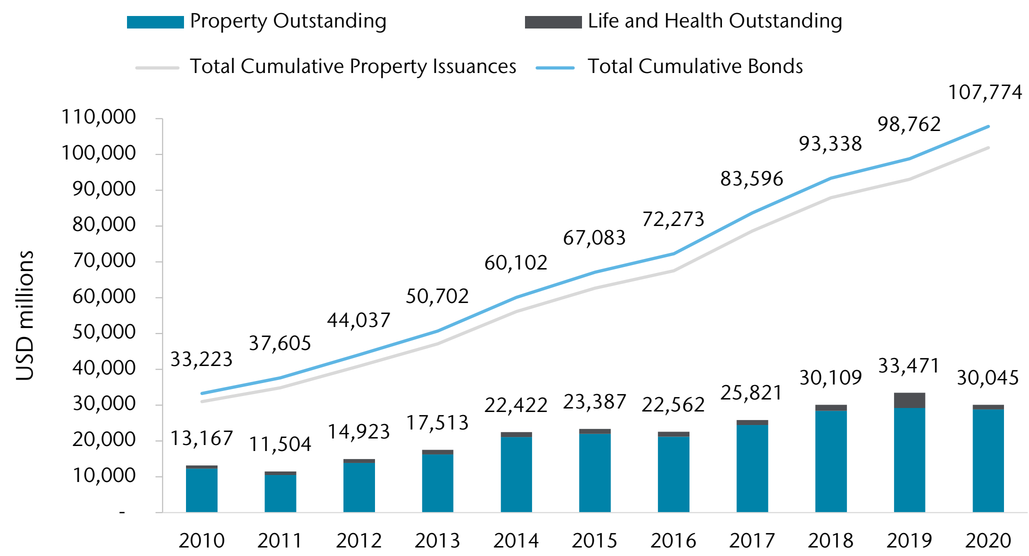
There is still considerable uncertainty across the globe to date, but we see the catastrophe bond market in a strong position. Hardening in the traditional market will drive ILS issuance on a case by case basis as we move forward. Capital inflows will depend on broader financial systems, but with equity and debt markets pricing close to pre-crisis levels in some cases and with a prolonged low interest rate environment, the demonstrated value of the ILS markets will drive capital to this market.

Exhibit 1: Catastrophe bond issuance by year, 2010 to 2020 (years ending June 30)



Source: Aon Securities LLC

Exhibit 2: Outstanding and cumulative catastrophe bond volume, 2010 to 2020 (years ending June 30)



Source: Aon Securities LLC

Issuer Domicile Summary

Bermuda continued to be the preferred issuer domicile for the 12-month period as 21 issuances used the jurisdiction, with the Cayman Islands only accounting for four and Ireland three of the 35 new issues. However, the ILS grant scheme introduced by The Monetary Authority of Singapore (MAS) in February 2018 facilitated five issuances out of this new jurisdiction. Overall, as was the case in the prior year review, the expertise in Bermuda continued to attract issuer domiciliation, suggesting a favourable outlook for Bermuda service providers, banks, and the Bermuda Stock Exchange. However, small issuers will continue to support the Singapore domicile as long as the grant scheme exists given the large benefit from a total cost perspective for transactions that are around $100 million or smaller.

Global Catastrophic Loss Activity in H2 2019 and H1 2020

(Source: Impact Forecasting)

H2 2019

2019 marked a fairly average year of catastrophic losses, with a few notable exceptions. In calendar year 2019, there were $232 billion in economic losses, which is 3% below the 20-year average and $71 billion in insured losses, which is 6% above the 20-year average.[5] This divergence of economic to insured losses helps demonstrate the closing protection gap that exists.

The largest drivers of loss in the second half of 2019 were Typhoon Hagibis and Typhoon Faxai, which caused $15 billion and $10 billion in economic losses, respectively and $9 billion and $6 billion in insured losses, respectively. Also notable was Hurricane Dorian as it was the strongest landfalling storm on record in the Atlantic Ocean at 185mph. Dorian caused $10 billion in economic losses – around $3.5 billion in insured losses.[6]

Though not as strong as the prior two years, there was an elevated year of wildfire losses, due, in part, to a number of large fires in the US, with the Kincade fire burning 77,758 acres and the Walker fire burning 54,612 acres.[7] Outside of the US, bushfires in Australia from November 2019 into January 2020 were some of the country's most expensive on record, exceeding the $1 billion economic damage mark, even being in relatively remote areas.[8]

H1 2020

From a property catastrophe perspective, 2020 has been a relatively calm year, with only $75 billion in economic losses, which is 23% below the 20-year average.[9] Though well below the average economic loss, total insured losses sit at $30 billion to date, which is 8%, about the average since 2000.[10]

Severe Weather in North America was the main driver of losses. Notable, the Calgary Hailstorm was the costliest hailstorm on record for Canadian insurers. There were also 10 severe weather events that caused more than 1 billion in losses in the US. Across Europe, there were 11 notable windstorm events, driving above-average seasonal losses. In Asia, Cyclones and flooding in China drove over $20 billion in losses.[11]

There were only 2 events that caused a greater than $5 billion economic loss in the first half of 2020. The highest by far was Cyclone Amphan in the Bay of Bengal, driving $15 billion in losses. Trailing behind at $5.6 billion were seasonal monsoon floods in China.

5 Impact Forecasting: *Weather, Climate & Catastrophe Insight*. Pg 1
6 Impact Forecasting: *Weather, Climate & Catastrophe Insight*. Pg 2
7 Cal Fire *2019 Incident Archive: https://www.fire.ca.gov/incidents/2019/*
8 Impact Forecasting: *Weather, Climate & Catastrophe Insight*. Pg 9
9 Impact Forecasting: *Global Catastrophe Recap: First Half of 2020. Pg 2*
10 Impact Forecasting: *Global Catastrophe Recap: First Half of 2020. Pg 2*
11 Impact Forecasting: *Global Catastrophe Recap: First Half of 2020. Pg 2*

Catastrophe Bond Transaction Review by Quarter

H2 2019

Galileo Re Ltd. 2019-1

In December 2019, XL Insurance (Bermuda) ("XL") brought their fifth transaction in four years through the Galileo Re Ltd. vehicle. Concurrent with their prior transactions, the 2019-1 Notes provide annual aggregate coverage to US Named Storms, Earthquakes and Severe Thunderstorms; Europe Windstorms and Australia Tropical Cyclones and Earthquakes on an Industry Index basis using PCS and PERILS as the reporting source. This transaction helped XL to replace the maturing capacity from the Galilei 2016-1 Notes. Though XL went out with 5 classes of notes, they were opportunistic about which they wanted to place, leading to only 3 classes being issued. All covering the same perils, the Class A Notes with an 8.64% EL raised $75 million at 15.75%, the Class C Notes raised $250 million with a 3.99% EL at 9.25% and the Class D Notes raised $150 million with a 2.86% EL at 7.45%.

Kilimanjaro Re Ltd. 2019-1 and Kilimanjaro Re Ltd. 2019-2

Everest came back to market in the second half of 2019 with their 6th catastrophe bond issuance as their 2014 and 2015 placements came off risk. Rather than splitting out perils, all classes included both hurricane and earthquake coverage in the U.S., Puerto Rico, U.S. Virgin Islands and Canada. The classes were split between per occurrence coverage and aggregate coverage on an industry index basis. To help smooth the pricing cycle, these notes were offered across two series, one with a four-year term and one with a five-year term. These transactions help Everest to reach $2.6 billion in ILS capacity outstanding.

World Bank's Philippines Transaction

In their first transaction, the World Bank and the Republic of the Philippines brought forth a catastrophe bond in November of 2019. This bond brought the Philippines as a new covered geography into the ILS market, for both Typhoon and Earthquake events. The World Bank utilized the new ILS framework available in Singapore for the transaction, demonstrating the value that an Asian domicile can provide certain sponsors who might have difficulty connecting promptly with a domicile like Bermuda or the Caymans. This transaction was also unique in their use of a modeled loss trigger. Using data provided by sources like the USGS and Japan Meteorological Agency ("JMA"), AIR provides a view of industry losses that trigger each note in a scaled fashion. Both Classes of Notes had the same expected loss at 3.00% and priced in similar ranges – the Earthquake at 5.50% for $75 million of coverage and the Typhoon at 5.65% for $150 million of coverage.

Exhibit 3: Q4 2019 catastrophe bond issuance

Beneficiary	Issuer	Series	Class	Size (millions)	Covered perils	Trigger	Recovery	Collateral
Covea Group	Hexagon II Reinsurance DAC	Series 2019-1	Class A	$134.04	EU Wind, Other Event	Indemnity	Occurrence	EBRD
Republic of the Philippines	IBRD CAR	Series 123	Class A	$75.00	Philippines Earthquake	Modeled Loss	Occurrence	IBRD
		Series 124	Class B	$150.00	Philippines Tropical Cyclone	Modeled Loss	Occurrence	IBRD
United Services Automobile Association	Residential Reinsurance 2019 Limited	Series 2019-2	Class 1	$50.00	US TC, EQ, WS, ST, WF, VE, MI, OP	Indemnity	Occurrence	MMF
			Class 2	$110.00	US TC, EQ, WS, ST, WF, VE, MI, OP	Indemnity	Occurrence	MMF
California Earthquake Authority	Ursa Re Ltd.	Series 2019-1	Class C	$400.00	CAL EQ	Indemnity	Annual Aggregate	MMF

Exhibit 3: continued

Beneficiary	Issuer	Series	Class	Size (millions)	Covered perils	Trigger	Recovery	Collateral
AXA XL	Galileo Re Ltd.	Series 2019-1	Class A	$75.00	US HU, EQ, ST, EU Wind, AU TC, EQ	Industry Index	Annual Aggregate	MMF
			Class C	$250.00	US HU, EQ, ST, EU Wind, AU TC, EQ	Industry Index	Annual Aggregate	MMF
			Class D	$150.00	US HU, EQ, ST, EU Wind, AU TC, EQ	Industry Index	Annual Aggregate	MMF
Everest Reinsurance Company	Kilimanjaro III Re Ltd.	Series 2019-1	Class A-1	$150.00	US, CAN, PR, VI HU and EQ	Industry Index	Occurrence	MMF
		Series 2019-1	Class B-1	$275.00	US, CAN, PR, VI HU and EQ	Industry Index	Annual Aggregate	MMF
		Series 2019-2	Class A-2	$150.00	US, CAN, PR, VI HU and EQ	Industry Index	Occurrence	MMF
		Series 2019-2	Class B-2	$275.00	US, CAN, PR, VI HU and EQ	Industry Index	Annual Aggregate	MMF
Total				**$2,244.04**				

Source: Aon Securities LLC

Q1 2020

Sierra Re Ltd. 2020-1
Starting off the year with a unique issuance was Bayview Asset Management with their $225 million issuance, Sierra Re Ltd. 2020-1. Bayview Asset Management is an investment management firm focused on investments in mortgage credit, including whole loans, mortgage-backed securities, mortgage servicing rights and other mortgage related assets. Because of this pool of risks, some of Bayview's mortgage assets may be susceptible to earthquakes potentially delaying the uninsured borrowers repaying their mortgage loans on time. This parametric coverage will help provide unallocated recoveries to Bayview that can be used in the event of an earthquake driving losses to their NAV. The transaction has two classes, a 0.79% and 2.71% EL that priced for 3.25% and 5.75%, respectively for west coast and South Carolina earthquake risk.

Mona Lisa Re Ltd. 2020-1
In January of 2020, Renaissance Reinsurance Limited and DaVinci Reinsurance Ltd. brought the second issuance of 144A Notes for Mona Lisa Re Ltd to market. These notes provide protection on an annual aggregate or occurrence basis for Named Storm across the U.S., the District of Columbia, Puerto Rico and the U.S. Virgin Islands and North America Earthquake across the U.S., the District of Columbia, Puerto Rico, the U.S. Virgin Islands and Canada. Strong investor demand allowed the class A notes to upsize by two-thirds and both to price at the bottom of guidance.

Caelus Re VI Limited 2020-1 and Caelus Re VI Limited 2020-2
In February of 2020, Nationwide came back to the market after a year gap to replace their expiring capacity and successfully raised $490 million through a new Caymans vehicle, Caelus Re VI limited. Nationwide, similar to other tenured sponsors has remained dedicated to this domicile even as most others made the move to Bermuda. The issuance was offered in two series, across five tranches. Each Series covers Named Storm, Earthquake, Severe Thunderstorm, Winter Storm, Wildfire, Volcanic Eruption, Meteorite Impact and Other Peril across the 50 States of the United States. Nationwide Mutual Insurance Company has been a strong participant in the alternative capital market, issuing over $2 billion since 2008 across 8 transactions.

FONDEN 2020
In their fifth issuance since 2006, FONDEN came to market with the World Bank to issue $485 million over four single-peril classes, two covering Earthquake, one covering Atlantic and one Pacific Named Storm on a parametric basis. FONDEN's consistent transactions over the years have offered a great source of diversification as they cover Mexico perils that are not covered by any other sponsor in the market. This benefits FONDEN, who has found the extra capacity priced well enough to continue supporting the market and the investor base who has found these transactions to be attractive even after 2 losses to the bonds in the past decade.

Exhibit 4: Q1 2020 catastrophe bond issuance

Beneficiary	Issuer	Series	Class	Size (millions)	Covered perils	Trigger	Recovery	Collateral
Bayview MSR Opportunity Master Fund, L.P.	Sierra Ltd.	Series 2019-1	Class A	$150.00	US, EQ, CA, WA, OR, SC	Parametric	Occurrence	MMF
		Series 2019-1	Class B	$75.00	US, EQ, CA, WA, OR, SC	Parametric	Occurrence	MMF
Swiss Reinsurance Company Ltd.	Mattherhorn Re Ltd.	Series 2020-1	Class A	$175.00	US, NS, CT, DE, DC, ME, MD, MA, NH, NJ,NY, PA, RI, VT, VA	Industry Index	Occurrence	MMF
		Series 2020-1	Class B	$175.00	US, NS, AL, CT, DE, DC, FL, GA, LA, ME, MD, MA, MS, NH, NJ,NY, NC, PA, PR, RI, VT, VA	Industry Index	Occurrence	MMF
Renaissance Reinsurance Ltd. & DaVinci Reinsurance Ltd.	Mona Lisa Re Ltd.	Series 2020-1	Class A	$250.00	NS: US, DC, PR USVI; EQ: US, DC, Canada, PR, USVI	Industry Index	Annual Aggregate	MMF
		Series 2020-1	Class B	$150.00	NS: US, DC, PR USVI; EQ: US, DC, Canada, PR, USVI	Industry Index	Occurrence	MMF
Hannover Rück SE	3264 Re Ltd.	Series 2020-1	Class A	$150.00	NS, US, DC, EQ, EU Wind	Industry Index	Annual Aggregate	MMF
Aetna Life Insurance Company	Vitality Re XI Limited	Series 2020	Class A	$140.00	US MBR	Indemnity	Annual Aggregate	MMF
		Series 2020	Class B	$60.00	US MBR	Indemnity	Annual Aggregate	MMF
Markel Bermuda Limited	Stratosphere Re. Ltd.	Series 2020-1	Class A	$100.00	NS, EQ, SCS, WS	Indemnity	Annual Aggregate	MMF
National Mutual Insurance Federation of Agricultural Cooperatives (Known as "Zenkyoren")	Nakama Re Ltd.	Series 2020-1	Class 1	$200.00	JP EQ	Indemnity	3-Year Aggregate	MMF
Swiss Reinsurance Company Ltd.	Mattherhorn Re Ltd.	Series 2020-2	Class A	$80.00	CT, DE, DC, ME, MA, NH, NJ, NY, PA, RI, VT, VA, WV NS, RMD	Industry Index	Occurrence	MMF
		Series 2020-2	Class B	$175.00	CT, DE, DC, ME, MA, NH, NJ, NY, PA, RI, VT, VA, WV EQ	Industry Index	Occurrence	MMF
American Strategic Insurance Group	Bonanza Re Ltd.	Series 2020-1	Class A	$200.00	NS, WS, WF, EQ, ST	Indemnity	Occurrence	MMF
Federal Emergency Management Agency	FloodSmart Re Ltd.	Series 2020-1	Class A	$300.00	US, DC, PR, VI: FL	Indemnity	Occurrence	MMF
		Series 2020-2	Class B	$100.00	US, DC, PR, VI: FL	Indemnity	Occurrence	MMF

Exhibit 4: continued

Beneficiary	Issuer	Series	Class	Size (millions)	Covered perils	Trigger	Recovery	Collateral
Nationwide Mutual Insurance Company	Caelus Re VI Limited	Series 2020-1	Class A-1	$150.00	US NS, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Occurrence	MMF
		Series 2020-1	Class B-1	$150.00	US NS, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Occurrence	MMF
		Series 2020-2	Class A-2	$75.00	US NS, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Annual Aggregate	MMF
		Series 2020-2	Class B-2	$75.00	US NS, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Annual Aggregate	MMF
		Series 2020-2	Class C-2	$40.00	US NS, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Annual Aggregate	MMF
The Fund for Natural Disasters	IBRD CAR	Series 125	Class A	$175.00	Mexico EQ	Parametric	Occurrence	IBRD
		Series 126	Class B	$60.00	Mexico EQ	Parametric	Occurrence	IBRD
		Series 127	Class C	$125.00	Atlantic NS	Parametric	Occurrence	IBRD
		Series 128	Class D	$125.00	Pacific NS	Parametric	Occurrence	IBRD
Mitsui Sumitomo Insurance Co., Ltd	Akibare Re Pte Ltd.	Series 2020-1	Class A	$100.00	JP TY, FL	Indemnity	Occurrence	MMF
American Integrity Insurance Company of Florida	Integrity Re II Pte. Ltd.	Series 2020-1	Class A	$150.00	FL NS	Indemnity	Occurrence - Cascading	IBRD
Allstate Insurance Company	Sanders Re II Ltd.	Series 2020-1	Class A	$150.00	DC and US (ex. FL) NS, EQ, SW, Fire, OP	Indemnity	Occurrence	MMF
		Series 2020-1	Class B	$100.00	DC and US (ex. FL) NS, EQ, SW, Fire, OP	Indemnity	Occurrence & Agg	MMF
Total				**$3,955.00**				

Source: Aon Securities LLC

Q2 2020

Sutter Re Ltd. 2020-1 and Sutter Re Ltd. 2020-2

The CEA looked to revamp their catastrophe bond program with a new vehicle, Sutter Re Ltd. This is their first new vehicle since the incorporation of Ursa Re Ltd. in 2014. This transaction marks the CEA's 11th transaction in the 144A market through their third vehicle. Sutter Re Ltd. was able to raise $700 million in its debut to cover the dual Class A and Class F tranches providing 3 and 4 year earthquake cover, funding on May 15, and May 28, 2020 respectively. Strong demand led to a 75% upsizing, from an initial marketing goal of $400 million. Marketing of this transaction along with a few others helped to re-open the market after a brief pause due to the start of the coronavirus in the US, driving volatility in the equity and traditional capital markets. The large issuance size of this transaction, the largest in 2020 to date, has shown the resilience of the ILS markets.

