



Insurance-Linked Securities

Alternative Capital Breaks New Boundaries

September 2017

Aon Securities Inc. and Aon Securities Limited (collectively, “Aon Securities”) provide insurance and reinsurance clients with a full suite of insurance-linked securities products, including catastrophe bonds, contingent capital, sidecars, collateralized reinsurance, industry loss warranties, and derivative products.

As one of the most experienced investment banking firms in this market, Aon Securities offers expert underwriting and placement of new debt and equity issues, financial and strategic advisory services, as well as a leading secondary trading desk. Aon Securities’ integration with Aon Benfield’s reinsurance operation expands its capability to provide distinctive analytics, modeling, rating agency, and other consultative services.

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Foreword

It is my pleasure to bring to you the tenth edition of Aon Securities' annual Insurance-Linked Securities (ILS) report. The study offers an authoritative review and analysis of the ILS asset class, and an overview of mergers and acquisitions activity, which represent two key areas of focus for our team.

Along with our quarterly ILS Updates, the 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, 2017, during which time substantial progress was made in the ILS market.

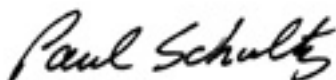
In the period under review, a record USD11.3 billion of catastrophe bond issuance was secured and overall alternative capital continued to grow across ILS products—reaching a new height of USD88.8 billion. By June 30, 2017, catastrophe bonds on-risk had reached USD25.8 billion, an increase of USD3.3 billion from June 30, 2016. During this period, a record level of maturities brought back to the market many repeat sponsors while the favorable terms and conditions also prompted several new sponsors to issue bonds. The record amount of capacity also allowed the market to test additional perils and structures proving the continuing adaptability of the space.

The 2017 edition of this annual ILS report, *Alternative Capital Breaks New Boundaries*, covers a wide range of topics in the ILS market, including:

- Aon Securities' comprehensive review of the catastrophe bond market and its key drivers;
- A review of ILS investor activity;
- Why ILS? - Detailing the benefits of investing in the ILS space;
- Our exclusive Aon ILS Indices;
- A summary of mergers and acquisitions (re)insurer activity;
- An overview of ILS-related markets, including trends in ILW, sidecars, actively managed vehicles, surplus notes, and subordinated debt;
- A review of North America, Europe, and Asia Pacific activity;
- A dedicated section on catastrophe bond collateral solutions; and
- In-depth discussions with our ILS market participants panel

The catastrophe bond market achieved record issuance volumes, but capital markets investors continued to access risks through additional channels—collateralized reinsurance, sidecars, start-up vehicles, and managing general agencies. This growing capital deployment demonstrates the commitment of the alternative markets to the reinsurance and insurance industries.

We hope you will find this document 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 Inc.

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Aon Securities' Annual Review of the Catastrophe Bond Market

Overview

Catastrophe bond issuance in the 12 months ending June 30, 2017 reached a historic USD11.3 billion, USD1.9 billion larger than the previous all-time record of USD9.4 billion set in 2014. This represents a year-over-year increase of USD6.1 billion, as new sponsors entered the market and many repeat issuers renewed maturing bonds at a significant upsize of coverage. Overall, the large volume of issuances increased the total outstanding volume of the market by USD3.3 billion. The period's increased issuance levels were driven not only by sponsors returning to the market to renew coverage, but also by investors seeking favorable investments driving up issuance sizes.

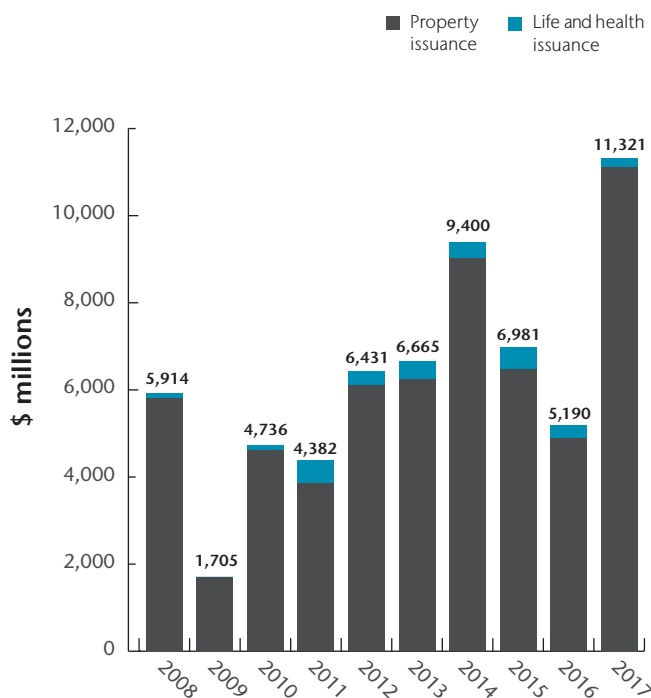
The standout second quarter of 2017 was responsible for a majority of the period's growth. In the quarter, an unmatched USD6.38 billion of limit was placed. This is USD1.89 billion more than the prior largest quarter, second quarter 2014. The record issuance quarter coincided with a record amount of maturing bonds as many 2014 deals came to their three-year maturity. However, investor support allowed the market to expand in size as the USD6.38 billion in new issues outpaced the maturing USD4.47 billion in the quarter.

The 12-month period in review is most noted for the impressive investor support that enabled the high transaction volumes. However, the period also saw many key structural trends and coverage enhancements as the catastrophe bond market continues to not only grow but also evolve.

A new covered peril, Europe flood, was introduced to the catastrophe bond market through Lion II Re DAC, issued on behalf of Assicurazioni Generali S.p.A. The new peril accounted for just 0.19 percent of the 2.24 percent initial modeled annual expected loss for the single class of notes. The transaction provides EUR200 million of coverage for Europe windstorm and Italy earthquake in addition to Europe flood. Demand drove pricing to 3.00 percent, which was below the initial spread guidance of 3.50 to 4.00 percent. This represented a multiple of just 1.3 times the expected loss.

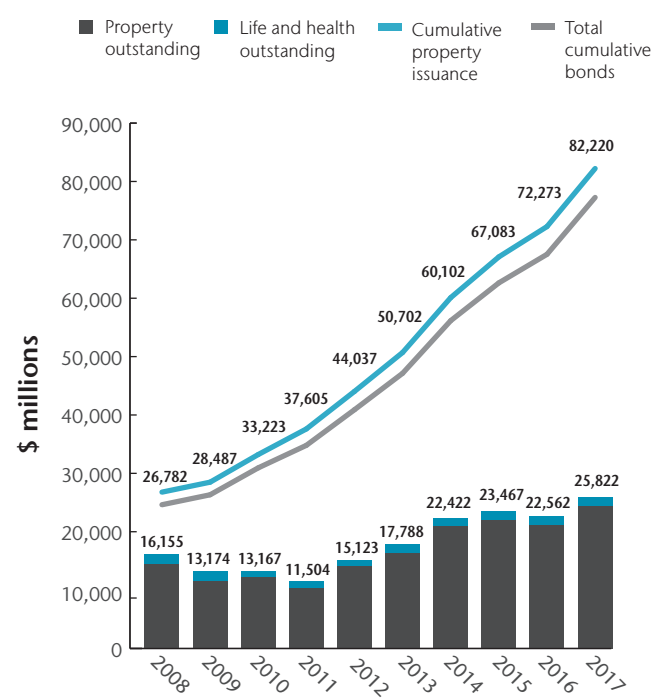
Bermuda continued to be the special purpose insurer (SPI) preferred domicile for the 12-month period as 26 issuances used the jurisdiction, with the Cayman Islands only accounting for 5 and Ireland for 1 of the 32 new issues.

Exhibit 1: Catastrophe bond issuance by year, 2008 to 2017 (years ending June 30)



Source: Aon Securities Inc.

Exhibit 2: Outstanding and cumulative catastrophe bond volume, 2008 to 2017 (years ending June 30)



Source: Aon Securities Inc.