MetroCat Re Ltd. 2020-1

The Metropolitan Transportation Authority ("MTA") returned to the catastrophe bond market for its third transaction through its captive insurance company and subsidiary, First Mutual Assurance Company ("FMTAC"), purchasing protection to mitigate the impacts of storm surge and earthquakes affecting New York City's public transportation system. The $100 million MetroCat Re Ltd. Series 2020-1 catastrophe bond was structured on a parametric basis. The transaction provides a full pay-out to the MTA if calculated index values based on storm surge heights or earthquake spectral acceleration surpasses pre-determined trigger levels at designated measuring stations throughout New York City, and the immediately surrounding area.

Herbie Re Ltd. 2020-1

Herbie Re Ltd. marks Fidelis' debut in the catastrophe bond market, with $125 million raised to cover industry index-based losses from Named Storms and Earthquakes in the U.S., U.S. Virgin Islands and Puerto Rico. The four-year transaction was structured to resemble a second event Industry Loss Warranty (ILW), with a binary trigger following the occurrence of two qualifying events, each with a date of loss within the same annual risk period, designed to provide horizontal protection against multiple large events the same year.

Source: Aon Q2, 2020 Quarterly report

Exhibit 5: Q2 2020 catastrophe bond issuance

Beneficiary	Issuer	Series	Class	Size (millions)	Covered perils	Trigger	Recovery	Collateral
SCOR Global P&C SE	Atlas Capital Reinsurance 2020 DAC	Series 2020-1	-	$200.00	NS & EQ: US, DC, PR, VI, Can	Industry Index	Annual Aggregate	MMF
Swiss Reinsurance Company Ltd.	Matterhorn Re Ltd.	Series 2020-3	Class A	$110.00	NS: AL, CT, DE, DC, FL, GA, LA, ME, MD, MA, MS, NH, NJ, NY, NC, PA, PR, RI, SC, TX, VE, VA	Industry Index	Occurrence	MMF
Swiss Reinsurance Company Ltd.	Matterhorn Re Ltd.	Series 2020-3	Class C	$105.00	NS: AL, CT, DE, DC, FL, GA, LA, ME, MD, MA, MS, NH, NJ, NY, NC, PA, PR, RI, SC, TX, VE, VA	Industry Index	Occurrence	MMF

Exhibit 5: continued

Beneficiary	Issuer	Series	Class	Size (millions)	Covered perils	Trigger	Recovery	Collateral
Louisiana Citizens Property Insurance Corporation	Catahoula Re Pte. Ltd.	Series 2020-1	Class A	$60.00	LA HU, ST	Indemnity	Occurrence	IBRD
First Mutual Transportation Assurance Company, a subsidiary of the MTA	MetroCat Re Ltd.	Series 2020-1	Class A	$100.00	NY Storm Surge & EQ, HU	Parametric Index	Occurrence	MMF
Citizens Property Insurance Coporation	Everglades Re II Ltd.	Series 2020-1	Class A	$110.00	FL HU	Indemnity	Annual Aggregate	MMF
California Earthquake Authority	Sutter Re Ltd.	Series 2020-1	Class A	$200.00	CAL EQ	Indemnity	Annual Aggregate	MMF
California Earthquake Authority	Sutter Re Ltd.	Seires 2020-1	Class F	$135.00	CAL EQ	Indemnity	Annual Aggregate	MMF
California Earthquake Authority	Sutter Re Ltd.	Series 2020-1	Class A	$215.00	CAL EQ	Indemnity	Annual Aggregate	MMF
California Earthquake Authority	Sutter Re Ltd.	Seires 2020-1	Class F	$150.00	CAL EQ	Indemnity	Annual Aggregate	MMF
Castle Key Insurance Company and Castle Key Indemnity Company	Sanders Re II Ltd.	Series 2020-2	Class A	$200.00	FL HU, EQ, ST, VE, MI, Fire	Indemnity	Occurrence	MMF
State Farm Fire and Casualty Company	Merna Re II Ltd.	Series 2020-1	Class A	$250.00	AL, AR, IL, KY, MI, MO, OH, OK, WI, IN, LA, MS, TN EQ and Fire Following	Indemnity	Occurrence	MMF
United Services Automobile Association	Residential Reinsurance 2020 Limited	Series 2020-I	Class 13	$100.00	US TC, EQ, WS, ST, WF, VE, MI, OP	Indemnity	Annual Aggregate	MMF
Texas Windstorm Insurance Association	Alamo Re II Pte. Ltd.	Series 2020-1	Class A	$400.00	TX NS, ST	Indemnity	Annual Aggregate	MMF
Avatar Property and Casualty Insurance Company	Casablanca Re Pte. Ltd.	Series 2020-1	Class A	$40.00	FL HU	Indemnity	Occurrence	MMF

Exhibit 5: continued

Beneficiary	Issuer	Series	Class	Size (millions)	Covered perils	Trigger	Recovery	Collateral
Avatar Property and Casualty Insurance Company	Casablanca Re Pte. Ltd.	Series 2020-1	Class B	$25.00	FL HU	Indemnity	Occurrence	MMF
Fidelis Insurance Bermuda Limited	Herbie Re Ltd.	Series 2020-1	Class A	$125.00	US, PR, USVI: NS or EQ	Industry Index	Occurrence	MMF
Allianz Risk Transfer (Bermuda) Limited	Blue Halo Re Ltd.	Series 2020-1	Class A	$150.00	US HU	Industry Index	Annual Aggregate	MMF
Allianz Risk Transfer (Bermuda) Limited	Blue Halo Re Ltd.	Series 2020-1	Class B	$25.00	US HU	Industry Index	Annual Aggregate	MMF
Achmea Reinsurance Company N.V.	Windmill II Re DAC	Series 2020-1	Class A	$113.00	EU WS	Indemnity	Occurrence	EBRD
Total				**$2,813.00**				

Source: Aon Securities LLC

Secondary Market Overview

Q3 2019

Secondary cat bonds spreads were fairly volatile at the start of 2019, but post 6/1 renewals, spreads began tightening as issuance slowed and investors looked to put their remaining cash to work. Albeit on limited volume, we saw the slow rise in prices continue through most of the quarter although a majority were still trading below par. We even saw prices of US wind bonds increase in opposition to the effects of seasonality, as the quarter concluded.

Q4 2019

The fourth quarter started with a steady stream of secondary trading, however, once the primary market opened up in mid-November, the secondary market saw a significant reduction in activity. Towards the end of the quarter, spreads remained fairly stable to slightly wider.

Q1 2020

With continued heavy volume from the primary market, trading volume remained slow as investors kept their attention on the busy issuance pipeline, which eventually brought to market approximately $6bn of capacity over both Q4 2019 and Q1 2020. Trading activity gradually picked up but saw little spread movement until the initial outbreak of COVID-19 in March. As the quarter neared its conclusion, the market saw EL multiples widen towards levels reminiscent to 2013 as some investors sold in bulk to reallocate to other opportunities away from ILS.

Q2 2020

Due to a busy primary issuance pipeline and some redemptions, secondary spreads rebounded moderately over the course of the quarter, although not able to make a full recovery from the spread widening due to COVID-19. Towards the end of the quarter, the secondary market had been rejuvenated as the new issuance pipeline dried up with the start of wind season and investors looked to put any remaining unencumbered cash to work.

COVID-19

The COVID-19 pandemic has had a significant impact on the global economy and our daily lives. However, compared to the initial financial market disruption and the day to day disruptions, the impact on the ILS market has been relatively benign. While the full impact of the outbreak is still uncertain, it's influence on the ILS market has been centered on two main areas:

- Similar to the 2008 financial market disruption, the ILS market has again proven resilient.
- The increased economic and financial market uncertainty has caused risk takers to value their capital more, leading to a higher cost of risk capital and a renewed focus on underwriting discipline.

While financial markets have rapidly recovered, the initial market volatility was staggering. Within the first four minutes of opening on March 9th, the S&P plunged 7% triggering a circuit breaker for the first time since the financial crisis of 2007–08 and halted trading for 15 minutes. Financial markets worldwide followed, and the yield on 10-year and 30-year U.S. Treasury securities hit new record lows, with the 30-year yield falling below 1% for the first time in history. In the face of this worldwide market disruption, the ILS market remained orderly and secondary bid/offer levels remained reasonable. Similar to the 2008 crisis, the ILS market was generally isolated from the broader financial market disruption. Today, assuming the worst of this crisis is behind us, we expect to see ILS managers leverage the strong ILS performance demonstrated during this crisis in an effort to further grow AUM and the overall ILS market in the years to come.

While the ILS market has remained orderly, the broader economic uncertainty as well as the uncertainty around COVID-19 exposures and losses have caused the overall risk transfer market to be more cautious, leading to some additional rate increases in what was an already hardening market. That being said, this pandemic has caused some reflection among ILS managers and their end investors, leading to an increased focus on underwriting discipline and structure, including: peril definitions, exclusion language, collateral investments and collateral release provisions. This disciplined approach to structure and capital deployment is likely to only further enhance and protect the value of ILS during a pandemic or other financial market disruption.

While it is still too early to gauge the full impact of COVID-19, we expect the continued resilience of the ILS market to lead to further market growth as it did following the 2008 crisis. Unlike post-2008, however, we expect there to be additional emphasis on liquidity leading to more growth in liquid investment strategies.

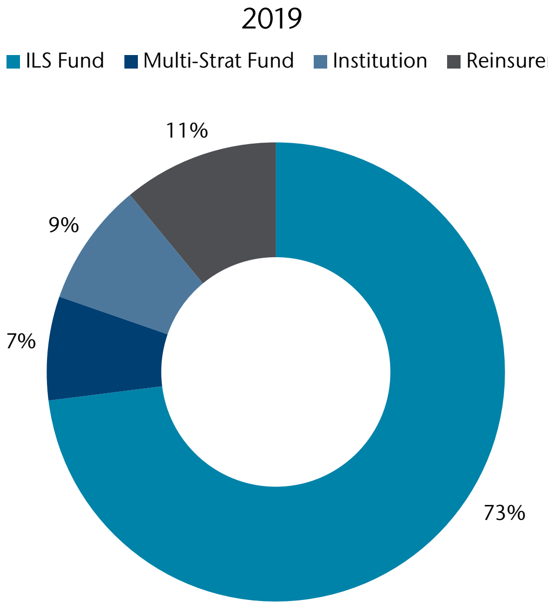
Sources: Bloomberg, CNBC

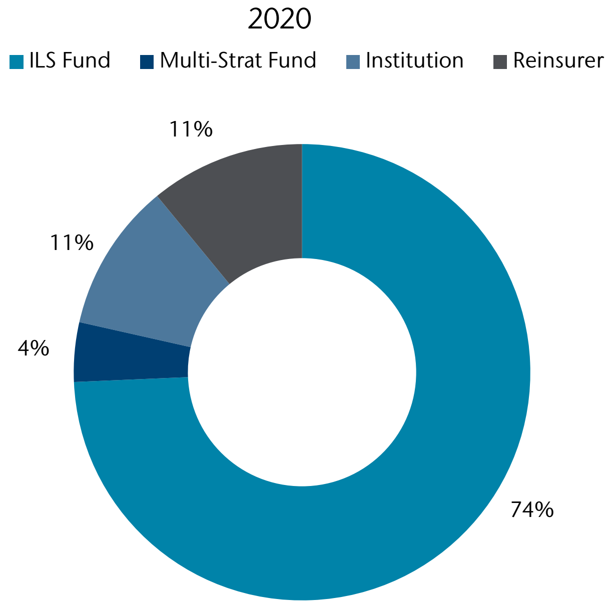
ILS Transaction Activity

Capital Providers

As of June 30, 2020, Institutional Investors saw their level of contribution increase back to historical levels following a small decrease in 2019 while ILS Funds recorded a marginal annual increase from 73 to 74 percent. Together, the two provided 85 percent of total capacity for new issuances brought to market by Aon Securities year-to-date. Reinsurers saw no change in market share following last year's growth while Multi-Strategy Funds' participation decreased in 2020. This decrease may be attributed to the decrease in average Expected Loss and average spread on the transactions issued in 2020 as some Multi-Strat investors prefer riskier, higher-yielding classes of notes. Overall, the ILS market keeps attracting a wide range of investor profiles.

Exhibit 6a and 6b: Investors by category (years ending June 30)



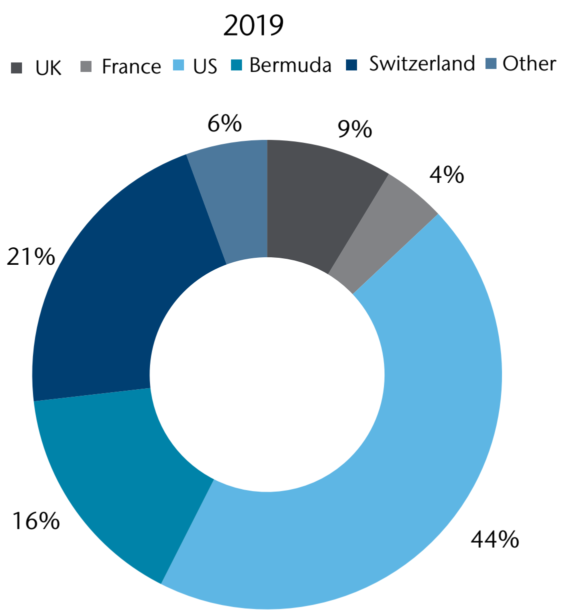


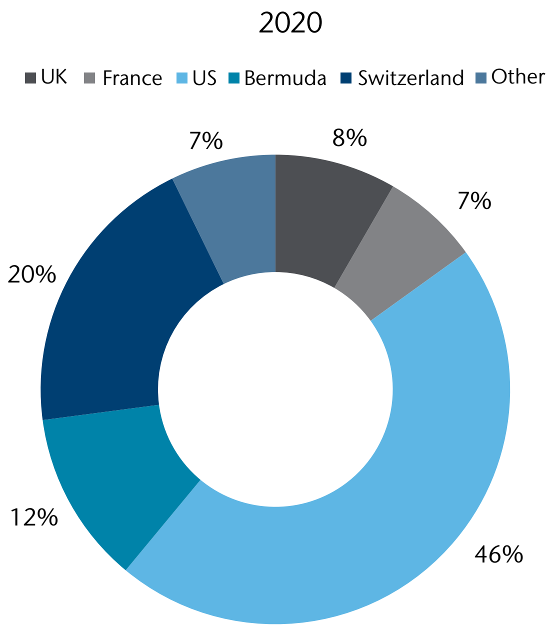
Source: Aon Securities LLC

Capital Sources

Apart from France and Bermuda, the overall geographic mix of catastrophe bond investors varied marginally compared to 2019. At 46 percent, the U.S. remains the main direct source of capital for the ILS market. France saw its participation nearly double, nearly back to its 2018 level, while Bermuda recorded a decrease, down to 12 percent. The "Other" category marginally increased by a percentage point, reaffirming the interest from various countries such as Sweden, Canada, Germany, and Japan. The rate environment post COVID-19 outbreak has led to some investors to return to the ILS market as spreads on new issuances have widened and become more attractive.

Exhibit 7a and 7b: Investors by country/region (years ending June 30)





Source: Aon Securities LLC

Aon ILS Indices

The Aon ILS Indices are calculated by Bloomberg using month-end price data provided by Aon Securities. In a year with very few significant catastrophic losses and slightly increased spreads, the All Bond index was able to post an 8.40 percent return during the 12 months ending June 30, 2020, while the US Hurricane index posted a return of 8.84 percent. With only the Peru earthquake in May of 2019 causing losses to the All bond index and the absence of any major US hurricanes, both indices were able to post returns well ahead of both their 5-year and 10-year averages. Neither of the indices are exposed to Life and Health bonds, so the losses of the IBRD CAR 111 and IBDR CAR 112 notes as a result of the pandemic did not affect either of the annual return figures. Both Indices outperformed comparable fixed income and equity benchmarks for the 12-month period as COVID-19 led to large losses in many other markets.

The Aon ILS index and the Aon US Hurricane index saw two dips over the past four quarters, but both corrected shortly after. The first decline was due to the expectation that hurricane Dorian, one of the most powerful hurricanes ever recorded in the Atlantic Ocean, would be making landfall in Florida. Towards the end of August, the storm ravished the Bahamas and forecasters believed this category 5 hurricane would soon be passing through Miami-Dade County. Although there were very few trades during this time, bonds with exposure to US Wind were marked down, explaining the 2.9% loss for ILS Index in the month of August. After Dorian travelled up the coast avoiding significant insured losses, prices recovered immediately, and the month of September saw a 5% gain, making up for the write-downs in August while adding back the accrued interest and increased value produced over the two months.

The second dip occurred after the initial outbreak of COVID-19. As the Aon Index only tracks Property and Casualty Cat Bonds, the dip was driven by a minor sell-off by the market in March. Several other markets experienced severe volatility in the months of March and April, but the ILS Market's resilience and stability were highlighted yet again. Due to the asset class' low correlation to traditional markets, the Aon ILS Indices were able to outperform most other popular benchmarks in the face of economic uncertainties similar to those experienced during the Financial Crisis of 2008. Although the ILS Index experienced a small loss, it outperformed most other markets, as shown below:

Exhibit 8: ILS resilience versus other asset classes

Event	Return Period[1]	ILS	S&P 500	High Yield	CMBS	ABS	Hedge Fund
Financial Crisis	Jul 2008 - Feb 2009	-2.60%	-41.50%	-12.90%	-12.90%	-11.00%	-21.90%
COVID-19	Feb 2020 - April 2020	-0.80%	-19.90%	-10.20%	-3.00%	-8.50%	-7.20%

[1] The periods chosen were based upon research and assessment, as explicit start and end dates for these events were not available. To a certain extent, the start and end dates of such events are subjective as different sources may suggest different date ranges, leading to different performance figures.

Source: Aon Securities LLC and Bloomberg

The annual return for all Aon ILS Indices increased for the second year in a row. The 5 and 10-year average annual return of the Aon All Bond Index—5.24 and 6.41 percent respectively—compare well to other fixed income benchmarks. Only the S&P 500 has greater returns for the respective periods which is impressive given the catastrophic events that occurred in 2017 and 2018 that resulted in two years of diminished returns. On our list of comparables, no other index outperformed the Aon Indices for the year and we continue to believe that there is a strong benefit to adding a diversified book of pure insurance risks to an investors' portfolio, especially due to the low volatility of the asset class.

Both the equity and fixed income markets experienced growth with increased volatility during the 12 months ending June 30, 2020. At the beginning of the period, both markets continued to grow following the prior expansive year. The most volatile benchmark from our list of comparable indices, the S&P 500 Index, again achieved the highest return over the period, ending the year with return of 5.39 percent.

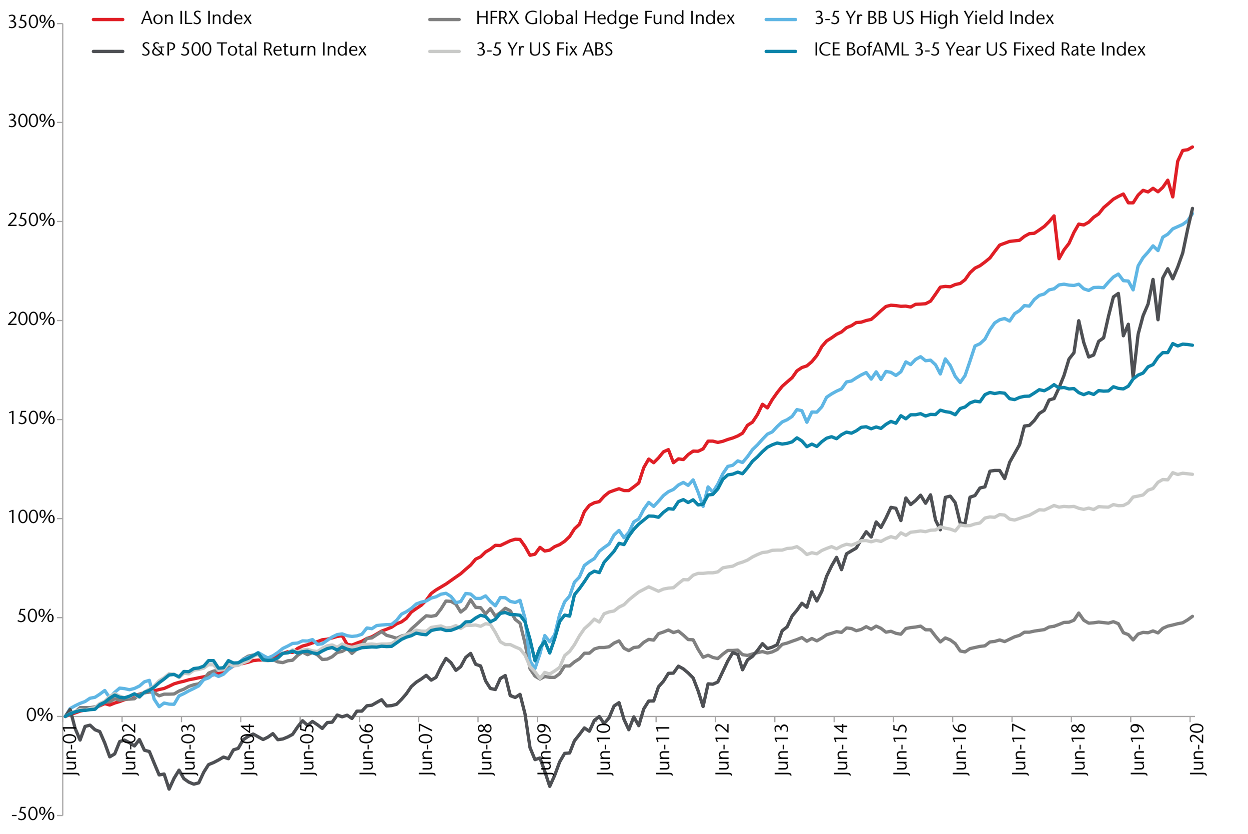
The second most volatile index from our list of comparable indices, the 3-5 Year BB US High Yield Index, which had the second highest return in 2019, saw increased volatility, but its annual return was approximately 1.48 percent, much less than its return of 8.03 percent in 2019. After the initial outbreak of COVID-19, the S&P 500 saw approximately a 20 percent decline from February to April while the BB High Yield Index was closer to a 10 percent decline. The following two months, both markets corrected as the S&P made a 19 percent return and the high yield about 9 percent. Given the political challenges in US and the uncertain impact that COVID-19 will have on general equity and fixed income markets, we believe that there is more likely a chance of volume moving back into the less-volatile markets such as ILS markets, especially given how the ILS market has responded to events that have occurred in 2020 thus far.

Exhibit 9: Aon ILS Indices

Index Title	Return for Monthly Period Ended June 30		Return for Quarterly Period Ended June 30		Return for Year-to-Date Ended June 30		Return for Annual Period Ended June 30		5 yr Avg Annual Return	10 yr Avg Annual Return
Aon ILS Indices	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2015-2020**	**2010-2020**
All Bond Bloomberg Ticker (AONCILS)	0.82%	0.63%	2.12%	0.64%	2.70%	2.18%	8.40%	2.87%	5.24%	6.41%
U.S. Hurricane Bond Bloomberg Ticker (AONCUSHU)	0.96%	0.94%	2.10%	1.32%	1.69%	1.67%	8.84%	1.63%	4.57%	6.76%
Benchmarks										
3-5 Year U.S. Treasury Notes	0.13%	0.88%	0.62%	2.47%	6.03%	4.09%	7.23%	6.44%	3.06%	2.66%
3-5 Year BB US High Yield Index	0.89%	2.00%	9.00%	2.24%	-1.96%	8.41%	1.48%	8.03%	4.42%	6.06%
S&P 500	1.84%	6.89%	19.95%	3.79%	-4.04%	17.35%	5.39%	8.22%	8.50%	11.67%
ABS 3-5 Year, Fixed Rate	2.88%	0.62%	7.16%	2.53%	-0.23%	4.21%	0.97%	6.75%	2.79%	3.40%
CMBS 3-5 Year, Fixed Rate	1.49%	0.83%	3.59%	2.61%	2.25%	4.94%	3.58%	7.38%	3.15%	4.41%

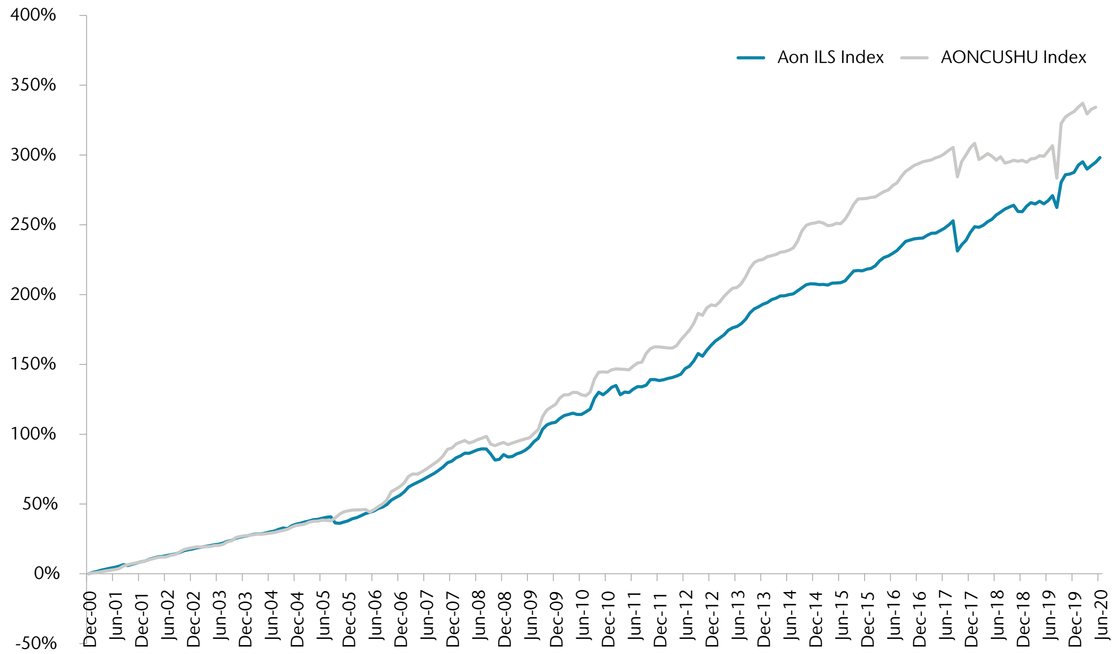
Source: Aon Securities LLC and Bloomberg

Exhibit 10a: Aon All Bond Index versus financial benchmarks



Source: Aon Securities LLC and Bloomberg

Exhibit 10b: Historical performance of Aon ILS Indices



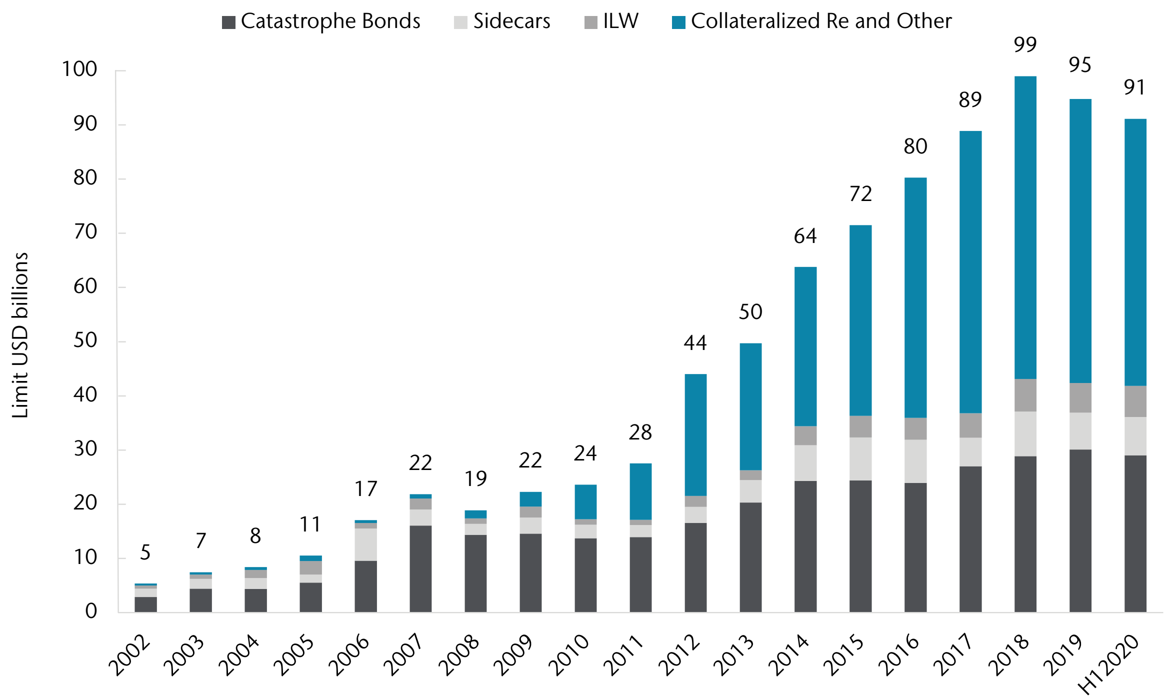
Source: Aon Securities LLC and Bloomberg

ILS-Related Markets

Over the past year, we estimate the total ILS capital markets capacity to be $91 billion which is comprised of Collateralized Reinsurance, Catastrophe Bonds, ILWs, and Sidecars. This total value represents a reduction of approximately $2 billion from last year's estimate at the time of writing.

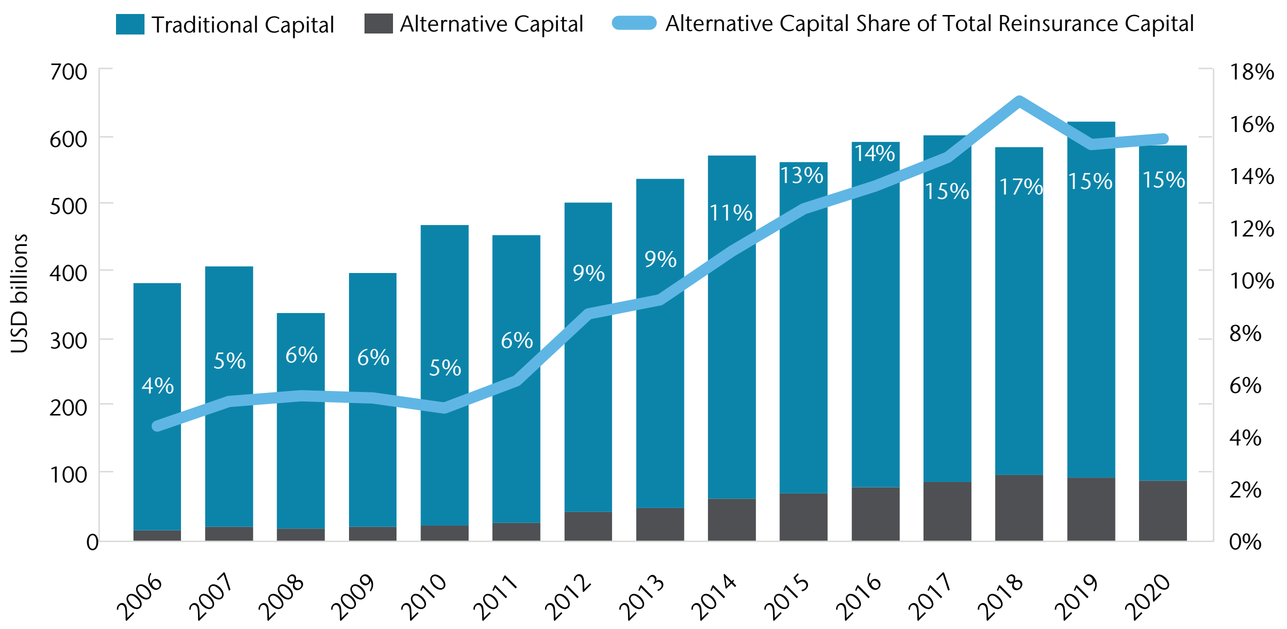
Despite two years of slight reductions in ILS capital, the market has been resilient. As worry over the economic impact of COVID-19 intensified, some investors faced minor outflows, but the expected redemptions were less than initially perceived. Secondly, the virus also made it difficult for ILS investors to raise capital given travel restrictions, but, as the market continues to prove to be a diversifying risk, we have seen some efforts begin to bear fruit. Prior to the pandemic outbreak a large portion of the ILS investor universe was experiencing favourable capital positions and positive fund flows, reducing the overall effect of the outflows experienced from COVID-19. From the Cat Bond side, there is still strong demand for new issuances as we have seen a majority of recent transactions upsize. We also saw the ILW market add approximately $250 million of capital over the half year.

Exhibit 11: Alternative market development



Source: Aon Securities LLC

Exhibit 12: Global reinsurer capital



Source: Individual Company Reports, Reinsurance Solutions, Aon Securities LLC

Collateralized Reinsurance Market Trends

Aon expects the Collateralized Reinsurance segment to continue to contract, as it has already experienced a decrease from $52.7 billion at the end of 2019 to $49.3 billion at the end of June 2020. Although the segment continues to form the largest part of the ILS market by capacity volume, some investors have allocated away from the class in favour of more liquid, tradeable instruments.

Investor appetite for collateralized reinsurance can be more sensitive to loss activity than catastrophe bonds, due to the propensity for losses at lower return periods, including ancillary losses associated with the COVID-19 outbreak.

Funds looking to deploy reinsurance and retrocession capacity continue to target fronters with market-leading credit ratings, to leverage the strength of their balance sheets.

Sidecars

From Q1, 2019 to Q1, 2020, Aon Securities estimates that the Sidecar market has contracted from $8.2 billion to $6.8 billion. Sidecar capacity has been decreasing in recent years, due in part to loss activity in 2017 and 2018.

The COVID-19 outbreak caused further flight from the asset class in 2020, with several key investor mandates shifting towards more liquid strategies, such as catastrophe bonds. Several sizeable capital redemptions have been well documented and the number of ILS funds adopting Sidecars as a part of their core strategy has decreased. From the information available, Aon Securities believe there was one new Sidecar launched into the market in the 12-months to 30 June 2020, compared with six in the prior 12-month period, due to these market challenges.

One notable development in January 2020 was Peak Re successfully upsizing their Lion Rock Re Retrocessional Sidecar to $77 million. Still the only Sidecar in Asia, Lion Rock Re allows Peak Re fluid access to the capital markets, which provides a support platform for its growth ambitions.

Sidecars continue to offer strategic value to (re)insurer sponsors by providing a third-party capital platform with increasing benefits over the medium to long-term. Given the ongoing potential pricing dislocation following the catastrophe events of 2017 and 2018, leveraging all capital sources has become increasingly important to sponsors. Demand for third-party capital therefore remains strong; however, this materially outweighs capital supply at the moment.

An active US Hurricane season would influence investor interest, as would any additional losses from perils such as California Wildfires, US Earthquake and Japanese Typhoons. Investors remaining in the space have, overall, expressed intent to focus on taking meaningful positions on a reduced number of core partnerships. Veteran Sidecar sponsors continued to fortify their relationships with the capital markets with repeat issuances, however some were required to compromise on terms to achieve scale.

Projected return on capital for Sidecars incepting over the last 12-months appears to be a mix of positive and negative. In some cases, the reporting of COVID-19 IBNR losses has been challenging, due to uncertainty over pandemic coverage within underlying policies; subsequent conservative reserving can mean a projection of unprofitability for investors, with this reserve figure thought to be changeable as new information is received.

Historically, the Sidecar market has been weighted towards portfolios of reinsurance treaties concentrated in U.S. peak perils, namely Florida hurricane and California earthquake. As alternative capital continues to migrate down the risk chain, many investors are drawn to sharing the underwriting result of quality writers of globally distributed portfolios, helping to diversify away from peak peril cover.