With many catastrophe bond SPIs domiciled on the island, Bermuda service providers, banks, and the Bermuda Stock Exchange are well-positioned to support future catastrophe bond issuances.

One market trend that continues to improve ease of issuance is the reduction in bonds seeking ratings. In the period under review, five classes of notes over three deals received a rating. This represents just 7.8 percent of the limit offered in the period, a sharp reduction from 26 percent in the prior 12 months. Increased investor sophistication and understanding of the risks present in the catastrophe bond market has supported this trend. Forgoing the rating process saves sponsors costs and expedites the deal process timeline.

Along with catastrophe bond market expansion, other forms of alternative capital in the (re)insurance space continues to grow. Collateralized reinsurance, in particular, continues to increase its market share within risk transfer programs.

Key market drivers

Enhanced coverage

Cumulative coverage offered by the alternative markets continued to expand in the 12 months ending June 30, 2017 with increased issuance sizes and more covered perils. This multi-year facet of catastrophe bond coverage allows sponsors to lock-in current year pricing and later reset the bonds' coverage while pricing moves along the current curve to reflect change in risk. Many sponsors found catastrophe bond market solutions effective at covering aggregate structures. With 64 percent of the limit of bonds placed using some type of aggregate structure, the 12-month period is the first time the majority of deals done were not per occurrence. This change is further appreciated when compared to the prior 12 months, where aggregate structures accounted for just 30 percent of the year's issuance.

Sixty-four percent of new issuances utilized indemnity protection versus industry index protection. Only one sponsor, the Metropolitan Transportation Authority, used a parametric index solution to secure catastrophe bond protection.

The transaction, under the MetroCat Re Ltd. program, protects against storm surges causing flooding to the New York subway through an index based on tidal gauge height. Additionally, the Series 2017-1 Notes include parametric coverage for US earthquake through an index based on spectral acceleration.

This was a new covered peril compared to the Series 2013-1 Notes of the same program. Parametric index solutions provide the advantage of quick payouts and may provide coverage for hard-to-capture lines, such as contingent business interruption, and may be ideal for corporate sponsors.

Supply and demand

The size of the alternative market increased to USD88.8 billion in the 12-month period ending June 30, 2017. The ILS market provides investors with an attractive risk-return profile, especially in light of political uncertainty and negative interest rates in some parts of the world. Demand continues to outmatch supply, driving down interest spreads and driving up issuance sizes. This also allows for additional perils and more favorable bond structures, like aggregates, to be covered.

An increased number of catastrophe bonds are using notes issued by the World Bank's International Bank for Reconstruction and Development (IBRD) as collateral. For the period ending June 30, 2017, 54 percent of notional amount issued used IBRD notes versus 21 percent the year prior. This serves as a way to enhance yield for investors as the IBRD notes generally offer 6-Month LIBOR minus a spread of 28 to 40 basis points, which is significantly higher than what is offered by money-market funds.

Sixty percent of deal classes experienced upsizing during the process for an average increase of 27 percent of the volume issued, or an average increase of USD35.5 million per class of notes. Not only did the market experience a significant amount of upsizing, but many deals were also initially marketed at higher notational levels at the onset of marketing, allowing for the large amount of growth in the catastrophe bond market.

Additionally, the year in review is notable for the second, third, and fifth largest deals that have ever occurred during the first two quarters of 2017.

Exhibit 3: Top five largest catastrophe bonds

Rank	Transaction	Size (USD billions)	Year Issued
1	Everglades Re Ltd. Series 2014-1	\$1.50	2014
2	Galilei Re Ltd. Series 2016-1 & 2017-1	\$1.275	2017
3	Kilimanjaro II Re Limited Series 2017-1 & 2017-2	\$1.25	2017
4	Merna Reinsurance Ltd.	\$1.18	2007
5	Ursa Re Ltd. Series 2017-1	\$0.925	2017

Source: Aon Securities Inc.

Worldwide loss activity¹

Global natural disasters in 2016 combined to cause economic losses of USD210 billion, an amount 59 percent higher than the 16-year median of USD132 billion. These losses were due to the increased frequency of separate catastrophic events, totaling 315 in comparison to the historic average of 271. Increased catastrophe activity drove insured losses to reach USD54 billion, 37 percent higher than the 16-year median of USD39 billion, which is the highest insured loss total since 2012.

In the first half of 2017, global natural disaster losses were below their 17-year and 10-year averages from both an economic and insured loss perspective. Economic losses were estimated at USD53 billion, down 56 percent from the 10-year average of USD122 billion. Insured losses were estimated at USD22 billion, down 35 percent from the 10-year average of USD34 billion. Losses in the first half of 2017 were driven primarily by multiple US severe convective storms, which comprised 78 percent of the insured loss total in the US.

Severe convective storm events caused losses relating to Gator Re Ltd, an indemnity annual aggregate and per occurrence catastrophe bond. In November of 2016, Gator Re showed an annual aggregate loss impact of over USD195 million, which exceeds the attachment point set at USD175 million. Prior to maturity, Gator Re returned 82.5 percent of capital and partially extended USD35 million of the principal to allow for loss development.

Transaction review

Third quarter 2016

- At the start of the third quarter of 2016, Allianz Risk Transfer (Bermuda) Limited issued Class C notes in its Blue Halo Re Ltd. program. This provided the sponsor with an additional USD225 million in coverage for hurricane and earthquake events in the US in addition to the Class A and B notes issued at the end of June. The Class C notes are on an annual aggregate basis for each risk period. Using Aon's CATstream® product, Blue Halo Re 2016-2 C set our firm's record for time in bringing a subsequent 144A issuance to market. The product allows an expedited structuring process through a streamlined platform with pre-negotiated, market standard documentation that features customizable key terms.
- The USD700 million Nakama Re Ltd. Series 2016-1 transaction on behalf of National Mutual Insurance Federation of Agricultural Cooperatives (known as Zenkyoren) at the end of September 2016 was the fifth issuance from the Nakama Re Ltd. program. Both the Class 1 and Class 2 notes issued provide rolling three-year aggregate protection over a five-year term covering Japan earthquake. The transaction brought the total outstanding size of the Nakama Re Ltd. program to USD1.7 billion. Zenkyoren was able to effectively capitalize on the strong market demand as the Series 2016-1 notes were upsized from an initial guidance of USD250 million to reach USD700 million and become the largest transaction of the year at that point. This 180 percent transaction upsize helped signal the prolific demand to the market and catalyzed strong momentum into 2017.

Exhibit 4: Third quarter 2016 catastrophe bond issuance

Beneficiary	Issuer	Series	Class	Size (millions)	Covered perils	Trigger	Recovery	Collateral
Allianz Risk Transfer (Bermuda) Limited	Blue Halo Re Ltd.	Series 2016-2	Class C	\$225.0	US HU, EQ	Industry index	Annual aggregate	MMF
National Mutual Insurance Federation of Agricultural Cooperatives	Nakama Re Ltd.	Series 2016-1	Class 1	\$550.0	JP EQ	Indemnity	Term aggregate	IBRD
			Class 2	\$150.0				
Total				\$925.0				

Source: Aon Securities Inc.

Legend

JP – Japan
US – United States

EQ – Earthquake
HU – Hurricane

IBRD – International Bank for Reconstruction and Development Notes
MMF – US Treasury Money Market Funds

¹ Aon Benfield Impact Forecasting, 2016 Annual Global Climate and Catastrophe Report, Jan 2017; and Global Catastrophe Recap: First Half of 2017, July 2017.

Fourth quarter 2016

During the fourth quarter, four catastrophe bond transactions came to market totaling USD1.9 billion. In total, deals completed during the third and fourth quarters were upsized by more than USD1 billion, highlighting the strong primary issuance demand at the close of the year.