Exhibit 13: New quota share sidecars launched during 12 months to June 30, 2020

Sidecar	Inception Date	(Re)Insurer	Size (USD million)
Viaduct Re Ltd.	01-07-2019	PGGM on behalf of PFZW pension, Swiss Re Risks	-

Source: Company filings and press releases

Exhibit 14: Renewal quota share sidecars launched during 12 months ending June 30, 2020

Sidecar	Inception Date	(Re)Insurer	Size (USD million)
Sector Re	Nov-19	Swiss Re	$1,100
Leo Re Ltd. 2020-1 Class A	Dec-19	Funded by PGGM on behalf of PFZW pension, Munich Re risks	$0.63
Eden Re II Ltd. 2020-1 Class A	Dec-19	Munich Re	$54.60
Alturas Re Ltd. 2020-2 R	Dec-19	AXIS Capital	$64.14
Leo Re Ltd. 2020-1 Class B	Jan-20	Funded by PGGM on behalf of PFZW pension, Munich Re risks	$399.37
Lion Rock Re Ltd. (Lion Rock Re II)	Jan-20	Peak Re	$77.00
Limestone Re Ltd. 2020-1	Jan-20	Liberty Mutual Insurance	$50.00
Alturas Re Ltd. 2020-2 I	Jan-20	AXIS Capital	$47.25
Eden Re II Ltd. 2020-1 Class A	Jan-20	Munich Re	$230.40
157 Re - 2020	Jan-20	CCR Re	-
Lorenz Re (Torricelli 2020)	Jan-20	PartnerRe	$57.00
K-Cessions	Jan-20	Hannover Re	$680.00
Viribus Re Ltd.	Jan-20	MS Amlin	$45.20
NA	Jan-20	Ascot Underwriting	-
Voussoir Re Ltd. 2020-1	Mar-20	Arch Capital	$76.50

Source: Company filings and press releases

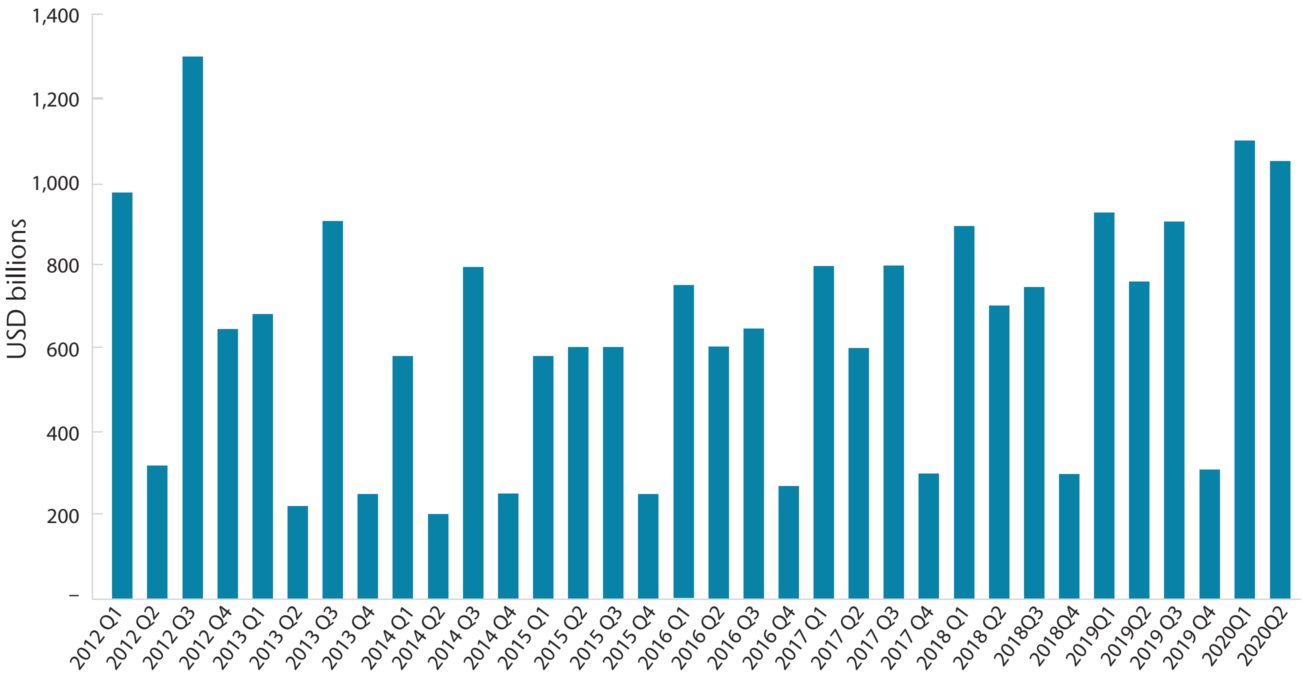
Industry Loss Warranties (ILWs)

The January 2020 ILW renewals saw an increased demand in trading and in turn an increase in pricing ranging between 5% to 20% with USA all-natural perils peak aggregate pricing at the top end of this range. As we approached the US wind June 1 and July 1 renewal dates we witnessed a further increase in demand and pricing level. The mid-year increase was anywhere between a further 10% to 20% depending upon product and level of attachment and territory.

The increase in demand was in some part due to COVID-19 uncertainty and concerns over the potential for an active US wind season and international loss events. The increased purchasing activity has pushed ILW trading volumes ever higher with demand increasing across a broad spectrum of clients, both traditional and funds. There continues to be strong demand for USA peak perils aggregate ILW although limited capacity available. USA occurrence ILW accounts for the largest volume traded, with a continued client preference for both aggregate and occurrence purchases on a pro-rata layered basis.

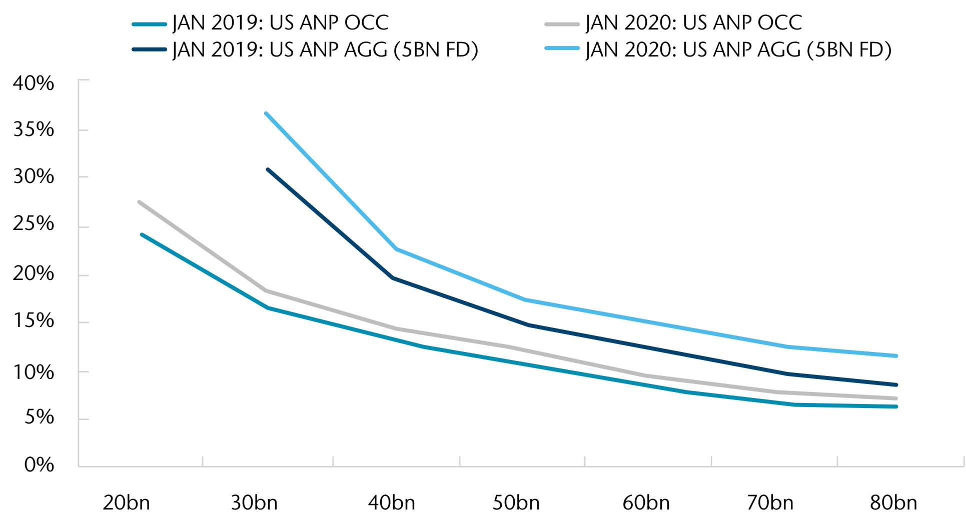
County and State weighted transactions have had an increased focus with a material increase in requests for pricing structures and also in cover bound year on year. The ILW product continues to attract significant interest from a wide range of markets. While there are the usual ILW market specialists there is an increasing number of players that are willing to write a small book alongside their usual lines of business while pricing is favourable.

Exhibit 15: Total U.S. ANP limit traded



Source: Aon

Exhibit 16: U.S. ANP occurrence pricing movement



Source: Aon

Private Placements

The private placement cat bond market remains an important part of the overall ILS landscape. They fit along a continuum between bilateral collateralized reinsurance and traditional cat bonds.

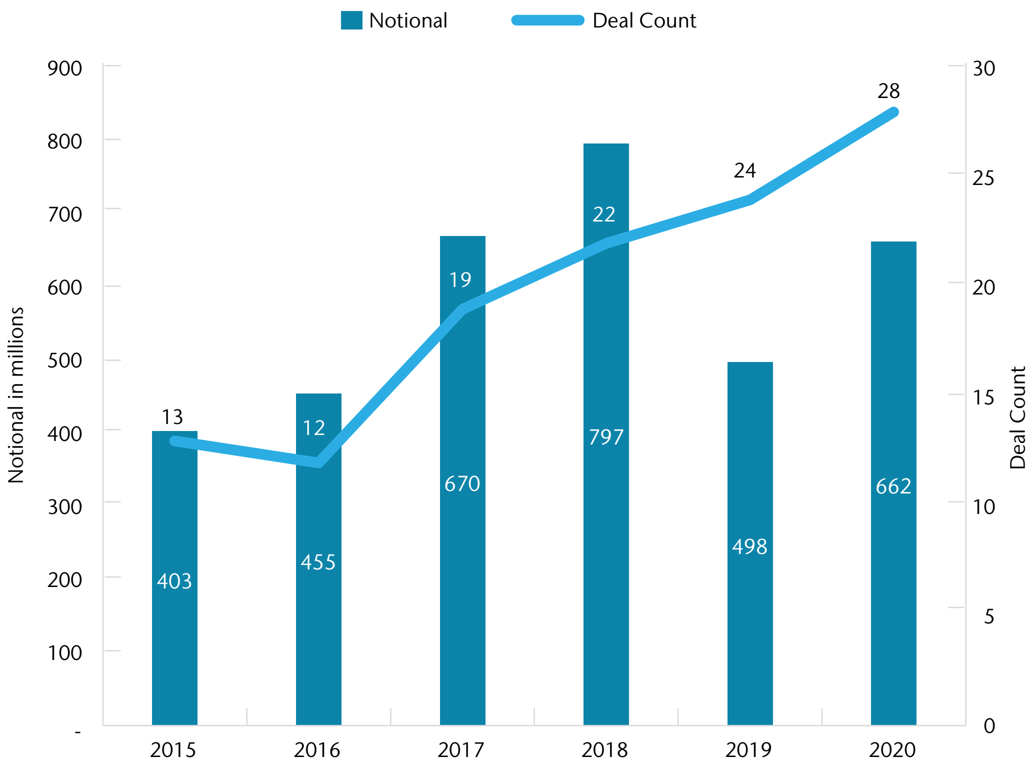
Private placement cat bonds were transacted in 2019/2020 across a range of perils and geographies, for example, Japanese, Californian, and Turkish earthquake perils. Many of the other deals are still US cat indemnity, but some have been index deals as well. In summary private placement cat bonds can work well across a range of perils, geographies, and triggers.

Specifically, the smaller deals are generally driven by the (often single) investor needing to convert into a note what is otherwise a collateralized reinsurance contract. For example, in July 2019, Dodeka XXIV was $11.36 million. Similarly, there were a number of Seaside Re deals at $10 million or below that came around 1/1.

Conversely, there are larger, cedent-driven private cat bond deals, like the recent Randolph Re circa $50 million transaction, which was a syndicated indemnity wildfire transaction. The cedent-driven deals are based upon a cedent wanting to access multiple ILS markets in an efficient manner for a deal size below the traditional cat bonds. For example, the cedent might be motivated to source diversifying capacity or open up another channel of distribution, especially in a hardening market. Moreover, the documentation and service provider infrastructure is more robust for the cedent-driven syndicated transactions, since these need to be tradable and closely resemble traditional cat bonds.

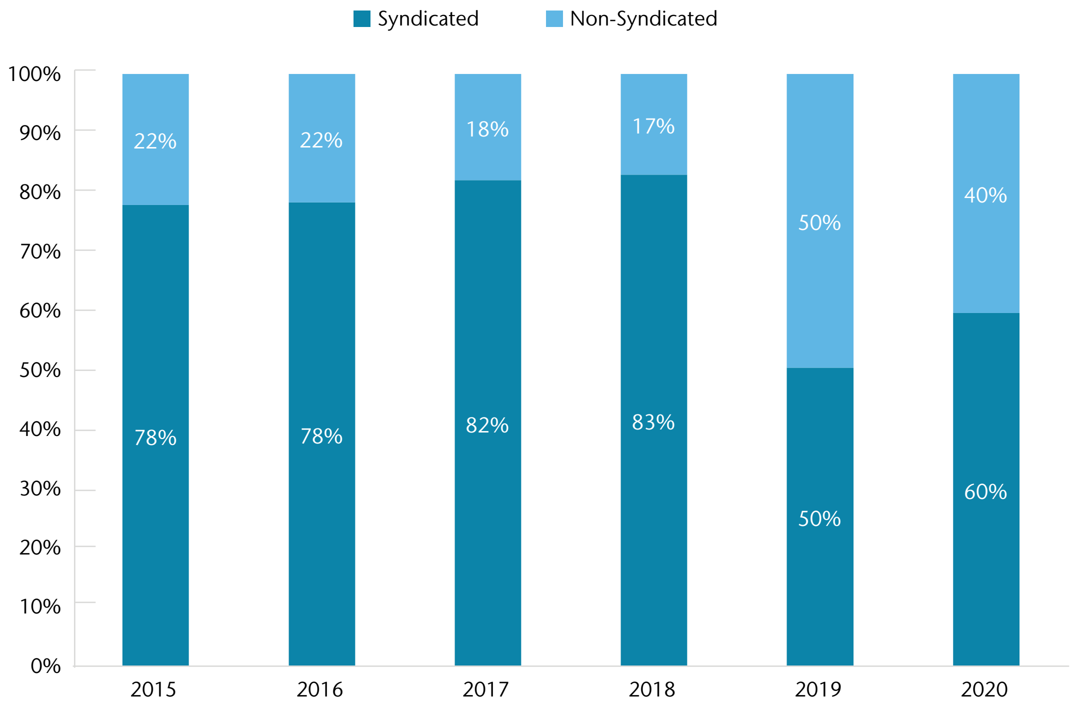
We anticipate that the cedent-driven deals will continue to grow, since these allow greater democratization of access to ILS markets. With their lower third-party costs and greater ease to blend them into traditional towers, the private placement cat bond platforms, like Randolph Re, will make the ILS markets available to the large universe of cedents, who recognize the value of syndication to source new capacity in an increasingly challenging market but who don't have capacity needs for a traditional cat bond.

Exhibit 17: Private placement notional and deal count (not all known) (years ending 30 June)



Source: Artemis

Exhibit 18: Private placements (Syndicated vs. Non-syndicated)[1] (years ending 30 June)



[1] Syndicated private placement defined as being a series of notes > $25M notional
Source: Artemis

Exhibit 19: Private placement catastrophe bond transactions[1]

Date	Issuer	Series	Size (millions)	Peril
Jul-19	Eclipse Re Ltd.	2019-04A	$25.00	Florida Named Storms
Jul-19	Cerulean Re	2019-1	$22.94	US Property Cat Risk
Jul-19	Dodeka XXIV	unknown	$11.36	US Property Cat Risk
Jul-19	Eclipse Re Ltd.	2019-03A	$30.00	Unknown property Cat Risk
Jul-19	Cerulean Re SAC Ltd.	Easton 2019-1	$60.00	U.S. named storm, U.S. Quake
Aug-19	Eclipse Re Ltd.	2019-02A	$56.59	Unknown property Cat Risk
Sep-19	Eclipse Re Ltd.	2019-07A	$20.00	US Property Cat Risk
Sep-19	ILN SAC Ltd 2019-1	2019-1	$10.00	US Property Cat Risk
Sep-19	Cerulean Re SAC Ltd.	Series 2019 E1	$25.00	US Property Cat Risk
Sep-19	Eclipse Re Ltd.	2019-06A	$48.00	US Property Cat Risk
Sep-19	Asago	Asago	$70.00	Japan Earthquake
Dec-19	Artex SAC Limited	Series IX	$50.26	US Property Cat Risk
Dec-19	Seaside Re	2020-2	$20.00	US Property Cat Risk
Dec-19	Seaside Re	2020-1	$7.00	US Property Cat Risk
Dec-19	Seaside Re	2020-51	$50.00	US Property Cat Risk
Dec-19	LI Re	2019-1	$10.00	California Quake
Jan-20	Eclipse Re Ltd.	2020-01A	$10.00	US Property Cat Risk

Exhibit 19: continued

Date	Issuer	Series	Size (millions)	Peril
Jan-20	Seaside Re	2020-11	$3.75	US Property Cat Risk
Jan-20	Seaside Re	2020-12	$5.75	US Property Cat Risk
Jan-20	Seaside Re	2020-21	$10.00	US Property Cat Risk
Jan-20	Seaside Re	2020-22	$5.00	US Property Cat Risk
Jan-20	Seaside Re	2020-31	$30.00	US Property Cat Risk
Jan-20	Seaside Re	2020-41	$7.50	US Property Cat Risk
Jan-20	Seaside Re	2020-42	$12.50	US Property Cat Risk
Feb-20	ILN Sac Ltd	ILN-TKY-Q-1	$7.00	Turkish Quake
Mar-20	Asago II	Asago	$18.30	Japan Earthquake
Apr-20	Eclipse Re Ltd.	2020-02A	$20.00	US Property Cat Risk
Jun-20	Isosceles Insurance Ltd.	2020-A1	$16.50	US Property Cat Risk
Jul-20	Randolph Re	2020-1	$50.25	California Fire

Source: Artemis

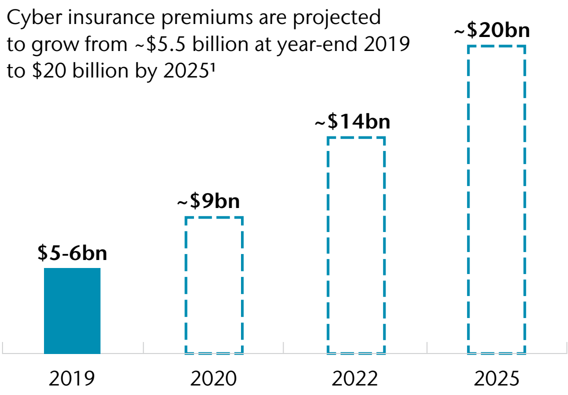
[1] Private Placement data retrieved from Artemis. Note that not all Private Placement transaction information is available.

Growth Areas within ILS

Cyber Risk

Ceding cyber risk to the ILS market has been a common discussion point for the last few years. Seemingly every ILS conference has featured a presentation or panel on cyber risk. At a high level, ceding cyber risk to the ILS market should be a natural progression for both markets. The ILS market, overly concentrated in peak peril risk, will benefit from additional uncorrelated risk. At the same time, the cyber market, projected to grow to approximately $20 billion[1] in premium by 2025, will benefit from a diversified source of risk transfer capital. The benefit of additional and diversified capital has been clearly demonstrated in the property insurance market. However, aside from indirect participation or private collateralized transactions, the ILS market has yet to complete a fully syndicated cyber transaction.

Exhibit 20: Cyber insurance premiums



Source: Please refer to footnote.

While there are several high-level reasons why ceding cyber risk to the ILS market makes sense, the barriers lie in the details. First and foremost, not all cyber risk will fit well in the ILS market, just as not all property risk fits well in the ILS market. The majority of property risk ceded to the ILS market has been short tail catastrophe risk. With few exceptions, attritional losses and long tail losses haven't been ceded to the ILS market. Additionally, in the nascent stages of the ILS market, early issuance was focused on perils that were not only short-tail and catastrophic, but also transparent and well modeled. As we look to develop cyber structures in the ILS market, it will be important to focus on risks that fit a similar profile.

While cyber risk is currently ceded on an all risks basis, it is possible to identify specific loss drivers or perils. The chart below depicts the most common cyber perils, or loss drivers, and highlights the key characteristics mentioned above. Cloud Failure, in particular, stands out as peril that would fit well in the ILS market. Additionally, it is also considered to be the largest tail risk or peak concentration in the cyber market, increasing the need to cede this risk to additional and diversified capital sources. According to a Lloyd's and AIR Worldwide study from 2018, a 3 to 6-day cloud outage from a top cloud provider would result in $15 billion in economic loss and up to $3 billion of insured loss. As the cyber market grows over the next 3-5 years, this figure should grow accordingly.

1 Most industry growth estimates were developed prior to the COVID-19 outbreak. Estimates may be adjusted accordingly.

Exhibit 21: Potential Cyber perils and their key characteristics

Peril	Catastrophe Risk	Short Tall Risk	Transparency	Model Suitability
Breach	◔	○	○	◑
Cloud Failure	●	●	●	●
Distributed Denial of Service	◑	●	◕	◕
Malware/Ransomware	◕	●	●	●

Source: Please refer to footnote.

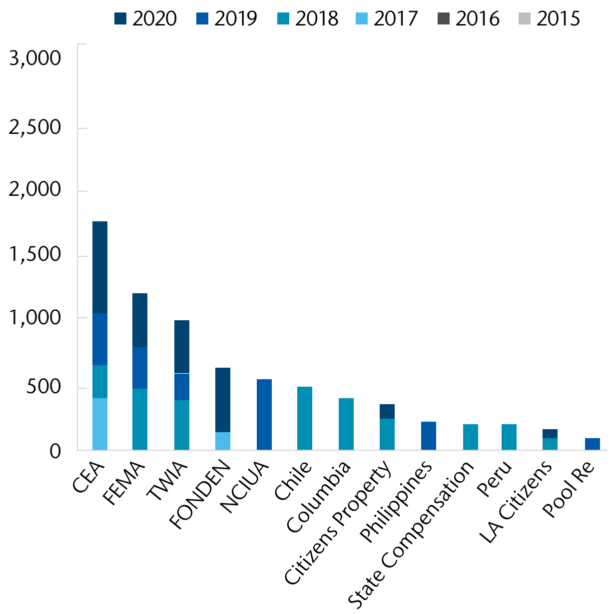
There are other challenges in developing cyber structures for the ILS market, but if we learn from the past and consider how ILS and the property market have evolved together, we can unlock substantial value for both sponsors and ILS managers.