- On November 18, 2016, the United Services Automobile Association (USAA) came to market for the 29th time since 1997 and sponsored three more classes of notes in its Residential Re 2016 Limited program. Notably, two of the three classes were rated, which is becoming increasingly rare in the catastrophe bond market as investors become more comfortable with the risks; however, the two classes were initially rated B- and B by the rating agency S&P. The notes provide USAA with USD400 million of additional coverage for its per occurrence tropical cyclone, earthquake, winter storm, wildfire, volcanic eruption, and other perils reinsurance program. The sponsor also utilizes catastrophe bond coverage for aggregate structures.
- The California Earthquake Authority (CEA) came to market for the third year in a row under its Ursa Re Ltd. program, seeking coverage for its California earthquake exposure on an annual aggregate indemnity basis. The Series 2016-1 notes upsized from an initial target of USD300 million to reach USD500 million and replace the expiring USD400 million Series 2014-1 issuance. Pricing for the latest transaction also compared favorably, offering investors a 1.9x multiple over expected loss, compared to the 2.0x multiple seen in the two prior issuances at similar risk levels.
- Wrapping up the fourth quarter with a USD750 million transaction was Galilei Re Ltd. Series 2016-1. This issuance included a second series, Galilei Re Ltd. 2017-1, which brought the total transaction size up to USD1.275 billion. This was the largest offering since the record-setting USD1.5 billion Everglades Re Ltd. Series 2014-1, which came to market in second quarter 2014.

Exhibit 5: Fourth quarter 2016 catastrophe bond issuance

Beneficiary	Issuer	Series	Class	Size (millions)	Covered perils	Trigger	Recovery	Collateral
United Services Automobile Association	Residential Reinsurance 2016 Limited	Series 2016-II	Class 2	\$80.0	US TC, EQ, WS, ST, WF, VE, MI, OP	Indemnity	Occurrence	MMF
			Class 3	\$150.0				
			Class 4	\$170.0				
California Earthquake Authority	Ursa Re Ltd.	Series 2016-1	Class A	\$500.0	CAL EQ	Indemnity	Annual aggregate	MMF
American Strategic Insurance Group	Bonanza Reinsurance 2016 Ltd	Series 2016-1	Class A	\$150.0	US HU, ST	Indemnity	Occurrence	IBRD
			Class B	\$50.0	US HU			
XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2016-1	Class A-1	\$75.0	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	Annual aggregate	IBRD
			Class B-1	\$125.0				
			Class C-1	\$175.0				
			Class D-1	\$175.0				
			Class E-1	\$200.0				
Total				\$1,850.0				

Source: Aon Securities Inc.

Legend

AU—Australia
 CAL—California
 CAN—Canada
 JP—Japan
 US—United States

EQ—Earthquake
 HU—Hurricane
 MI—Meteorite Impact
 OP—Other Peril
 ST—Severe Thunderstorm
 TC—Tropical Cyclone
 VE—Volcanic Eruption
 WF—Wildfire
 WS—Winter Storm

IBRD—International Bank for Reconstruction and Development Notes
 MMF—US Treasury Money Market Funds

First quarter 2017

- To start the year, XL Bermuda Ltd closed the second part of its USD1.275 billion transaction, Galilei Re Ltd. with the USD525 million Series 2017-1 installment of the issuance. The Series 2017-1 notes issued under the program provide annual aggregate protection against worldwide weighted industry insured losses for a four-year term.
- Citrus Re Ltd. Series 2017-1, issued on behalf of Heritage Property & Casualty Insurance Company, was the sponsor's fifth issuance in the catastrophe bond market. The USD125 million single class of notes provide protection on an indemnity basis for losses arising from named storms in the initial covered areas of Florida, Georgia, North Carolina, and South Carolina. The notes included several features new to the insurance-linked securities market, including loss adjustment expenses being covered on an indemnity basis and a mechanism that allows for a risk spread adjustment based on changes in the ceding insurer's exposure mid-way through each annual risk period. The transaction priced 50 basis points below the low end of the initial pricing guidance.
- The USD375 million Sanders Re Ltd. Series 2017-1 transaction, on behalf of Allstate Insurance Company and its affiliates, provides collateralized reinsurance protection on an indemnity basis for losses arising from named storm, earthquake, severe thunderstorm, winter storm, volcanic eruption, and meteorite impact, and covers the District of Columbia and 48 states of the US (excluding Florida and initially New Jersey). Investor demand allowed the transaction to upsize from USD300 million and price at 3.00 percent; 25 bps below the lower end of the initial price guidance of 3.25 to 3.75 percent. The transaction is the largest ever to secure US hurricane coverage for five wind seasons on an indemnity basis.
- The Merna Re Ltd. Series 2017-1 transaction, on behalf of State Farm Fire and Casualty Company (State Farm), is the third catastrophe bond transaction from the Merna Re Ltd. program and sixth overall on behalf of State Farm to exclusively cover New Madrid Earthquake exposure. The single class of notes provide USD300 million of collateralized reinsurance protection on an indemnity per occurrence basis for losses arising from earthquakes (including fire following). The New Madrid Covered Territory was expanded to include the state of Oklahoma. The transaction was well received by the market, pricing at the lower end of initial price guidance at 2.00 percent. This represents a 25 bps reduction from the initial risk interest spread of Merna Re Ltd. Series 2016-1, which covers similar exposure and risk levels.

Exhibit 6: First quarter 2017 catastrophe bond issuance

Beneficiary	Issuer	Series	Class	Size (millions)	Covered perils	Trigger	Recovery	Collateral
XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2017-1	Class A-2	\$50.0	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	Annual aggregate	IBRD
			Class B-2	\$50.0				
			Class C-2	\$150.0				
			Class D-2	\$150.0				
			Class E-2	\$125.0				
Aetna Life Insurance Company	Vitality Re VIII Limited	Series 2017	Class A	\$140.0	US MBR	Indemnity	Annual aggregate	MMF
ICAT Syndicate 4242	Buffalo Re Ltd.	Series 2017-1	Class A	\$105.0	US HU, EQ	Indemnity	Occurrence	IBRD
			Class B	\$59.5				
Heritage Property & Casualty Insurance Company and Zephyr Insurance Company, Inc.	Citrus Re Ltd.	Series 2017-1	Class A	\$125.0	FL/GA/NC/SC HU	Indemnity	Occurrence	IBRD
Sompo Japan and Nipponkoa Insurance Inc.	Aozora Re Ltd.	Series 2017-1	Class A	\$480.0	JP TY	Indemnity	Occurrence	IBRD
Allstate Insurance Company	Sanders Re Ltd.	Series 2017-1	Class A	\$375.0	US HU, EQ, WS, ST, VE, MI	Indemnity	Occurrence	IBRD
State Farm Fire and Casualty Company	Merna Re Ltd.	Series 2017-1	Class A	\$300.0	New Madrid EQ	Indemnity	Occurrence	MMF
Total				\$2,169.5				

Source: Aon Securities Inc.

Legend

AU—Australia
CAN—Canada
EU—Europe
FL—Florida
GA—Georgia

JP—Japan
NC—North Carolina
SC—South Carolina
US—United States
EQ—Earthquake
HU—Hurricane

MBR—Medical Benefit Ratio
MI—Meteorite Impact
ST—Severe Thunderstorm
TC—Tropical Cyclone
TY—Typhoon
VE—Volcanic Eruption
WS—Winter Storm

IBRD—International Bank for Reconstruction and Development Notes
MMF—US Treasury Money Market Funds