Sources
Aon proprietary data; Aon Inpoint; 2017 "Global Cyber Risk Transfer Comparison Report," Aon/Ponemon Institute; 2016 Cyber—The Fast Moving Target: Benchmarking views and attitudes by industry; Insurance Business America, PwC, The Betterley Report, Advisen, Allianz, Allied Market Research; CSIS

Public Sector/Government

The year under review saw a number of government and public-sector Sponsors continue to build their programs and cement themselves as core ILS participants, as well as Sponsors accessing the capital markets to transfer catastrophic risk for the first time. Across government and public-sector Sponsors, there was the clear demonstration of their sophistication in risk transfer purchasing and the flexibility offered within the capital markets, as indemnity, parametric and modelled loss structures were all leveraged in the trailing 12-month period.

Exhibit 22: Outstanding Property Bonds



12-month period ending June 30, 2020*Source: Aon Securities LLC*

A few notable developments have included:

As a repeat sponsor, the MTA through FMTAC shed light on the key role the Insurance-Linked Securities market plays in helping governments and other public-sector entities close their natural catastrophe protection gaps and addressing climate change, by selecting a parametric structure and a binary payout, offering the potential for a full recovery without the need to assess actual damage to its infrastructure and operations or go through the claims adjustment process.

After having received a total of $200m in pay-outs across prior cat bond transactions, Mexico's FONDEN (Fondo de Desastres Naturales – Natural Disasters Fund) returned to the capital markets, securing $485 million of parametric coverage against losses caused by earthquakes and hurricanes for four years, 35% more than their expiring 2017 transaction. Of note, these Floating Rate Catastrophe-Linked Capital at Risk Notes were offered as Sustainable Development Bonds with net proceeds from the sale of the Notes used by IBRD to finance sustainable development projects and programs in IBRD's member countries.

Since its beginnings, the California Earthquake Authority ("CEA"), an instrumentality of the State of California, has built a robust reinsurance program spanning both the traditional and ILS markets. At the end of 2019, the CEA sponsored a new $400 million Ursa Re 2019-1 cat bond, the seventh via Ursa Re Ltd. Most recently, the CEA secured $700 million in collateralized limit from the newly established Sutter Re Ltd., representing 40% of the outstanding collateralized capacity of the CEA, bringing the CEA's total notional outstanding as of June 30th, 2020 to $1.75 billion.

Additionally, the Republic of the Philippines came to market with its inaugural cat bond issuance through the World Bank's IBRD CAR program. The cat bond provides the Philippines with modelled loss protection against earthquakes & tropical cyclones.

Market Analysis by Region

North America

As both rates and traditional capacity uncertainty began to mount at the tail end of 2019 and the start of 2020, there was a large amount of activity to secure peak peril capacity via the capital markets.

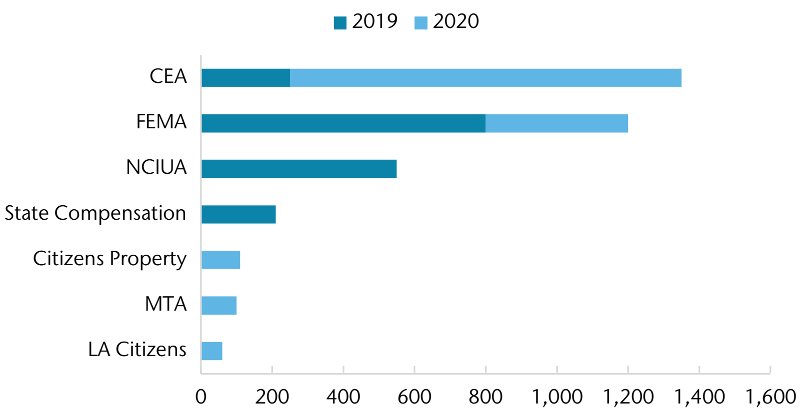
The period was highlighted by 14 national multi-peril sponsors and 9 large regional corporate public-sector sponsors; with narrow coverage scopes in terms of peril and geography, securing $3.86 billion and $2.71 billion in notional, respectively. The large regional corporate public-sector sponsors are: Residential Re, Kilimanjaro III Re, Mona Lisa Re, Stratosphere Re, Matterhorn Re, Bonanza Re, Caelus Re VI, Sanders Re II and Atlas Capital Re.

The first half of 2020 began with Bayview MSR Opportunity Master Fund, L.P. turned to the capital markets to secure $225 million in risk transfer limit. This transaction highlights the insurance gap in North America, and primarily in California, where mortgage holders or homeowners in many cases are not carrying sufficient cover as banks and Government Sponsored Entities not mandated to purchase mortgage insurance protection.

Additional issuances came from a number of core and repeat nationwide insurers, such as Nationwide Mutual via Caelus Re VI, representing Nationwide's 8th issuance, Allstate via Sanders Re II Ltd., representing Allstate's 12th issuance, and State Farm Fire and Casualty via Merna Re II Ltd., representing State Farm's 12th issuance.

Single state sponsors, such as California Earthquake Authority, Texas Windstorm Insurance Association and Louisiana Citizens Property Insurance Corporation each returned to the ILS market, with Louisiana Citizens domiciling its transaction in Singapore via Alamo Re II Pte. Ltd. 2020-1 A.

Exhibit 23: Trailing year's catastrophe bond issuances by government sponsor



Source: Aon Securities LLC

Exhibit 24: H2 2019 of 2019 property catastrophe bonds covering North America peril

Beneficiary	Issuer	Series	Class	Size (million)	Covered Perils	Trigger	Recovery	Collateral
United Services Automobile Association	Residential Reinsurance 2019 Limited	Series 2019-2	Class 1	$50.00	US TC, EQ, WS, ST, WF, VE, MI, OP	Indemnity	Occurrence	MMF
			Class 2	$110.00	US TC, EQ, WS, ST, WF, VE, MI, OP	Indemnity	Occurrence	MMF
California Earthquake Authority	Ursa Re Ltd.	Series 2019-1	Class C	$400.00	CAL EQ	Indemnity	Annual Aggregate	MMF
AXA XL	Galileo Re Ltd.	Series 2019-1	Class A	$75.00	US HU, EQ, ST, EU Wind, AU TC, EQ	Industry Index	Annual Aggregate	MMF
			Class C	$250.00	US HU, EQ, ST, EU Wind, AU TC, EQ	Industry Index	Annual Aggregate	MMF
			Class D	$150.00	US HU, EQ, ST, EU Wind, AU TC, EQ	Industry Index	Annual Aggregate	MMF
Everest Reinsurance Company	Kilimanjaro III Re Ltd.	Series 2019-1	Class A-1	$150.00	US, CAN, PR, VI HU and EQ	Industry Index	Occurrence	MMF
		Series 2019-1	Class B-1	$275.00	US, CAN, PR, VI HU and EQ	Industry Index	Annual Aggregate	MMF
		Series 2019-2	Class A-2	$150.00	US, CAN, PR, VI HU and EQ	Industry Index	Occurrence	MMF
		Series 2019-2	Class B-2	$275.00	US, CAN, PR, VI HU and EQ	Industry Index	Annual Aggregate	MMF

Source: Aon Securities LLC

Exhibit 25: H1 2020 of 2020 property catastrophe bonds covering North America perils

Beneficiary	Issuer	Series	Class	Size (million)	Covered Perils	Trigger	Recovery	Collateral
Bayview MSR Opportunity Master Fund, L.P.	Sierra Ltd.	Series 2019-1	Class A	$150.00	US, EQ, CA, WA, OR, SC	Parametric	Occurrence	MMF
Bayview MSR Opportunity Master Fund, L.P.	Sierra Ltd.	Series 2019-1	Class B	$75.00	US, EQ, CA, WA, OR, SC	Parametric	Occurrence	MMF
Swiss Reinsurance Company Ltd.	Mattherhorn Re Ltd.	Series 2020-1	Class A	$175.00	US, NS, CT, DE, DC, ME, MD, MA, NH, NJ,NY, PA, RI, VT, VA	Industry Index	Occurrence	MMF
Swiss Reinsurance Company Ltd.	Mattherhorn Re Ltd.	Series 2020-1	Class B	$175.00	US, NS, AL, CT, DE, DC, FL, GA, LA, ME, MD, MA, MS, NH, NJ,NY, NC, PA, PR, RI, VT, VA	Industry Index	Occurrence	MMF
Renaissance Reinsurance Ltd. & DaVinci Reinsurance Ltd.	Mona Lisa Re Ltd.	Series 2020-1	Class A	$250.00	NS: US, DC, PR USVI; EQ: US, DC, Canada, PR, USVI	Industry Index	Annual Aggregate	MMF
Renaissance Reinsurance Ltd. & DaVinci Reinsurance Ltd.	Mona Lisa Re Ltd.	Series 2020-1	Class B	$150.00	NS: US, DC, PR USVI; EQ: US, DC, Canada, PR, USVI	Industry Index	Occurrence	MMF

Exhibit 25: continued

Beneficiary	Issuer	Series	Class	Size (million)	Covered Perils	Trigger	Recovery	Collateral
Hannover Rück SE	3264 Re Ltd.	Series 2020-1	Class A	$150.00	NS, US, DC, EQ, EU Wind	Industry Index	Annual Aggregate	MMF
Markel Bermuda Limited	Stratosphere Re. Ltd.	Series 2020-1	Class A	$100.00	NS, EQ, SCS, WS	Indemnity	Annual Aggregate	MMF
Swiss Reinsurance Company Ltd.	Mattherhorn Re Ltd.	Series 2020-2	Class A	$80.00	CT, DE, DC, ME, MA, NH, NJ, NY, PA, RI, VT, VA, WV NS, RMD	Industry Index	Occurrence	MMF
Swiss Reinsurance Company Ltd.	Mattherhorn Re Ltd.	Series 2020-2	Class B	$175.00	CT, DE, DC, ME, MA, NH, NJ, NY, PA, RI, VT, VA, WV EQ	Industry Index	Occurrence	MMF
American Strategic Insurance Group	Bonanza Re Ltd.	Series 2020-1	Class A	$200.00	NS, WS, WF, EQ, ST	Indemnity	Occurrence	MMF
Federal Emergency Management Agency	FloodSmart Re Ltd.	Series 2020-1	Class A	$300.00	US, DC, PR, VI: FL	Indemnity	Occurrence	MMF
Federal Emergency Management Agency	FloodSmart Re Ltd.	Series 2020-2	Class B	$100.00	US, DC, PR, VI: FL	Indemnity	Occurrence	MMF
Nationwide Mutual Insurance Company	Caelus Re VI Limited	Series 2020-1	Class A-1	$150.00	US NS, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Occurrence	MMF
Nationwide Mutual Insurance Company	Caelus Re VI Limited	Series 2020-1	Class B-1	$150.00	US NS, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Occurrence	MMF
Nationwide Mutual Insurance Company	Caelus Re VI Limited	Series 2020-2	Class A-2	$75.00	US NS, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Annual Aggregate	MMF
Nationwide Mutual Insurance Company	Caelus Re VI Limited	Series 2020-2	Class B-2	$75.00	US NS, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Annual Aggregate	MMF
Nationwide Mutual Insurance Company	Caelus Re VI Limited	Series 2020-2	Class C-2	$40.00	US NS, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Annual Aggregate	MMF
The Fund for Natural Disasters	IBRD CAR	Series 125	Class A	$175.00	EQ	Parametric	Occurrence	IBRD
The Fund for Natural Disasters	IBRD CAR	Series 126	Class B	$60.00	EQ	Parametric	Occurrence	IBRD
The Fund for Natural Disasters	IBRD CAR	Series 127	Class C	$125.00	Atlantic NS	Parametric	Occurrence	IBRD
The Fund for Natural Disasters	IBRD CAR	Series 128	Class D	$125.00	Pacific NS	Parametric	Occurrence	IBRD
American Integrity Insurance Company of Florida	Integrity Re II Pte. Ltd.	Series 2020-1	Class A	$150.00	FL NS	Indemnity	Occurrence - Cascading	IBRD
Allstate Insurance Company	Sanders Re II Ltd.	Series 2020-1	Class A	$150.00	DC and US (ex. FL) NS, EQ, SW, Fire, OP	Indemnity	Occurrence	MMF
Allstate Insurance Company	Sanders Re II Ltd.	Series 2020-1	Class B	$100.00	DC and US (ex. FL) NS, EQ, SW, Fire, OP	Indemnity	Occurrence & Agg	MMF
SCOR Global P&C SE	Atlas Capital Reinsurance 2020 DAC	Series 2020-1	-	$200.00	NS & EQ: US, DC, PR, VI, Can	Industry Index	Annual Aggregate	MMF
Swiss Reinsurance Company Ltd.	Matterhorn Re Ltd.	Series 2020-3	Class A	$110.00	NS: AL, CT, DE, DC, FL, GA, LA, ME, MD, MA, MS, NH, NJ, NY, NC, PA, PR, RI, SC, TX, VE, VA	Industry Index	Occurrence	MMF

Exhibit 25: continued

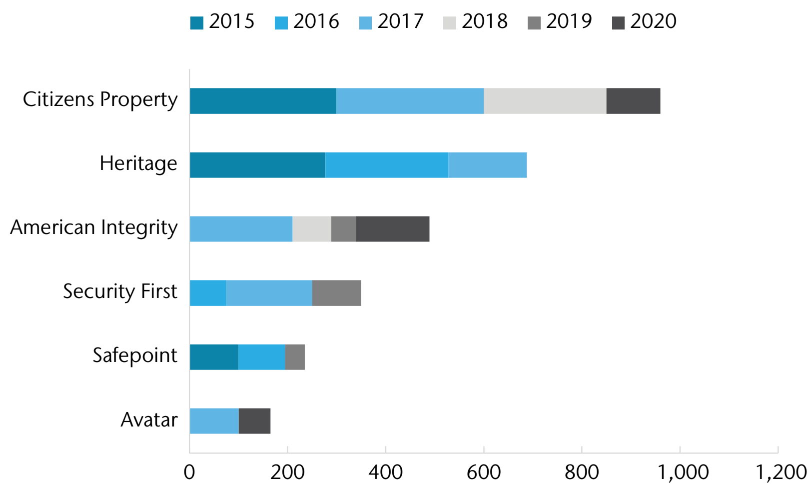
Beneficiary	Issuer	Series	Class	Size (million)	Covered Perils	Trigger	Recovery	Collateral
Swiss Reinsurance Company Ltd.	Matterhorn Re Ltd.	Series 2020-3	Class C	$105.00	NS: AL, CT, DE, DC, FL, GA, LA, ME, MD, MA, MS, NH, NJ, NY, NC, PA, PR, RI, SC, TX, VE, VA	Industry Index	Occurrence	MMF
Louisiana Citizens Property Insurance Corporation	Catahoula Re Pte. Ltd.	Series 2020-1	Class A	$60.00	LA HU, ST	Indemnity	Occurrence	IBRD
First Mutual Transportation Assurance Company, a subsidiary of the MTA	MetroCat Re Ltd.	Series 2020-1	Class A	$100.00	NY Storm Surge & EQ, HU	Parametric Index	Occurrence	MMF
Citizens Property Insurance Coporation	Everglades Re II Ltd.	Series 2020-1	Class A	$110.00	FL HU	Indemnity	Annual Aggregate	MMF
California Earthquake Authority	Sutter Re Ltd.	Series 2020-1	Class A	$200.00	CAL EQ	Indemnity	Annual Aggregate	MMF
California Earthquake Authority	Sutter Re Ltd.	Seires 2020-1	Class F	$135.00	CAL EQ	Indemnity	Annual Aggregate	MMF
California Earthquake Authority	Sutter Re Ltd.	Series 2020-1	Class A	$215.00	CAL EQ	Indemnity	Annual Aggregate	MMF
California Earthquake Authority	Sutter Re Ltd.	Seires 2020-1	Class F	$150.00	CAL EQ	Indemnity	Annual Aggregate	MMF
Castle Key Insurance Company and Castle Key Indemnity Company	Sanders Re II Ltd.	Series 2020-2	Class A	$200.00	FL HU, EQ, ST, VE, MI, Fire	Indemnity	Occurrence	MMF
State Farm Fire and Casualty Company	Merna Re II Ltd.	Series 2020-1	Class A	$250.00	AL, AR, IL, KY, MI, MO, OH, OK, WI, IN, LA, MS, TN EQ and Fire Following	Indemnity	Occurrence	MMF
United Services Automobile Association	Residential Reinsurance 2020 Limited	Series 2020-I	Class 13	$100.00	US TC, EQ, WS, ST, WF, VE, MI, OP	Indemnity	Annual Aggregate	MMF
Texas Windstorm Insurance Association	Alamo Re II Pte. Ltd.	Series 2020-1	Class A	$400.00	TX NS, ST	Indemnity	Annual Aggregate	MMF
Avatar Property and Casualty Insurance Company	Casablanca Re Pte. Ltd.	Series 2020-1	Class A	$40.00	FL HU	Indemnity	Occurrence	MMF
Avatar Property and Casualty Insurance Company	Casablanca Re Pte. Ltd.	Series 2020-1	Class B	$25.00	FL HU	Indemnity	Occurrence	MMF
Fidelis Insurance Bermuda Limited	Herbie Re Ltd.	Series 2020-1	Class A	$125.00	US, PR, USVI: NS or EQ	Industry Index	Occurrence	MMF
Allianz Risk Transfer (Bermuda) Limited	Blue Halo Re Ltd.	Series 2020-1	Class A	$150.00	US HU	Industry Index	Annual Aggregate	MMF
Allianz Risk Transfer (Bermuda) Limited	Blue Halo Re Ltd.	Series 2020-1	Class B	$25.00	US HU	Industry Index	Annual Aggregate	MMF
Total				**$6,155.00**				

Source: Aon Securities LLC

Given the recent COVID-19 crisis coupled with loss development related to hurricanes Michael and Irma, reinsurance rates for Florida homeowner carriers have increased. This can be evidenced through the lens of Citizens Property Insurance Company, whereby they experienced a 20% plus rate increase on a risk adjusted basis, which drove their decision to purchase less reinsurance coverage overall—and notably, influenced their cat bond transactions withdrawing one of the tranches. The experience from Citizens was not too dissimilar from the rest of the Florida market, which saw Florida Sponsored cat bonds down from prior years in terms of notional issued. That said, by total outstanding limit, Florida, as the primary covered area, currently represents 2.91% of the property catastrophe bond market and contributed 18.04% to the weighted average expected loss.

One notable success in the Florida market was the issuance of Allstate's Sanders Re II Ltd. 2020-2 cat bond, their second of the year. This transaction successfully looked to replace the expiring capacity of the 2017-2 issuance, reaching $200 million, a 33% upsize. Though their transaction has not seen any impact of losses, they did experience rate increases, with spreads increasing from 3.25% at the issuance of the 2017-2 transaction to 5.50%, even with a slightly lower EL. This transaction, however, was able to add on the additional peril of Earthquake and broaden their Fire definition to match the nationwide program, a success in a difficult market. This transaction also saw the return to MMF as the collateral, a move seen across the market as the yield pickup on LIBOR thins. This marked Allstate's 12th issuance to date.

Exhibit 26: Catastrophe bond issuance by Florida sponsor (2015–2020)



Source: Aon Securities LLC

Europe

During the 12-month period ending June 30, 2020, two Europe-only catastrophe bonds were brought to market: Hexagon II Reinsurance DAC 2019-1 and Windmill II Re DAC 2020. Both bonds were domiciled in Ireland and structured with indemnity triggers. The former had an issuance size of €120 million and provided second-time sponsor Covea Group with coverage for European Windstorm and several ancillary perils. Achmea Reinsurance Company N.V. came back to market with their third Windmill indemnity bond, achieving €100 million for European Windstorm and Hail.

Aon Securities continue to see modest demand from prospective sponsors for ILS coverage, due in part to the continued competitiveness of the European traditional market, even despite modest rate hardening in certain territories following the COVID-19 outbreak. This is coupled with a negative interest rate environment for Euro-denominated currencies, restricting the range of viable collateral solutions available to European sponsors. Prospective sponsors are predominantly insurance companies targeting reinsurance coverage, on a mix of aggregate and occurrence bases.

Negative interest rates

Interest rates in the European Union remain negative, as they have been since 2013. The transfer of European risk to the capital markets, as euro assets remain costly to hold as collateral, either in the form of European Money Market Funds or Euro-denominated medium-term notes. European cedents have been looking further afield to generate a return on their collateral.

Asia Pacific

During the 12-month period ending June 30, 2020, three new 144A catastrophe bonds covering perils in Asia were issued:

- In November 2019, the World Bank (International Bank for Reconstruction and Development or IBRD) issued two tranches of cat bonds in order to provide the Republic of the Philippines with financial protection of up to $75 million for losses from earthquakes and $150 million against losses from tropical cyclones for three years. It is the first cat bond to be sponsored by the government of an Asian country;
- In January 2020, Zenkyoren secured 5-year cover against earthquake risk in Japan through the issuance of a $200 million indemnity cat bond with a 3-year rolling aggregate structure, Nakama Re Ltd. Series 2020-1. Solid orderbook oversubscription allowed the transaction to be upsized by 33% while pricing was fixed at the top-end of initial guidance of 2.00% to 2.20%, representing an equivalent pricing level to the one achieved by Nakama Re Ltd. Series 2016-1;
- In March 2020, Mitsui Sumitomo Insurance Co., Ltd. sponsored a 4-year $100 million Japanese Wind and Flood cat bond, Akibare Re Pte. Ltd. Series 2020-1. The transaction is the first ever Asian sponsored cat bond issued out of Singapore.

During the same period, four additional catastrophe bonds were issued out of Singapore using the ILS grant scheme introduced by The Monetary Authority of Singapore (MAS) in February 2018 to help fund upfront ILS bond issuance costs. Three of the four catastrophe bonds issued in Singapore were sponsored by U.S. based ceding insurers to cover losses from U.S. Hurricanes.

Exhibit 27: 144A Property catastrophe bonds covering Asia Pacific perils issued in the last 12 months

Beneficiary	Issuer	Series	Class	Size (USD millions)	Covered perils	Trigger	Rating	Initial expected loss*	Initial interest spread
Republic of the Philippines	IBRD CAR	123	Class A	75	PH EQ	Modeled Loss	NA	3.00%	5.50%
		124	Class B	150	PH TC				5.65%
Mitsui Sumitomo Insurance Co., Ltd	Aozora Re Ltd.	2020-1	Class A	100	JP TY, FL	Indemnity	NA	0.81%	2.75%
Zenkyoren	Nakama Re Ltd.	2020-1	Class 1	200	JP EQ	Indemnity	NA	0.48%	2.20%

Source: Aon Securities LLC
**Initial modeled annual expected loss*

Legend

JP — Japan
PH — Philippines
TY — Typhoon

FL — Flood
EQ — Earthquake
TC — Tropical Cyclone

Moreover, following Peak Re's first successfully established Asian (re)insurance sidecar transaction through Lion Rock Re Ltd., a second issuance went on risk in January 2020 namely Lion Rock Re Ltd. 2020-1.

The sidecar is supported by high-quality global investors, interested to invest in Peak Re's underwriting and gain exposure to geographically diverse and unique risks in Europe, China, and India directly sourced by Peak Re.

In May 2020, Peak Re acquired Lutece Holdings Ltd. and its subsidiary Lutece Investment Management Ltd., renaming as Peak Capital Ltd. Peak Capital will create new opportunities to develop differentiated and innovative (re)insurance products to both customers and investors, and eventually expedite Peak Re's mission to closing the protection gap in Asia.

For the second year in a row, Japan was the dominant driver of natural catastrophe losses in APAC, experiencing two natural catastrophes which each incurred more than $1 billion in economic losses. The country was again impacted by back-to-back typhoon events – Faxai in September 2019 and Hagibis in October 2019 – which resulted in considerable and widespread damage.

During the 12-month period ending June 30, 2020, two Japanese catastrophe bonds have expired, consisting of $220 million capacity from Aozora Re Series 2016-1 covering

Japanese wind peril as well as $200 million capacity from Nakama Re 2014-2 2 covering Japanese earthquake peril. The total volume of catastrophe bonds from the Asia Pacific region represents 12 percent of the market outstanding volume of natural catastrophe bonds as of the end of June 30, 2020.

Akibare Re Series 2016-1, a $200 million annual aggregate cat bond was due to expire in April 2020 however its maturity has been extended beyond the scheduled maturity due to the typhoon events of 2018. Aggregate loss across Japanese typhoon events in 2018 has exceeded the exhaustion point for the notes that was set at ¥360 billion, suggesting a 100% loss of principal for noteholders.

April 1 Japan Renewals

A combination of 2019 typhoon losses and COVID-19 has resulted in a very challenging and unprecedented market environment:

- The non-life sector expanded their Wind Flood capacity, while the Kyosai sector continued to expand their Catastrophe capacity;
- Heading into the 1 April renewals, reinsurers were focused on and anticipating price development. This was primarily due to a second consecutive year of significant Japanese typhoons plus loss development from 2018 typhoons;
- However, throughout March as the COVID-19 crisis became more apparent, there became a growing emphasis by reinsurers to include communicable disease exclusions into wording and a reduced appetite from some reinsurers to commit capacity due to the economic uncertainties created by the COVID-19 crisis;
- Cedents clarified the limited COVID-19 exposures in Japan. An increasing number of reinsurers tried to exclude communicable diseases towards the end of the renewal negotiation. Cedents took varied approaches to managing this demand.

Natural catastrophe losses

The 12-month timeframe from July 2019 to the end of June 2020 proved active and costly across Asia-Pacific (APAC). No fewer than 14 events surpassed the billion-dollar (USD) threshold on an economic loss basis. Japan, China or Australia were impacted by 11 of the 14 events. These billion-dollar events caused an aggregate economic cost of more than $95 billion alone, though only less than one-quarter ($21 billion) was covered by public and private insurance entities. While this is much higher than the long-term coverage percentage dating to 1980, this wide protection gap further highlights the low insurance penetration that exists across APAC.

Typhoon Faxai made landfall in Chiba Prefecture of Japan on September 9. The typhoon caused severe economic and insured losses, exceeding $10 billion and $6 billion, respectively. In October, Japan endured Super Typhoon Hagibis – which made landfall on Shizuoka Island with intensity equivalent to Category 2 on the Saffir-Simpson Hurricane Wind Scale, and strong winds coupled with heavy precipitation led to extensive damage and disruption across the country. Direct economic losses were estimated even higher at $15 billion. Insurance claims continue to be processed in the aftermath of the event, with loss creep pushing payouts above $9 billion; though the creep was not as high as initially feared and did not mirror what was seen after Typhoon Jebi in 2018. The costliest tropical cyclone of the first half of 2020 was Cyclone Amphan, which struck northeastern India and Bangladesh in May. At least 133 fatalities were noted, while officials more than three million homes were damaged or destroyed.

During the East Asian monsoon season of 2019, China faced severe flooding, which resulted in at least 300 fatalities. According to government estimates, total economic losses exceeded the $15 billion mark. Owing to the continued low insurance penetration in China, total insured losses were estimated at $650 million – as low as about four percent of the total economic losses. Monsoon rains also triggered a series of severe floods in at least 14 states of India. The event resulted in at least 1,750 fatalities, while more than 10 million people were either affected or displaced. Total economic losses were estimated at $10 billion, according to the government of India. Preliminary insured loss estimates were placed at $150 million.

Historic bushfires in Australia started in November 2019 and continued into January 2020, expanding to nearly 19 million hectares (46 million acres). Total economic losses approached $5 billion while insurance payouts for residential, commercial, and agricultural damage were at least $1.6 billion. Separately, Australia endured a notable severe weather event, as major metro areas of Australia – including Melbourne, Canberra, and Sydney – were hit by large hail in January 2020. Hailstones larger than the size of tennis balls lead to considerable automobile and structural damage. Total economic losses were listed at $1.4 billion while total insured losses approached $1.1 billion.

Exhibit 28: Notable Natural Disaster Events in APAC (July 2019 – June 2020)

Date	Event	Impacted Countries	Fatalities	Economic Loss (USD)	Insured Loss (USD)
Jul - Aug 2019	Flooding	China	300	15.1 billion	650 million
Sep 2019	Typhoon Faxai	Japan	3	10.0 billion	6.0 billion
Oct 2019	Typhoon Hagibis	Japan	99	15.0 billion	9.0 billion
Jul - Oct 2019	Flooding	India, Bangladesh	1,750	10.1 billion	150 million
Nov 2019 - Jan 2020	Bushfires	Australia	34	5.0 billion	1.6 billion
Jan 2020	Hailstorm	Australia	0	1.4 billion	1.1 billion
May 2020	Cyclone Amphan	India, Bangladesh, Sri Lanka, Thailand	133	15 billion	150 million

Source: Aon's Catastrophe Insight Group (Impact Forecasting)

Hong Kong

Hong Kong's Insurance Authority (HKIA) has expressed interest in developing Hong Kong into an SPI (Special Purpose Issuer) domicile. At the meeting of the Executive Council on 17th March 2020, the Council advised and the Chief Executive ordered that the Insurance (Amendment) Bill 2020 should be introduced into the Legislative Council (LegCo). This could broaden the scope of ILS in Asia and attract more local sponsors.

The Asian Development Bank's contingent disaster financing

During the Summer of 2019, The Asian Development Bank (ADB) has launched a new contingent natural disaster risk financing solution named contingent disaster financing (CDF), as it seeks to deliver rapid paying risk capacity for development member countries (DMCs) for disaster response.

CDF is a financing option under ADB's policy-based lending to expand ADB's toolkit for stepping up disaster preparedness and response. CDF will provide a quick-disbursing and flexible source of financing for DMCs impacted by disasters triggered by natural hazards until funds from other sources become available. CDF will also support ADB's efforts to scale up the policy dialogue with DMCs on disaster preparedness and risk management.

Property Claim Services' expansion of industry loss data aggregation and index reporting services

In October 2019, Property Claim Services (PCS) has expanded its range of industry loss data aggregation and index reporting services to include Australia, New Zealand and the Southeast Asia region.

PCS APAC now covers all natural and man-made catastrophe events in Japan (excluding marine) that are likely to cause industry wide insured losses of at least $2 billion. Outside Japan, losses occurring in Australia, New Zealand, Brunei, Burma, Myanmar, Cambodia, Timor-Leste, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and Vietnam must reach a threshold of $2.5 billion. Common events include winter storm, flood, and typhoon.

PCS plans to add more countries to the Asia-Pacific region in the near future and is currently exploring ways to lower the reporting threshold.

Model Updates

North America and Caribbean

U.S. Hurricane
RMS, AIR, and CoreLogic released new hurricane models in 2019 in compliance with the Florida Loss Commission, requiring an update to every two years. The 2019 update incorporates the 2015 and 2016 hurricane seasons from HURDAT2 and reflects reanalysis updates to HURDAT2 for select cat events between 1956 and 1960. All three model vendors have also used this opportunity to incorporate additional minor enhancements to hazard and vulnerability.

Impact Forecasting is submitting their hurricane model to the Florida Loss Commission on November 1, 2020 for the first time. If approved, the model will be available for use in rate filings beginning in 2021.

AIR is also introducing an enhancement to their hurricane model in 2020 that will allow modeling of hurricane-induced precipitation flooding.

U.S. Wildfire
Impact Forecasting released an update to their California wildfire model in November 2019. The update increases the severity of events in Northern California, adjusts event frequency to a more current view (1990+) and includes some updates to vulnerability.

CoreLogic introduced a new wildfire model this summer with significant updates to both hazard and vulnerability. Key updates include incorporation of the 2019 LANDFIRE data, enhancements to fire spread that lead to increased losses in the Wildland Urban Interface (WUI), and modifications to vulnerability to account for experience from the 2017 and 2018 wildfire seasons.

AIR released an update to their wildfire model this summer with v8. Prior versions of AIR remove hazard grid cells that do not result in loss to their Industry Exposure Database (IED). AIR v8 adds these grid cells back into the model.

RMS released their new HD wildfire model in 2019. This model is not licensed by Aon but is actively being reviewed by the Model Evaluation Team.

U.S. Inland Flood
The AIR v8 release in the summer of 2020 includes significant enhancements to the inland flood model. This introduces enhancements to the event set generation process, including a new physically-based approach for pluvial (off-floodplain) modeling. It also includes meaningful updates to vulnerability that reduce damage at low flood depths.

U.S. Earthquake
Impact Forecasting is releasing a new earthquake model in 2020 which incorporates the 2014 USGS updates including UCERF3. This update also includes vulnerability enhancements from the prior version.

Caribbean Hurricane and Earthquake
AIR v8 introduces an update to the Caribbean Hurricane model that incorporates historical activity through 2018, redistributes landfall frequency across the islands, and introduces a more granular hazard resolution. It also includes several vulnerability enhancements.

AIR v8 also includes a significant update to the Caribbean Earthquake model. This includes updates to the event generation process and new ground motion prediction equations. Vulnerability curves are now spectral acceleration based, rather than based on Modified Mercalli Intensity (MMI) in previous versions.

Europe

Wind
The AIR European windstorm model has been updated in 2019 to improve the storm surge component that impacts the UK. This new storm surge component includes the whole coastline of England, and are built on the same underlying events as the wind model.

Impact Forecasting provided an update to the Europe windstorm model, which included small changes to the hazard which affected Scotland and Northern England, as well as the inclusion of demand surge across all regions in the model.

CoreLogic released a completely updated model for cyclone across Oman, UAE and Yemen. The model now includes losses from wind, storm surge, and cyclone induced precipitation flooding.

Flood
In June AIR released a updated flood model covering central Europe, including Austria, Czech Republic, Germany, Poland and Switzerland. This model covers flooding caused by precipitation and that which occurs on the flood plain and off flood plain.

Hail/Convective Storm (CS)
Impact Forecasting released a severe convective storm model which now covers 7 countries across Europe: Austria, Germany, The Netherlands, Poland, Czech Republic and Slovenia and France.

Earthquake

CoreLogic released a completed updated model for earthquake across the Arabian Peninsula. This included changes to the event set, the attenuation and ground motion, and a new vulnerability component which uses the most recent claims data available.

Turkey has been updated in the CoreLogic model. This includes more accurate geometry of the Marmara segment of North Anatolian fault based on the latest studies published between 2005 and 2019, and an update of both time dependent and time independent event rates.

Asia Pacific

Core Logic has updated the Japan portion of the Asia Typhoon Model in RQE v19.1. Updates include introduction of the 2016-2018 typhoon seasons into the historical set, updates to wind vulnerability, updates to flood hazard, and inclusion of demand surge. CoreLogic also updated its Japan Earthquake Model to account for selected seismic source model revisions made in June 2019, by Headquarters of Earthquake Research Promotion (HERP) and National Research Institute for Earth, Science and Disaster Prevention (NIED). They developed two views of risk, referred to as the NIED-Consistent (N-C) View and the CoreLogic (CLX) View.

RMS plans to update their RMS Japan Typhoon HD model between June and October 2020 with vulnerability and post-event amplification based on recent claim data, excluding stochastic event catalogue and hazard methodology. Jebi's historical catalogue will be added to both the HD model and to Risklink. AIR plans to update their Japan Wind Flood model by summer 2021 and similarly to RMS, there will not be any updates on the stochastic event catalogue nor on hazard methodology. However, what has been learned from recent events such as Jebi will be incorporated and the final Jebi historical catalogue will also be added. Moreover, AIR's Japan Earthquake model will also be updated by summer 2021.

AIR released a Multiple Peril Crop Insurance (MPCI) Model for India in September 2019 that provides (re)insurers with a sophisticated probabilistic tool to assess and manage current crop risk in India. This model allows the users to analyze and assess potential losses associated with the Pradhan Mantri Fasal Bima Yojana (PMFBY) government-sponsored national crop insurance program in India.

The dominant cause of loss to crops insured under this program is yield shortfall, relative to a pre-established threshold yield amount, for each crop in each insured unit. These yield shortfalls, which account for about 90% of the PMFBY claims, can be caused by many natural, weather-related perils. The model also provides the loss estimates caused by yield shortfall to the modeled crops. The losses from crops that are not explicitly modeled are statistically included. Loading factors can also be applied to account for losses associated with risks that are not explicitly modeled, including prevented planting and post-harvest loss covered under the PMFBY. The model also accounts for current crop locations and PMFBY policy conditions. The model simulates losses separately for each of the two cropping seasons as specified by the PMFBY: kharif and rabi.

RMS is going to release the Version 2 of RMS New Zealand Earthquake HD Model in 2020. The HD model was originally released in 2016. More information related to the model will be available in due course.

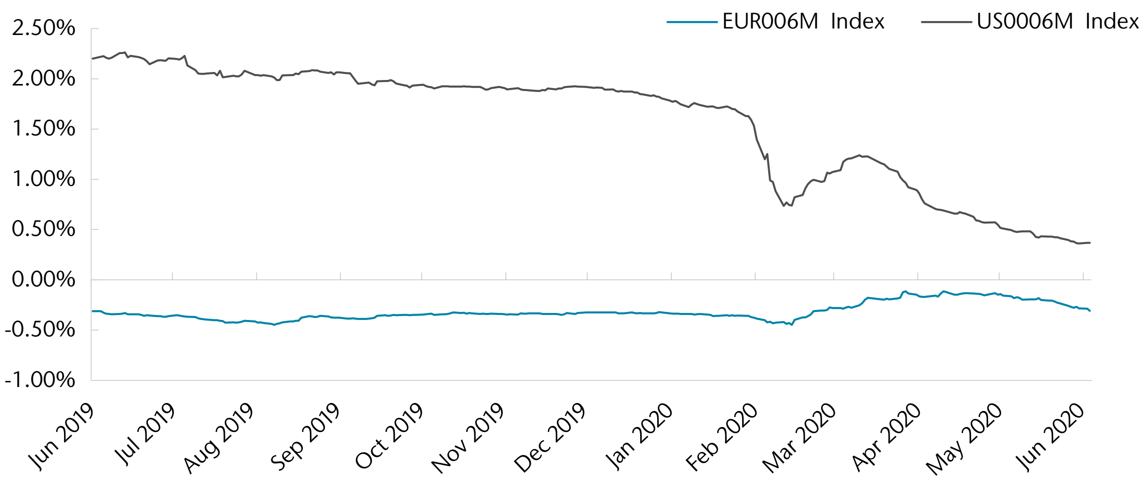
Impact Forecasting released a fully probabilistic Earthquake model for Pakistan in September 2019 replacing the previous RDS approach to Earthquake risk in Pakistan.