Second quarter 2017

- In the second quarter, the market saw the third largest catastrophe bond ever, the USD1.25 billion Kilimanjaro II Re Limited Series 2017-1 and Series 2017-2 transaction on behalf of Everest Reinsurance Company. The Series 2017-1 notes issued under the new program provide annual aggregate protection against US, Puerto Rico, and Canada weighted industry insured losses for a four-year term, while the Series 2017-2 offers the same protection for a five-year term. Investor demand allowed the transaction to upsize by more than 100 percent from an initial USD600 million to USD1.25 billion in total across the six offered classes within the two series. Upon close, Kilimanjaro II Re Limited will combine with the prior outstanding Kilimanjaro Re Limited issuances to total USD2.82 billion in outstanding limit, making Everest the largest sponsor in the catastrophe bond market.
 - The USD375 million Caelus Re V Limited Series 2017-1 transaction on behalf of Nationwide Mutual Insurance Company (Nationwide Mutual) is the inaugural catastrophe bond transaction from the Caelus Re V Limited program and sixth overall on behalf of Nationwide Mutual. The latest program is the first to offer annual aggregate cover to the benefit of Nationwide Mutual. The four classes of notes provide a combined USD375 million of collateralized reinsurance protection on an indemnity basis for Nationwide Mutual. Of note, the other peril cover is a new addition relative to Caelus Re IV Limited Series 2016-1 placed last year. The transaction was well received by the market, pricing at the lower end of initial price guidance across all four classes. The transaction was also upsized by USD75 million over initial guidance.
 - Spectrum Capital Ltd. was issued on behalf of Tokio Millennium Re AG (TMR) and is TMR's first 144A transaction. Spectrum Capital Ltd. utilized Aon's CATstream® program, a platform that was first utilized in 2016 by Blue Halo Re. CATstream® allows for an expedited transaction structuring and issuance process which coupled with investor demand allowed Spectrum Capital to upsize from its initial target size of USD250 million to USD430 million. The Class A notes provide annual aggregate protection and priced at the low end of reduced guidance. The Class B notes provide per occurrence for second and subsequent events protection and priced at the low end of the narrowed range of guidance.
- **Public sector sponsors:** Six different public entities came to the market during second quarter 2017, issuing USD2.2 billion of catastrophe bonds across a variety of regions and covered perils. All six were repeat sponsors, showing the continued support of alternative capital in privatizing public risks.
 - **Pelican IV Re Ltd.:** Louisiana Citizens property residual market returned with its fourth offering covering the peril of Louisiana hurricane. Due to investor demand, the issuance was able to price at the low end of reduced guidance.
 - **Everglades Re II Ltd.:** Florida Citizens property residual market returned with its fifth offering covering the peril of Florida Hurricane. The issuance priced at the low end of reduced guidance while also achieving an increase in size.
 - **Ursa Re Ltd.:** California Earthquake Authority's seventh overall offering and largest offering to date. The transaction upsized 85 percent to become the fifth largest catastrophe bond issued by the market.
 - **MetroCat Re Ltd.:** The New York Metropolitan Transportation Authority issued its second catastrophe bond covering the perils of storm surge when caused by New York hurricanes and earthquakes.
 - **Alamo Re Ltd.:** Texas Windstorm Insurance Association's third Alamo Re catastrophe bond has added severe thunderstorm as a covered peril in addition to Texas named storm. The issuance priced at the low end of reduced guidance while also achieving an increase in size.
 - **Cranberry Re Ltd.:** Massachusetts Property Insurance Underwriting Association's issued its third catastrophe bond covering the perils of Massachusetts named storm, severe thunderstorm and winter storm. The issuance priced at the low end of reduced guidance while also achieving an increase in size.

Exhibit 7: Second quarter 2017 catastrophe bond issuance

Beneficiary	Issuer	Series	Class	Size (millions)	Covered perils	Trigger	Recovery	Collateral
Everest Reinsurance Company	Kilimanjaro II Re Limited	Series 2017-1 & Series 2017-2	Class A-1	\$225.0	US/CAN/PR HU and EQ	Industry index	Annual aggregate	IBRD
			Class B-1	\$400.0				
			Class C-1	\$325.0				
			Class A-2	\$50.0				
			Class B-2	\$75.0				
Class C-2	\$175.0							
Louisiana Citizens Property Insurance Corporation	Pelican IV Re Ltd.	Series 2017-1	Class A	\$100.0	LA HU	Indemnity	Occurrence	IBRD
Security First Insurance Company	First Coast Re Ltd.	Series 2017-1	Class A	\$175.0	FL HU, ST	Indemnity	Occurrence	MMF
American Integrity Insurance Company of Florida	Integrity Re Ltd.	Series 2017-1	Class A	\$72.0	FL HU FL HU, ST	Indemnity	Occurrence	IBRD
			Class B	\$3.0				
			Class C	\$100.0				
			Class D	\$35.0				
United Services Automobile Association	Residential Re Limited	Series 2017-1	Class 10	\$50.0	US TC, EQ, WS, ST, WF, VE, MI, OP	Indemnity	Annual aggregate and per occurrence	MMF
			Class 11	\$225.0				
			Class 13	\$150.0				
Nationwide Mutual Insurance Company	Caelus Re V Limited	Series 2017-1	Class A	\$75.0	US HU, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Annual aggregate	MMF
			Class B	\$150.0				
			Class C	\$75.0				
			Class D	\$75.0				
Palomar Specialty Insurance Company	Torrey Pines Re Ltd.	Series 2017-1	Class A	\$45.0	US EQ US HU, ST, EQ	Indemnity	Occurrence	IBRD
			Class B	\$66.0				
			Class C	\$55.0				
Citizens Property Insurance Corporation	Everglades Re II Ltd.	Series 2017-1	Class A	\$300.0	FL HU	Indemnity	Annual aggregate	MMF
Heritage Property & Casualty Insurance Company	Citrus Re Ltd.	Series 2017-2	Class B	\$35.0	FL/GA/NC/SC HU	Indemnity	Occurrence	IBRD
California Earthquake Authority	Ursa Re Ltd.	Series 2017-1	Class B	\$425.0	CAL EQ	Indemnity	Annual aggregate	MMF
			Class E	\$500.0				
Metropolitan Transportation Authority	MetroCat Re Ltd.	Series 2017-1	Class A	\$125.0	NY HU, SS, EQ	Parametric index	Occurrence	MMF
Texas Windstorm Insurance Association	Alamo Re Ltd.	Series 2017-1	Class A	\$400.0	TX HU, ST	Indemnity	Annual aggregate	MMF
Castle Key Insurance Company and Castle Key Indemnity Company	Sanders Re Ltd.	Series 2017-2	Class A	\$200.0	FL HU, ST, VE, MI, WF	Indemnity	Occurrence	IBRD
Great American Insurance Company and its affiliates	Riverfront Re Ltd.		Class A	\$142.5	US/CAN HU, EQ, ST, WS, WF, VE, MI US/CAN HU, EQ, ST, WS	Indemnity	Occurrence and aggregate - first and subsequent	MMF
			Class B	\$47.5				
Avatar Property and Casualty Insurance Company	Casablanca Re Ltd.	Series 2017-1	Class A	\$66.95	FL HU	Indemnity	Occurrence	IBRD
			Class B	\$26.3				
			Class C	\$6.75				
Massachusetts Property Insurance Underwriting Association	Cranberry Re Ltd.	Series 2017-1	Class A	\$350.0	MA HU, ST, WS	Indemnity	Annual aggregate	IBRD
Tokio Millennium Re AG	Spectrum Capital Ltd.	Series 2017-1	Class A	\$160.0	US/CAN EQ and US NS, ST, WF, WS	Industry index	Annual aggregate	IBRD
			Class B	\$270.0				
Assicurazioni Generali S.p.A	Lion II Re DAC			€200.0	EU WS, FL and IT EQ	Indemnity	Occurrence	EBRD
AXIS Specialty Limited	Northshore Re II Limited	Series 2017-1	Class A	\$350.0	US HU and US/CAN EQ	Industry index	Occurrence	MMF
Total				\$6377.2				

The figures above include Windmill I Re Ltd. 2017-1 placed privately by Aon Securities.

Source: Aon Securities Inc.