Collateral Solutions

Debt securities from highly-rated international institutions, as permitted investments, continue to be widely used in new catastrophe bond transactions, mainly in the form of putable floating rate notes issued by the International Bank for Reconstruction and Development (IBRD) and the European Bank for Reconstruction and Development (EBRD). These solutions have historically offered higher total yield than Money Market Funds.

The number of catastrophe bonds issuing IBRD or EBRD notes moved from 35 percent of total bonds, between 1 July 2018 and 30 June 2019, to 28 percent, between 1 July 2019 and 30 June 2020. At the same time, U.S. interest rates dropped significantly, and European interest rates remain negative, meaning that both sponsors and investors continue to pursue and favour collateral investments that offer an increased yield to the overall transaction, while minimizing counterparty and default risk. The below exhibit shows that LIBOR continues to track down, from 2.20 percent to 0.37 percent between June 30, 2019 and June 30, 2020.

Exhibit 29: EURIBOR and LIBOR Development



Source: Aon Securities LLC, Bloomberg

In the current interest rate environment, we expect both investors and sponsors to continue to be incentivized to pursue innovative collateral solutions that increase the overall yield of a transaction, while retaining a high level of credit worthiness.

Exhibit 30: IBRD and EBRD notes program description

IBRD notes	EBRD notes
The International Bank for Reconstruction and Development (IBRD) is a World Bank institution that provides loans and other assistance primarily to middle income countries. To fund development projects in member countries, the IBRD finances its loans from its own equity and from money borrowed in the capital markets through the issuance of IBRD notes. IBRD notes are unsubordinated, unsecured notes persuant to the IBRD's existing Global Debt Issuance Facility. The IBRD is rated Aaa by Moody's and AAA by Standard & Poor's.	The European Bank for Reconstruction and Development (EBRD) was founded in 1991 to create a new post-Cold War era in central and Eastern Europe. It is owned by 65 countries, as well as the European Union and European Investment Bank. The EBRD helps finance its development goals through the issuance of unsecured notes pursuant to its Global Medium Term Note Programme. The EBRD is rated Aaa by Moody's, AAA by Standard & Poor's and AAA by Fitch.

Source: International Bank for Reconstruction and Development, European Bank for Reconstruction and Development

Additional Collateral Solution Offerings

One of the benefits of catastrophe bonds is their diversification from traditional markets, collateral investments contribute a meaningful boost to returns, helping ILS asset managers to market their product showing strong returns.

Reinsurance accounting, limits collateral to only highly rated securities, while the relatively short term of ILS products and the potential for losses limits the investment to shorter-term instruments whose principal is not significantly exposed to the changing interest rate environment, typically 3-month USD LIBOR rates mostly on primary cat bond current transactions.

U.S.-denominated medium-term notes are issued by the International Bank for Reconstruction and Development ("IBRD" or the "World Bank"), typically AAA credit rated, an international organization owned by its 189-member countries. Its main business activities revolve around development activities in a goal to advance the global public good agenda, e,g, ESG (Environmental, Social and Governance) and SRI (Socially Responsible Investing) aligned transactions.

In order to meet its development goals, IBRD intermediates funds from the international capital markets, one source being the catastrophe bond markets. Over the past 10 years, IBRD has become a supplier of collateral on more than 60 catastrophe bonds with an aggregate size of more than $13 billion. IBRD's bonds meet the safety, liquidity and financial return requirements of collateral trusts. Additionally, these funds are able to be used for IBRD's sustainable development goals in middle and low-income countries.

IBRD notes have consistently offered returns in excess of money market funds, which has driven support for investors on a pure return basis. Further, we have seen increased support from ESG investors for bonds with IBRD note collateral as these meet the ESG guidelines due to the collateral's use in development. We expect to see continued support for IBRD collateral transactions moving forward in the space.

The main benefit of this type of collateral option is the increased yield. If this increased return can be realised consistently throughout the life of a bond, sponsors could theoretically pay less spread in the range of the delta between money market funds and this instrument.
The second benefit lies simply in the increased optionality for sponsors. They will be able to put their reinsurance dollars where they are most comfortable, giving peace of mind for their risk transfer.

There are, however, a number of detriments to this solution to weigh against the positives. First is the management fee, which can be as high as 0.3 percent, which reduces a significant portion of the delta between money market funds and the new collateral option. If the fund net of fees yields less than treasuries, investors are not likely to invest in the collateral as there is may be limited increased yield from the onset, to potentially fund less interest risk spread. The second main issue is a potential redemption freezes built into the solution.

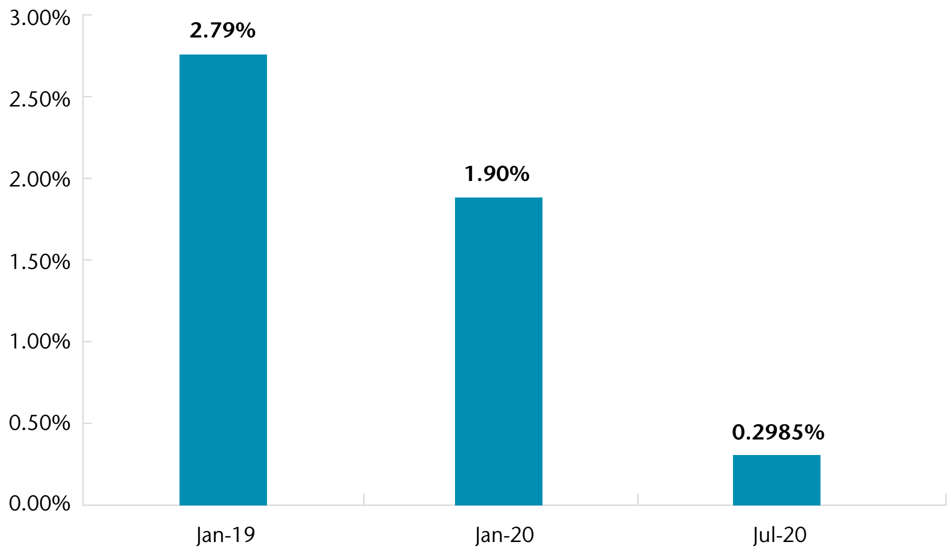
Given that the ILS market is correlated to itself, if there is a run on the fund after a natural catastrophe event that correlates with interest rate environment changes, the NAV could drop below par and reinsurance proceeds might not be payable on time or there might be a loss to the collateral. A third concern could lie in the fund being domiciled e.g. in the Cayman Islands, which may lead to reinsurance credit worries from rating agencies.

As we watch the market, we will continue to monitor both sponsors' and investors' desire to alter the collateral options. Changing interest rate environments could drive decisions to search for yield outside of money market funds, especially for lower risk bonds that derive a more significant portion of income to investors from the collateral investment.

In Q1 and Q2, 2020, given the COVID-19 pandemic, governments closed industries requiring to subsidise industries and support workers. For example, in the US an approximately $2 trillion government support program was agreed, with the Fed reducing interest rates by 100 basis points (March 15th), in Europe a €750 billion support package was agreed for similar reasons. The impact on collateral returns are evident from the below graph assuming 3-month USD LIBOR investments, as the differential between US and Euro interest rates has narrowed, with US rates remaining in positive territory.

The below 3-month USD Libor rates highlight a 2.49% drop in interest rates from 2 January 2019 to 2 July 2020.

Exhibit 31: 3-month USD LIBOR rates



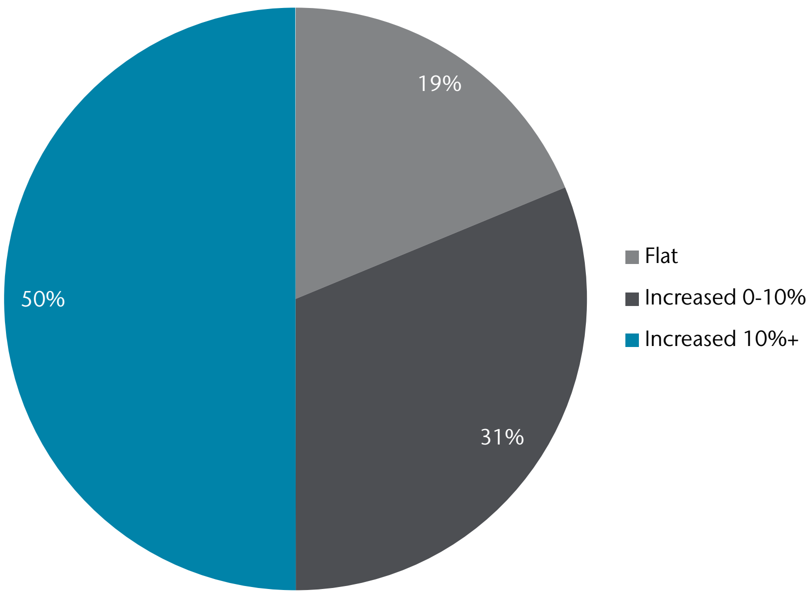
Source: https://www.global-rates.com/interest-rates/libor/american-dollar/usd-libor-interest-rate-3-months.aspx

Market Participant Questionnaire

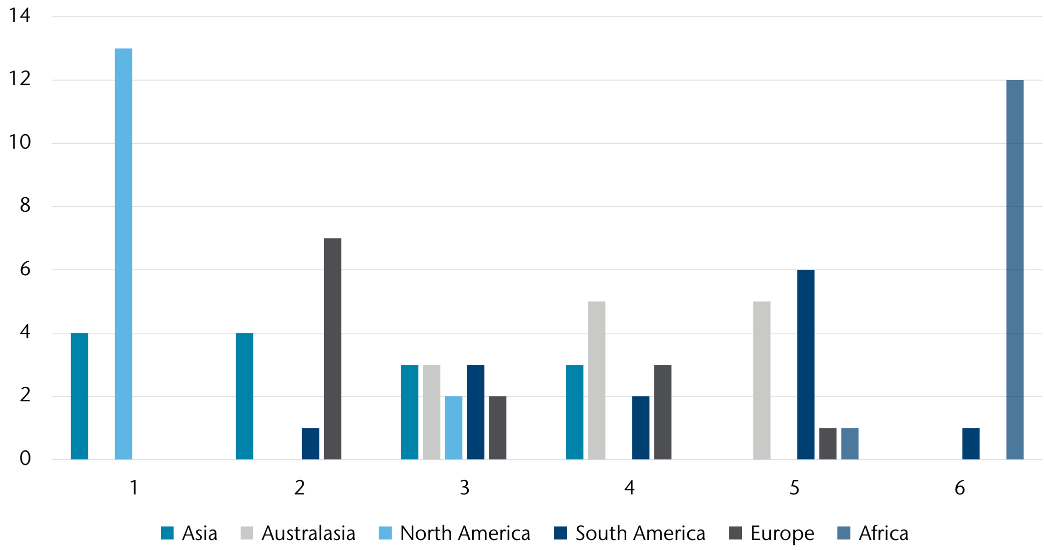
Aon Securities recently issued a market survey to a select group of Fund Managers and ILS Market Participants, across a range of geographies and disciplines.

A total of 16 respondents shared their views and aspirations for our sector, giving an insight into the evolution of the ILS space. We thank you for your participation.

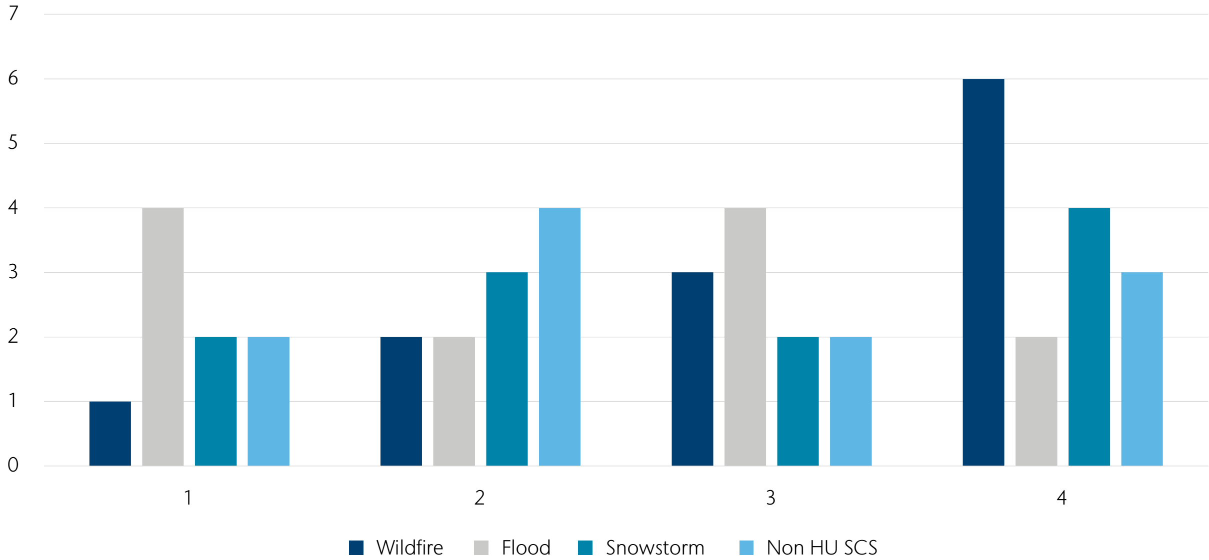
What do you think total capacity in the ILS market will be in 3 years vs current levels?



Which region do you feel has the biggest growth potential over the next 3years, for property catastrophe ILS business? Score between 1 (high) and 6 (low)



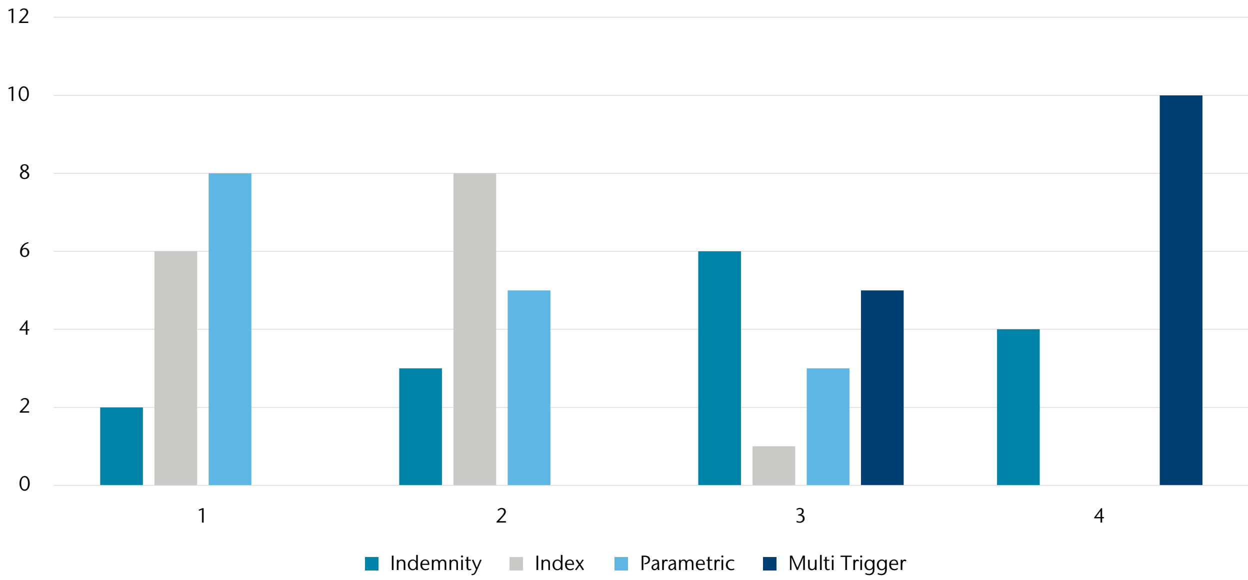
Which catastrophe peril would you most like to increase exposure to? Score between 1 (high) and 4 (low)



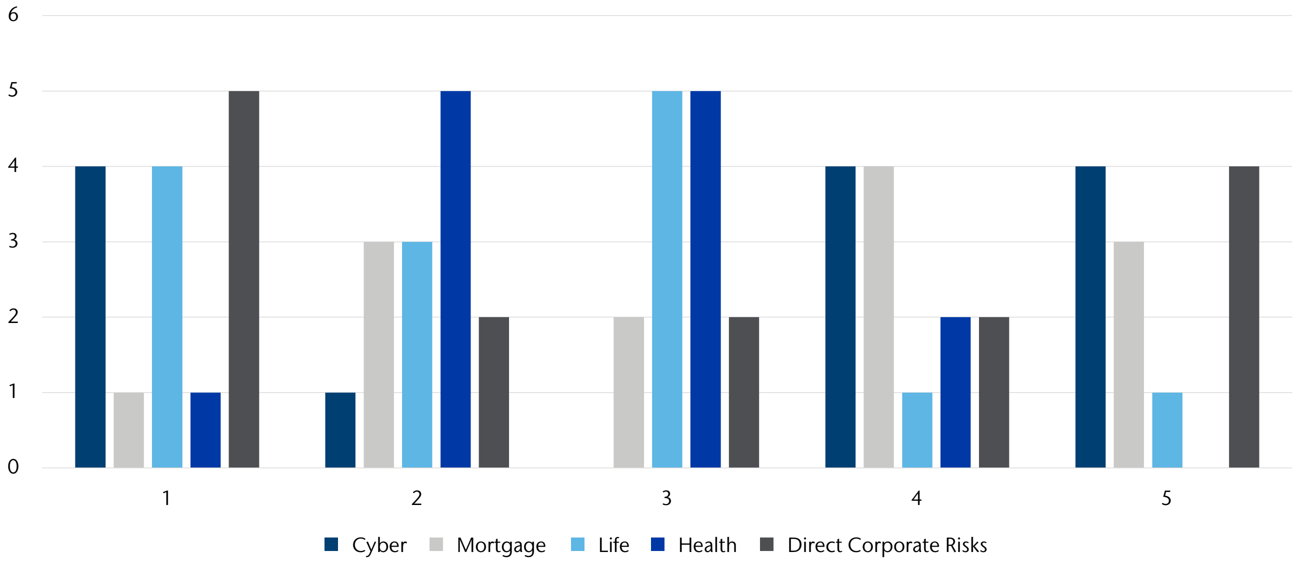
Answers under Other:

- Hurricane
- Non HU SCS Non US
- EQ Outside CA
- Non-climate exposed perils
- US HU