Legend

CAL—California
 CAN—Canada
 EU—Europe
 GA—Georgia
 IT—Italy
 LA—Louisiana
 MA—Massachusetts
 NC—North Carolina
 NY—New York
 PR—Puerto Rico
 SC—South Carolina
 TX—Texas
 US—United States

EQ—Earthquake
 FL—Flood
 HU—Hurricane
 MI—Meteorite Impact
 NS—Named Storm
 OP—Other Peril
 SS—Storm Surge
 ST—Severe Thunderstorm
 TC—Tropical Cyclone
 VE—Volcanic Eruption
 WF—Wildfire
 WS—Winter Storm

EBRD—European Bank for Reconstruction and Development
 IBRD—International Bank for Reconstruction and Development Notes
 MMF—US Treasury Money Market Funds

Outlook

Alternative market growth outpaced traditional reinsurer capital growth for the ninth time in eleven years. The catastrophe bond market's record year contributed heavily to the alternative market's outperformance. Increased investor presence and expanding sophistication has driven efficiency in the overall market to the benefit of sponsors.

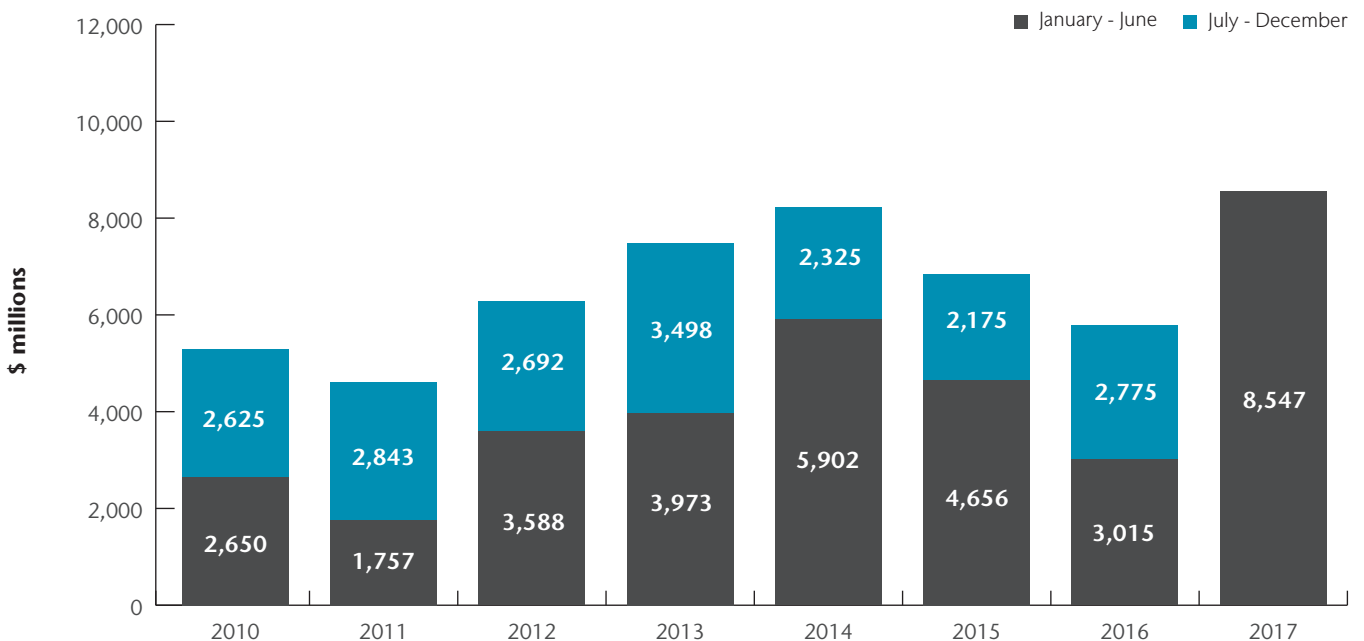
Throughout the second half of 2017, our expectations are for sponsors to continue to use the catastrophe bond market as part of their overall risk transfer programs, bringing 2017 calendar issuance total upwards to USD12 billion. As of mid-year 2017, the market has already reached a record year for calendar issuance. Absent substantial catastrophic events that could disrupt the supply of capital, current favorable pricing trends are expected to continue into 2018.

Private catastrophe bond market

The private catastrophe bond market continues to expand. Designed to replicate the tradability of 144A bonds but with a quicker and simpler placement process, the size of these transactions has increased and issuance levels are strong. The second half of 2016 saw limited primary issuances of 144A catastrophe bonds and investors needed to utilize their available capital, often finding the quickest solution in the private market. The Dodeka series of transactions, which were first issued in 2014, issued a total of USD76.4 million in the 12 months ending June 30, 2017 compared to USD42.7 million in the 12 months prior.

Private catastrophe bonds provide flexibility and cost savings for sponsors, and insurers and reinsurers are realizing opportunities to securitize ILWs and other risk transfer instruments into note form. They are frequently test transactions for innovative structures of coverage, such as Alpha Terra Validus I, which was issued in February 2017 on behalf of Terra Brasis Re and is the first catastrophe bond to feature Latin American perils in ten years. Many private catastrophe bonds are listed on the Bermuda Stock Exchange, but there is still much debate on the tradability of these notes.

Exhibit 8: Catastrophe bond issuance by half-year, 2010 to 2017 (years ending June 30)

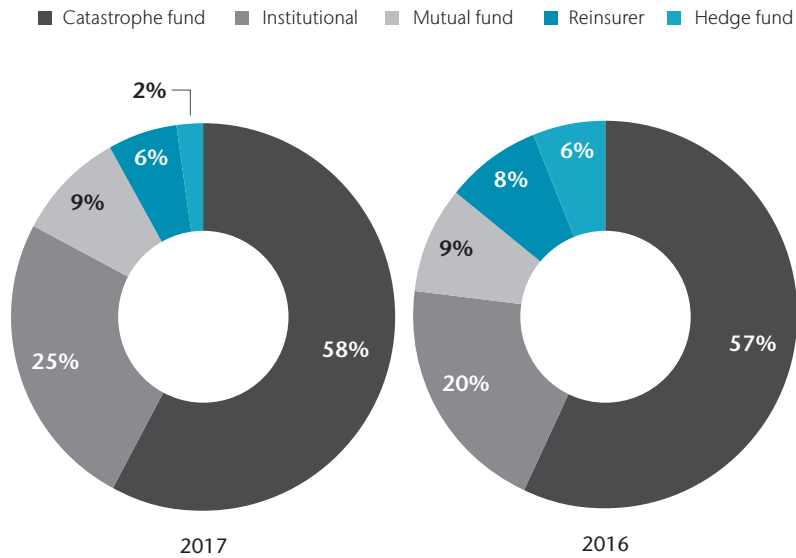


Source: Aon Securities Inc.

ILS Investor Activity

Capacity providers²

Exhibit 9: Investor by category (years ending June 30)

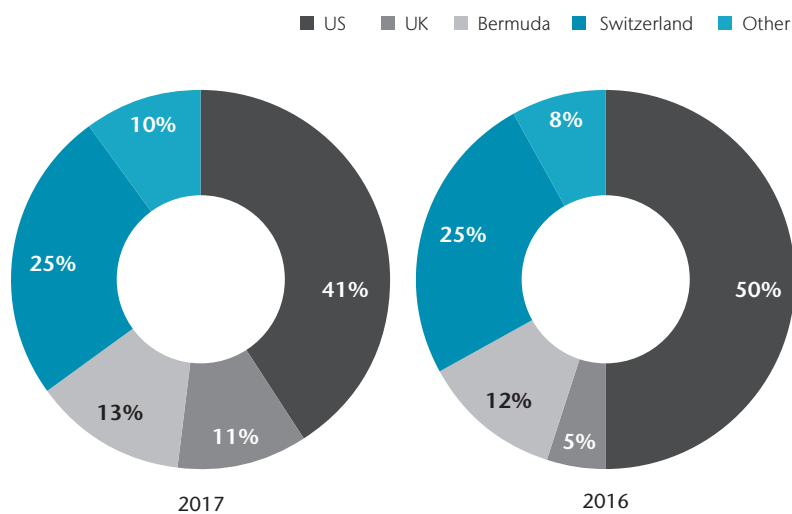


Source: Aon Securities Inc.