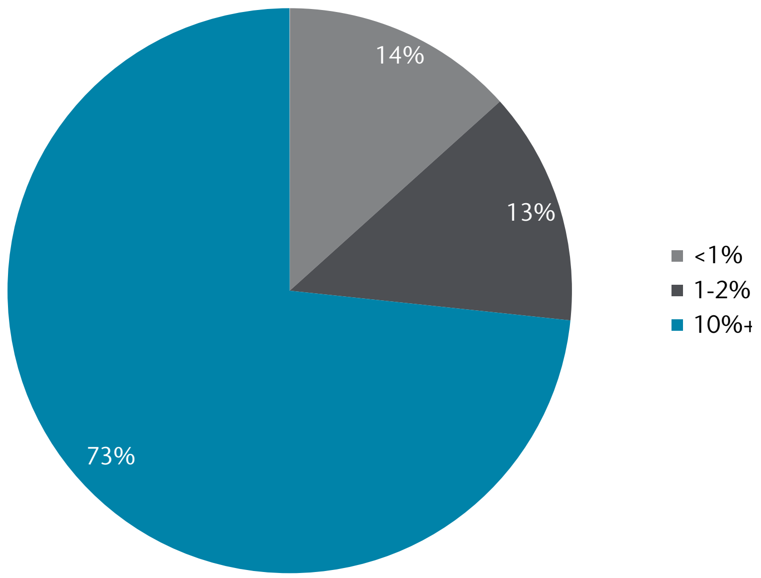
Which Cat Bond trigger would your fund have the greatest appetite for going forward, should pricing be adequate?Score between 1 (high) and 4 (low)



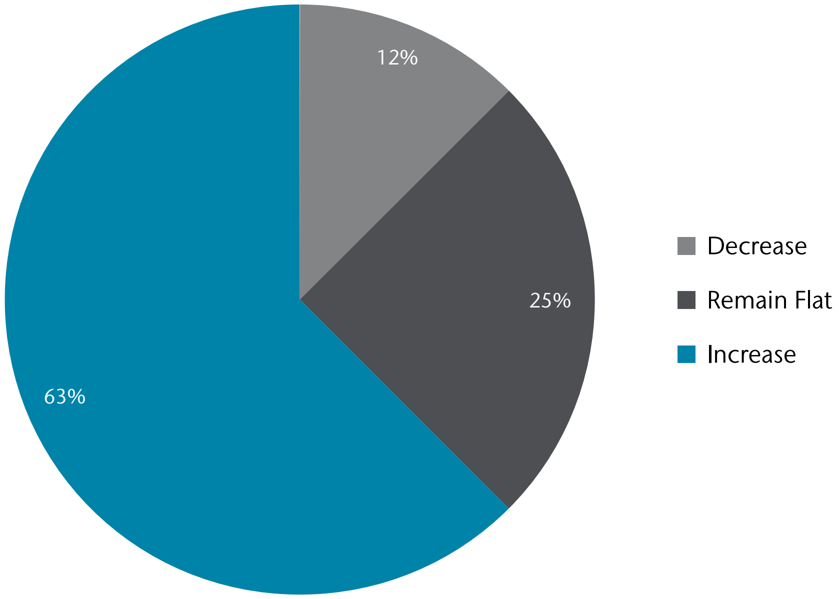
Other than property, which line of business do you see as having the biggest growth potential? Score between 1 (high) and 5 (low)



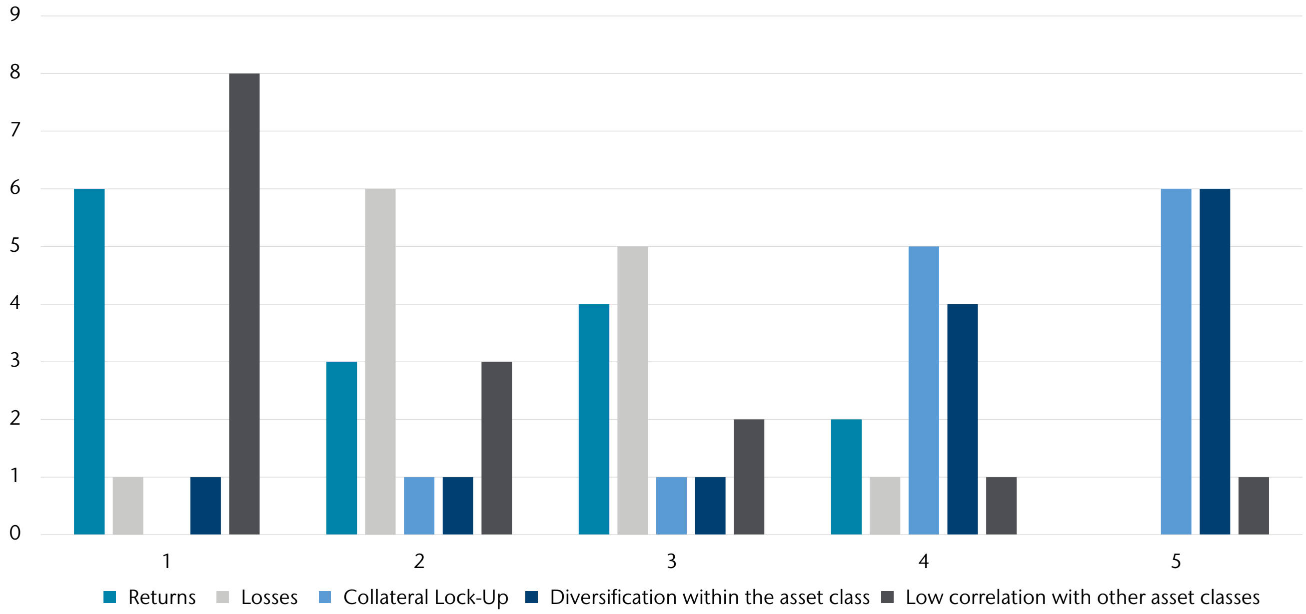
What proportion of your total portfolio assets are invested in ILS?



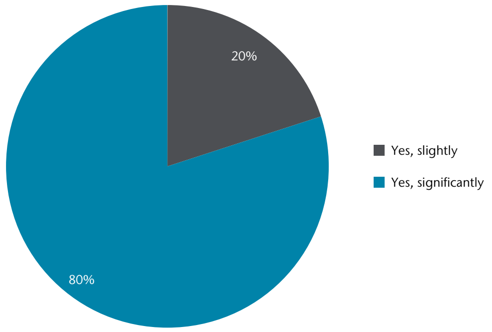
How do you feel the issuance of private placements will develop over the next three years?



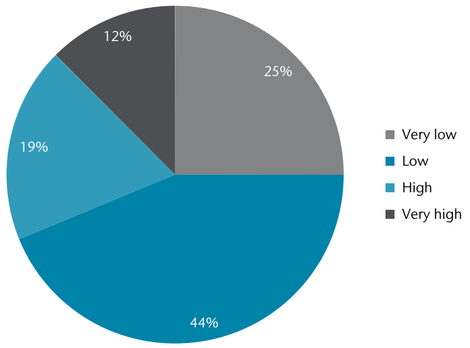
Which of the following criteria are your capital providers most focused on? Score between 1 (high) and 5 (low)



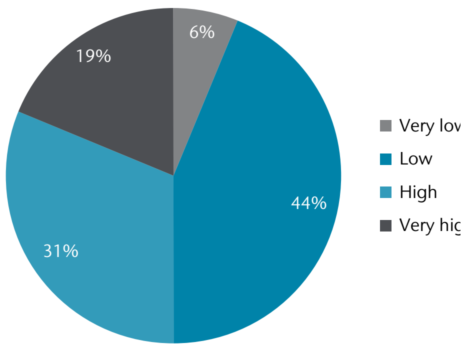
Over the last three years, has the topic of climate change factored more frequently in discussions with investors?



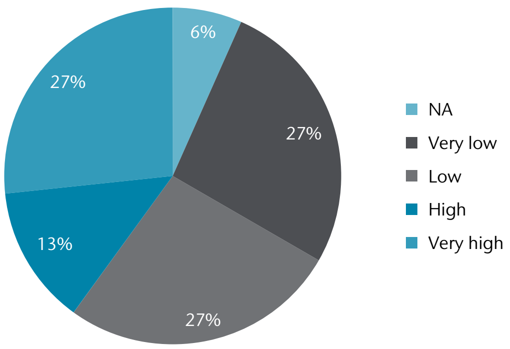
What level of impact has COVID-19 had for your business?



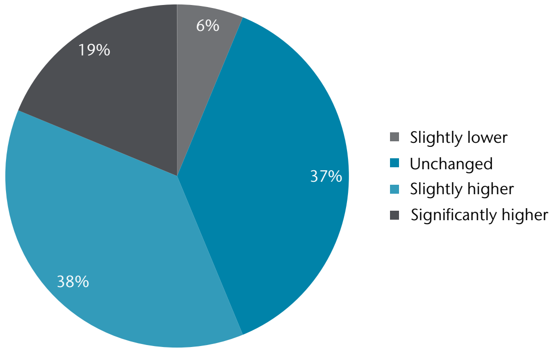
What is your business impact view of COVID-19 over the next 12-18 months?



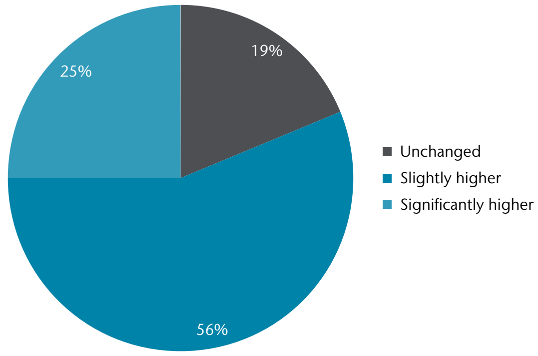
What is your business appetite for mortality/pandemic transactions?



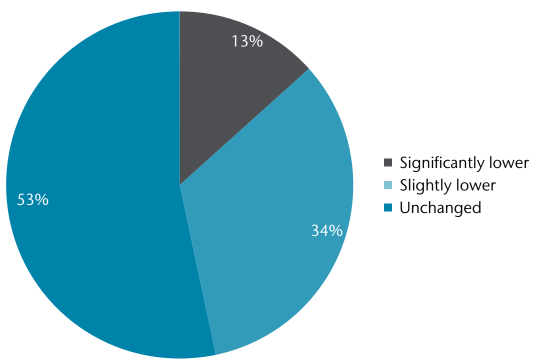
How has your fund's appetite for Non-proportional ILS (for example, Cat Bonds) developed over the last 3 years?



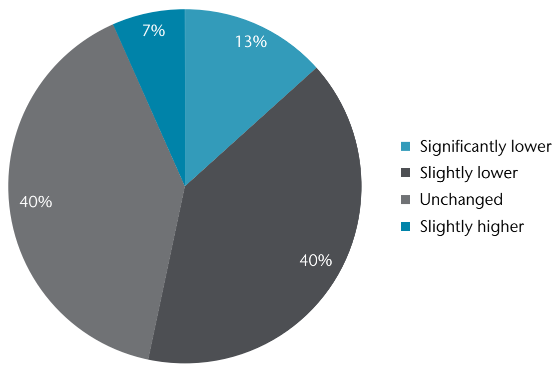
How do you predict your fund's appetite for Non-proportional ILS will develop over the next 3 years?



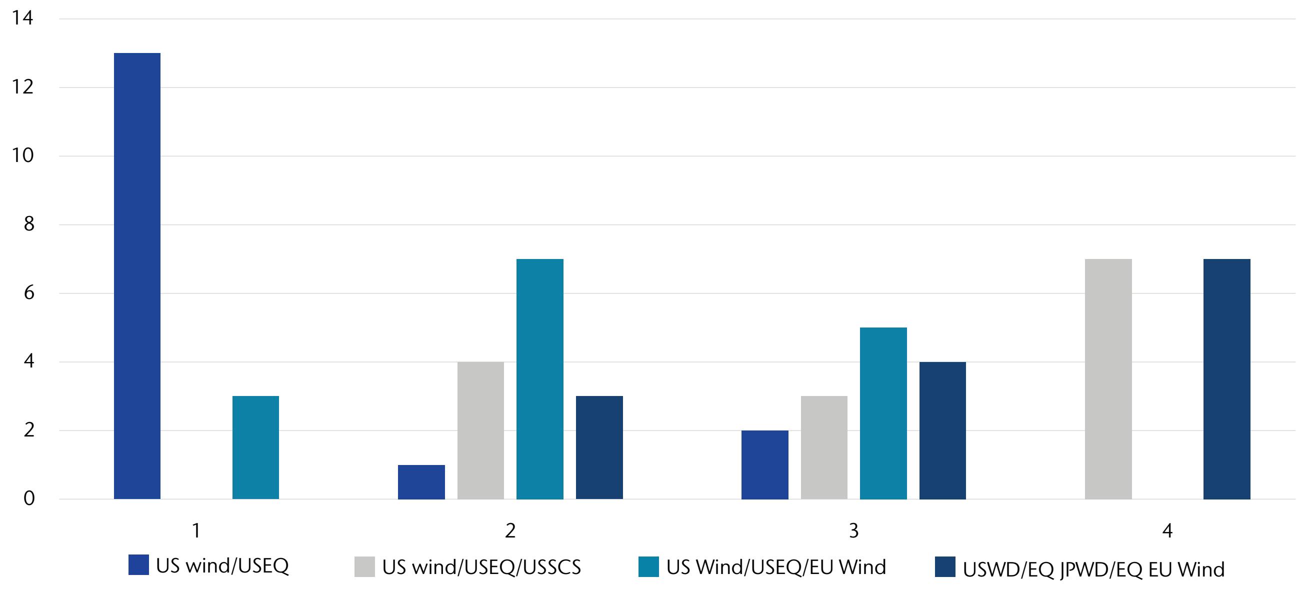
How has your fund's appetite for Proportional ILS (for example, Sidecars) developed over the last 3 years?



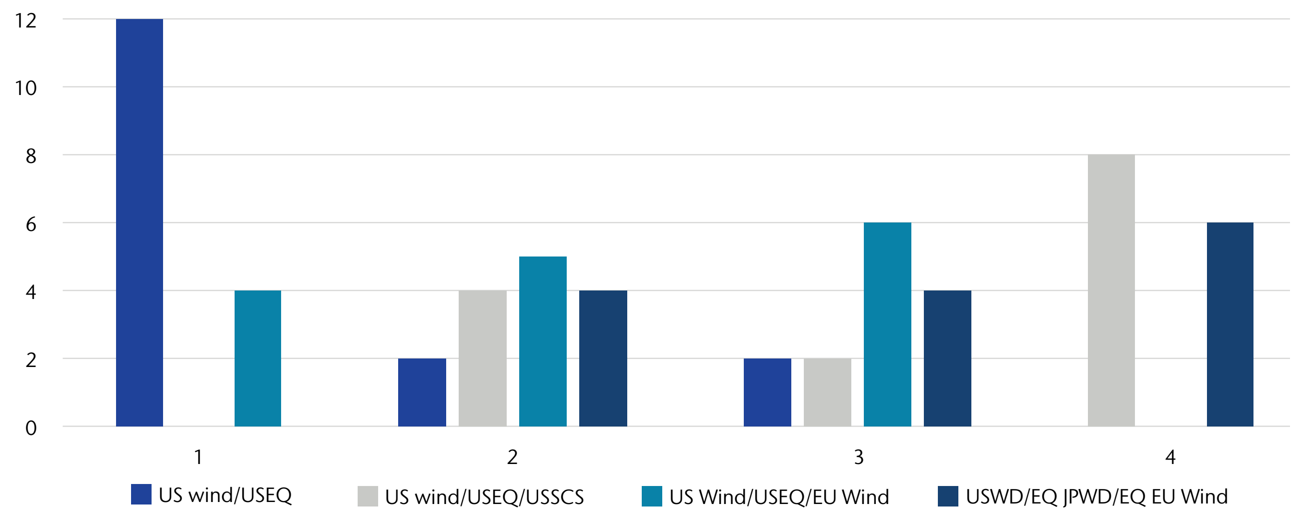
How do you predict your fund's appetite for Proportional ILS will develop over the next 3 years?



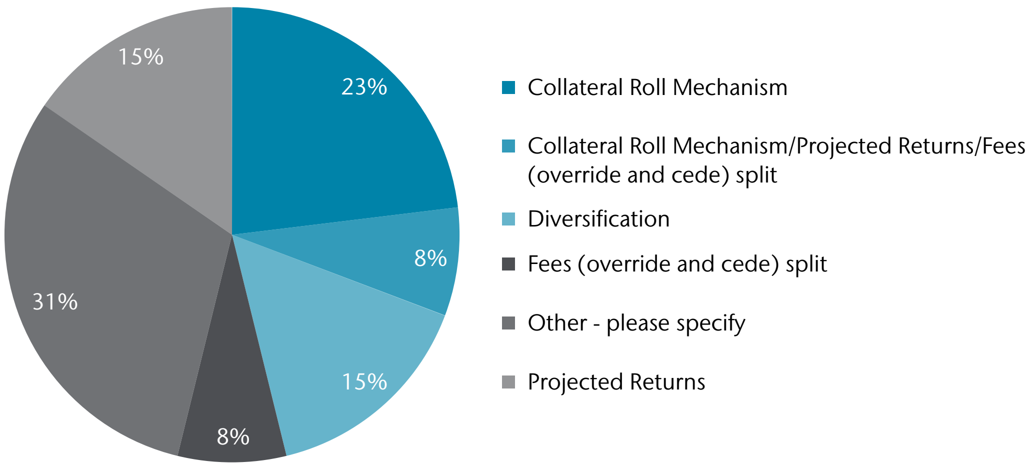
Please rank the combination of perils in preference order for a remote (less than 1.5% EL) aggregate transaction. Score between 1 (high) and 4 (low)



Please rank the combination of perils in preference order for a mid-layer (4% - 6% EL) aggregate transaction. Score between 1 (high) and 4 (low)



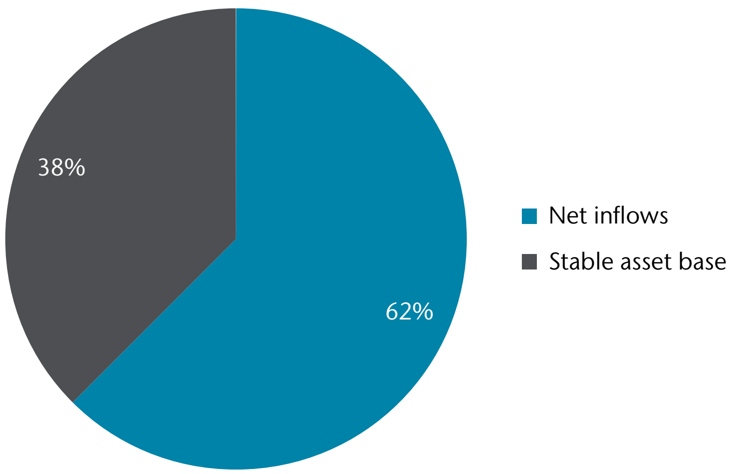
What is the most important feature in a proportional sidecar?



Answers under Other:

- Loss carryforward or high water mark in the P/C calculation
- No selection risk
- Data provided (EP Curves, past event, and quarterly reports (accuracy, timing...))
- Alignment
- Clarity on exposures / types of underlying contracts (all but fees are equally important)

Which of the following do you expect to see over the next 4 quarters?



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About Aon

Aon plc (NYSE:AON) is a leading global professional services firm providing a broad range of risk, retirement and health solutions. Our 50,000 colleagues in 120 countries empower results for clients by using proprietary data and analytics to deliver insights that reduce volatility and improve performance.

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