Institutions and dedicated catastrophe funds remained the largest providers of capacity during the 12 months ending June 30, 2017. Combined, the two categories provided 83 percent of the total capacity, an increase from last year. Overall capacity from institutions increased to 25 percent in 2017 after falling more than a third the prior year due to new funds entering the space. Capacity from reinsurers and mutual funds was relatively stable. Hedge funds' market share decreased as there were less high-yielding transactions coming to market.

Capital origins³

Exhibit 10: Investor by country/region (years ending June 30)



Source: Aon Securities Inc.

The geographic mix of catastrophe bond investors in 2017 varied slightly from 2016 but held steadier than in 2015. The US continued to be the main source of capital, with a 41 percent market share—losing some of the amount gained in 2016 but returning to a level closer to the historical average. The UK saw over a 100 percent increase in participation following last year's decline due to new funds entering the space as well as larger orders from existing funds. Bermuda and Switzerland's participation held fairly constant. The Other regions category increased slightly due to higher participation from France and Japan in 2017, with Germany holding at levels consistent with 2016.

² Aon Securities' analysis of investor category includes only those transactions in which the firm participated.

³ Aon Securities analysis of geographic attributes includes only those transactions in which the firm participated.

General market trends

Third quarter 2016

Similar to the prior year period, the third quarter of 2016 was fairly inactive when it came to primary issuances. Two new issuances closed during this period, totaling USD925 million, both by repeat sponsors. Blue Halo Re Ltd. Series 2016-2 C is multi-peril bond covering US named storm and earthquake. Nakama Re Ltd. Series 2016-1 covers Japan earthquake and was the largest issuance by this sponsor to date.

With few new issuances in the quarter and expectations for a light pipeline for the remainder of 2016, investors did not see the need to rebalance portfolios. This led to low activity in the secondary market with FINRA's Trade Reporting and Compliance Engine (TRACE) reporting volume of USD226 million⁴ across 227 trades. Investors saw strong gains in the pricing of US hurricane-exposed transactions driven by seasonality, with the hurricane season passing without incident during the quarter. Overall, pricing continued to increase as the secondary demand surpassed supply.

Fourth quarter 2016

Hurricane Matthew officially made landfall in the US on October 8 in South Carolina, the first landfalling named storm in the US since Hurricane Sandy in 2012. Insured loss estimates were upwards of USD4.0 billion, making Matthew the costliest US hurricane since Hurricane Sandy. Several trades occurred at reduced or distressed pricing prior to Matthew making landfall, including all three classes of Laetere Re and First Coast Re. However, as the impact from Hurricane Matthew was ultimately less than originally expected, all bonds rebounded and were trading at pre-event pricing levels within the week following landfall.

Trading activity continued its steady decline in fourth quarter 2016. October was a particularly light trading month as investors waited for the full impact of Hurricane Matthew to be realized. According to TRACE, there were 201 trades totaling USD202 million in the period. Many investors utilized the secondary markets to make room for new issues and January 1 renewals. As is typical for the fourth quarter, a number of investors attempted to sell short-dated bonds. Opportunistic buyers were able to purchase short-dated bonds at decreased

prices as the wind season came to a close and the maturity date approached. Expectations are for an active primary issuance calendar during the first half of 2017 given that a record USD6.4 billion is maturing during the period.

Demand from investors for new issuances in the catastrophe bond market remained strong as 2016 came to a close. Investors secured USD1.85 billion during the fourth quarter from the primary market across four bonds, beginning in mid-November and concluding with Galilei Re Ltd. 2016-1. The Galilei Re Ltd. Series 2016-1 and consecutive series 2017-1 were issued for a combined total of USD1.275 billion making it the second largest catastrophe bond ever issued.

First quarter 2017

The secondary markets continued to decrease in activity in the beginning of first quarter 2017, as investors were more focused on bond maturity and primary issuance activity. According to TRACE, there were 175 trades totaling USD211.7 million during the period. This represented a decrease in trade volume of 44 percent and dollar volume of 31 percent compared to first quarter 2016. When compared to more recent TRACE reported trading activity, the decrease in trade volume was less dramatic and consistent with recent trends, with trade volume decreasing 13 percent from fourth quarter 2016 and dollar volume increasing 5 percent since fourth quarter 2016.

Trading activity was low until March, as many bonds matured within the first few weeks of the first quarter. Throughout the month, as new issuances were frequently announced to the market, investors were given plenty of opportunity to utilize their freed-up capital. Additionally, investors looked to move bonds in the secondary market to create room in their portfolios for the new issuances.

Prior to its scheduled January 9, 2017 maturity, Gator Re Ltd. Series 2014-1 filed an extension notice as loss events throughout 2016 had negatively impacted the bond and surpassed its trigger. The filing notice indicated that Gator Re would utilize a partial extension and return 82.5 percent of the bond's principal. The remaining USD35 million would be extended as losses developed and ultimate loss payments to American Strategic were determined.

⁴ Note that this is an underestimate of total market volume as trades in bonds rated below investment grade are capped at USD1 million and foreign trades, as well as trades by non-US broker dealers, are excluded.

In March, Florida Citizens Property Insurance filed an optional termination notice allowing for an early redemption of the USD300 million Everglades Re II Ltd. Series 2015-1 catastrophe bond. Prior to filing the notice, Florida Citizens had to receive approval for such an action from its board; early redemption meant that both of the company's catastrophe bonds would expire in 2017, allowing the company to re-enter the catastrophe bond market and take advantage of the current pricing environment.

Second quarter 2017

Supported by the record-breaking primary issuance during the second quarter of 2017, secondary trading activity increased following four consecutive quarters of declining activity. According to TRACE, there were 231 trades totaling USD236.43 million during the period. This represented a six percent increase in the number of trades and a decrease in dollar volume of four percent compared to the same time period in 2016. When compared to more recent TRACE reported trading activity, the number of trades increased 32 percent and dollar volume increased 14 percent from first quarter 2017.

The high increase in number of trades while compared against the lower increase in dollar volume is due to several reasons, including new, smaller funds that entered the space during the quarter as well as established funds rebalancing their portfolios upon receiving allocations from the numerous primary issuances available. The substantial number of new issuances also meant that the usual slowdown in trading that occurs around the beginning of the hurricane season did not occur this year, with a more active June than in the prior year.

Tenax Capital entered the ILS market by securing EUR50 million from third party investors and setting up an Ireland domiciled Undertakings for Collective Investment in Transferable Securities (UCITS) fund that invests in a diversified portfolio of catastrophe bonds. IBI ILS Partners also entered the market by setting up a fund that invests across all types of reinsurance risk, including catastrophe bonds and collateralized re.

Outlook

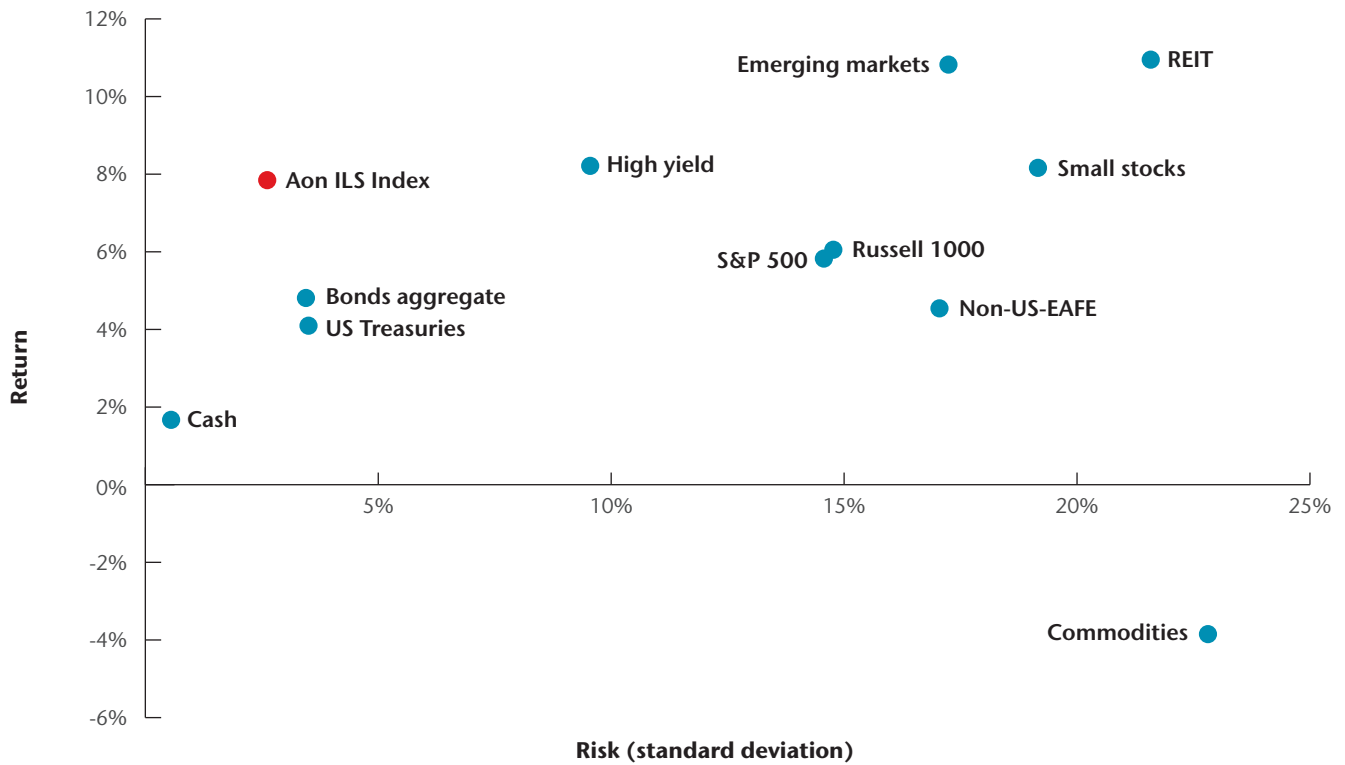
While the primary market is not typically as active during the third quarter, our firm does expect sponsors to return to the market in the second half of 2017. Many investors have capital to deploy. Overall, we believe the market will continue to be attractive for sponsors who chose to incorporate alternative capital into their risk transfer programs.

Expectations for the secondary market are for pricing to continue to rise as spreads continue to compress. Demand for bonds that help to diversify the portfolio by providing exposure to alternative perils, such as casualty and non-US perils, will continue to grow.

Why ILS?

ILS fund returns have historically been compared to other alpha generating absolute return vehicles. While some investors view the ILS market on a relative value compared to other asset classes, many view the ILS market on a standalone basis. This is primarily due to the unique risks found in the ILS market and the potential for a large loss in any given year. As institutional investors continue to place value on high risk-adjusted returns, ILS funds are an attractive option as returns have historically ranged from 5 to 15 percent (net of fees).

Exhibit 11: High historical returns with relatively low volatility



Source: Bloomberg, Aon Securities Inc.: Data from 12/31/2000-6/30/2017.

Investors actively work to determine alternative investments that minimize volatility and reinsurance as an asset class can often accomplish this. Since year end 2000, the Aon ILS Index has shown average returns of approximately 8 percent with risk (standard deviation) of 2.5 percent. The low volatility helps potential investors to both predict losses and measure peers by their expected losses.

The ILS market has a record of resiliency and stability during volatile market conditions. During the recent financial crisis, the ILS market performed significantly better than comparable asset classes. The Aon All Bond Index was down 2.9 percent compared against the S&P 500 Index, which had a negative return of 41 percent. Natural catastrophe events have very little parallels to the fluctuations in the equity or fixed income markets.

There have been recent efforts to make the asset class more transparent. The Hedge Fund Standard Board (HSFB) in June 2017 released an insurance-linked open protocol standard, which encourages transparency and allows investors to aggregate their total risk across insurance fund holdings. Implementation of a transparency standard helps alternative investors accurately calculate their risk-adjusted return. The high risk-adjusted returns, limited volatility and low correlation to traditional asset classes will continue to fuel growth within the ILS market.

Exhibit 12: Historically attractive returns

Event	Return period*	ILS**	S&P 500	High yield	CMBS	ABS	Hedge fund
Financial Crisis	July 2008 - February 2009	-2.9%	-41.0%	-12.6%	-12.8%	-10.2%	-19.6%

* The period chosen was 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.

** Financial crisis catastrophe bond losses relate to credit loss of Lehman Brothers.

Source: Aon Securities Inc., Bloomberg.

The Aon ILS Indices

The Aon ILS Indices are calculated by Bloomberg using month-end price data provided by Aon Securities.

Aon ILS Indices returned positive results during the 12 months ending June 30, 2017. The Aon All Bond and BB-rated Bond Indices posted gains of 5.58 percent and 4.05 percent, respectively. The US Hurricane and US Earthquake Bond Indices also yielded positive results for the year of 6.42 percent and 3.87 percent, respectively. The Aon All Bond Index outperformed relative to most comparable fixed income benchmarks, but was lower than the 3-5 year BB US High Yield Index which returned 7.86 percent during the period under review.

The annual returns for all Aon ILS Indices were lower than the prior year's annual returns. This was largely due to severe weather events. The 10-year average annual return of the Aon All Bond Index—7.50 percent—continued the trend of outperforming comparable benchmarks and reinforces the value of a diversified book of pure insurance risks for investors' portfolios over the long term.

Exhibit 13: Aon ILS Indices⁵

Index title	Return for annual period ended June 30		5-year average annual return	10-year average annual return
	2017	2016		
Aon ILS Indices				
All Bond Bloomberg Ticker (AONCILS)	5.58%	6.84%	7.08%	7.50%
BB-rated Bond Bloomberg Ticker (AONCBB)	4.05%	5.34%	4.74%	5.98%
US Hurricane Bond Bloomberg Ticker (AONCUSHU)	6.42%	7.73%	8.19%	8.67%
US Earthquake Bond Bloomberg Ticker (AONCUSEQ)	3.87%	4.85%	4.51%	5.23%
Benchmarks				
3-5 Year US Treasury Notes (BEUSG2)	-1.18%	4.10%	1.20%	3.81%
3-5 Year BB Cash Pay US High Yield Index (J2AI)	7.86%	3.90%	6.27%	6.90%
S&P 500 Index (SPX)	15.46%	1.73%	12.21%	4.89%
ABS 3-5 Year, Fixed Rate Index (R2A0)	2.00%	3.58%	2.67%	3.49%
CMBS 3-5 Year, Fixed Rate Index (CMB2)	0.75%	4.28%	3.23%	6.30%

Source: Aon Securities Inc., Bloomberg.

⁵ The 3-5 Year US Treasury Note Index is calculated by Bloomberg and simulates the performance of US Treasury notes with maturities ranging from three to five years.

The 3-5 Year BB Cash Pay US High Yield Index is calculated by Bank of America Merrill Lynch (BAML) and tracks the performance of US dollar denominated corporate bonds with a remaining term to final maturity ranging from three to five years and are rated BB1 through BB3. Qualifying securities must have a rating of BB1 through BB3, a remaining term to final maturity ranging from three to five years, fixed coupon schedule and a minimum amount outstanding of USD100 million. Fixed-to-floating rate securities are included provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transactions from a fixed to a floating rate security.

The S&P 500 Index is Standard & Poor's broad-based equity index representing the performance of a broad sample of 500 leading companies in leading industries. The S&P 500 Index represents price performance only, and does not include dividend reinvestments or advisory and trading costs.

The ABS 3-5 Year, Fixed Rate Index is calculated by BAML and tracks the performance of US dollar denominated investment grade fixed rate asset backed securities publicly issued in the US domestic market with terms ranging from three to five years. Qualifying securities must have an investment grade rating, a fixed rate coupon, at least one year remaining term to final stated maturity, a fixed coupon schedule and an original deal size for the collateral group of at least USD250 million.

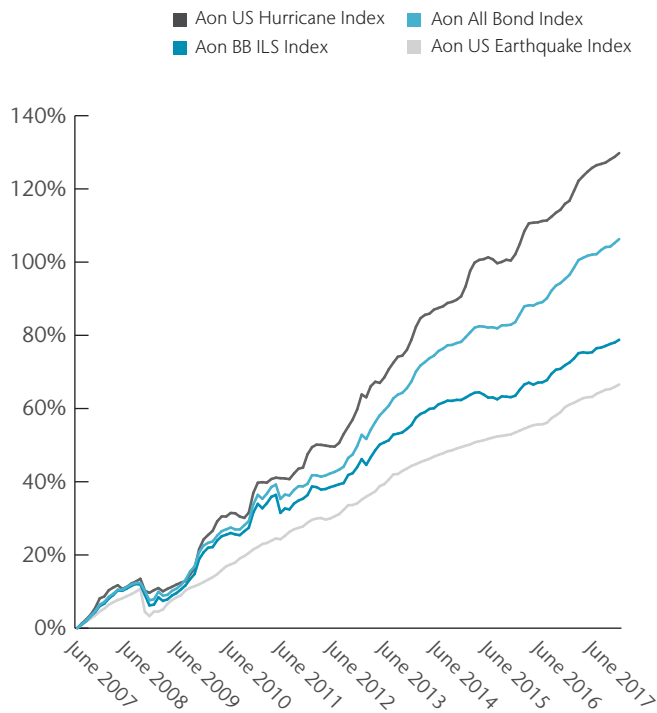
The CMBS 3-5 Year, Fixed Rate Index is calculated by BAML and tracks the performance of US dollar denominated investment grade fixed rate commercial mortgage backed securities publicly issued in the US domestic market with terms ranging from three to five years. Qualifying securities must have an investment grade rating, at least one year remaining term to final maturity, a fixed coupon schedule and an original deal size for the collateral group of at least USD250 million.

The performance of an index will vary based on the characteristics of, and risks inherent in, each of the various securities that comprise the index. As such, the relative performance of an index is likely to vary, often substantially, over time. Investors cannot invest directly in indices.

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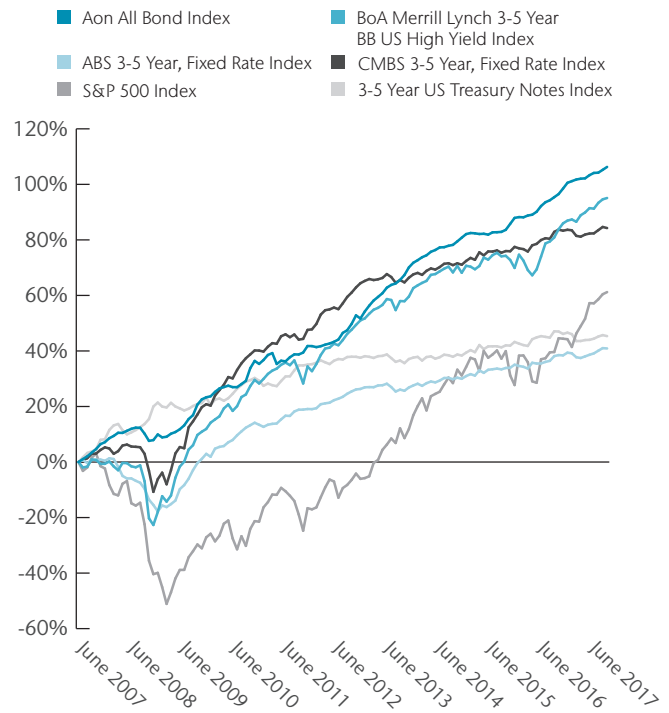
Both equity and fixed income markets have experienced volatility during the 12 months ending June 30, 2017 to varying degrees. After initial decreases in nearly every comparable benchmark, the two most historically volatile benchmarks, the S&P 500 Index and the 3-5 Year BB US High Yield Index achieved the most significant recoveries. Rapid growth in China's GDP following a year of economic turndown was able to counter against the continuing geo-political turmoil in the Middle East. Meanwhile, economic uncertainty in the US meant that the usually safe government debt was not a refuge for those seeking higher returns in the bond market.

Exhibit 14: Historical performance of Aon ILS Indices



Source: Aon Securities Inc., Bloomberg.

Exhibit 15: Aon All Bond index versus financial benchmarks



Source: Aon Securities Inc., Bloomberg.

Mergers and Acquisitions (Re)insurer Activity

Over the six months ending June 30, 2017, global (re)insurance M&A deal value increased significantly when compared against the same period in 2016, while deal count was relatively flat as a result of one relatively large transaction—KKR & Co. and Caisse de Depot et Placement du Quebec acquiring USI Insurance Services, LLC. According to S&P Capital IQ, the global (re)insurance sector announced M&A deal volume through the first six months of 2017 totaled USD12.4 billion across 384 deals, compared to USD7.1 billion across 372 deals for the same period in 2016—a total deal value increase of 75 percent and a deal volume increase of 3 percent⁶.

Exhibit 16: Select (re)insurance M&A activity

Acquirer	Target	Rationale	Timing	Price (millions)
Markel Corporation	SureTec	Through this transaction, Markel will enhance scale, product portfolio, and risk capacity for surety lines.	February 1, 2017	\$250.0
KKR & CO. and Caisse de Depot et Placement du Quebec	USI Insurance Services, LLC	KKR and CDPQ believe USI is uniquely positioned to help address the risk management, insurance, and employee benefits-related needs of small- and medium-sized business owners.	March 17, 2017	\$4,300.0
First Origin International, Ltd.	Hong Kong Life Insurance Limited	First Origin International, whose businesses include financial technology, online wealth management, payments, health care, and real estate, plans to combine its fintech expertise with Hong Kong Life's insurance business.	March 20, 2017	\$914.3
Intact Financial Corp.	OneBeacon Insurance Group Ltd.	Intact's acquisition of OneBeacon allows Intact to expand into US speciality lines focusing on small-to-midsize businesses. OneBeacon is a strong strategic fit for Intact, with deep expertise in commercial and specialty lines.	May 2, 2017	\$1,731.7
New Mountain Capital, LLC	OneDigital Health and Benefits	As majority shareholder, New Mountain will provide strategic guidance and industry expertise to help drive OneDigital's continued growth in both healthcare and brokerage distribution.	May 8, 2017	\$560.0
National General Holdings Corp.	Elara Holdings, Inc.	Elara Holdings, the holding company of Direct General Corp., allows National General to grow its personal lines portfolio, boost its direct marketing abilities and expand its product distribution channel.	November 1, 2016	\$165.0

Source: Aon Securities Inc., S&P Capital IQ and company public filings.

⁶ Includes all Property & Casualty and Life & Health underwriter and broker transactions.

Market conditions are still favorable for M&A, as long-term organic market trends drive further consolidation in the insurance and reinsurance industries. M&A activity continues to be driven by acquirers' desire to expand (i) geographically, (ii) into new products or distribution channels (such as fintech trends, as digital offerings become more prevalent), (iii) to achieve scale and the resulting expense efficiencies and (iv) to strengthen client relationships amidst a challenging environment for organic growth. Increasingly, many leading (re)insurers believe that the industry's current expense structure is too high and not sustainable.

As in North America, international insurance M&A activity continues to be dynamic due to a number of factors, including:

- Japanese insurers continue to seek and execute on high quality Western targets with Sampo's USD6.3 billion acquisition of Endurance as a recent example.
- Despite the headwinds related to the Chinese foreign currency exchange controls and concerns regarding regulatory approvals, Chinese investors continue to make outbound acquisition attempts. In particular, targets in the "One Belt One Road" ("OBOR") regions are becoming increasingly popular, with Qianhai Financial Holding's USD1 billion acquisition of Asia Capital Reinsurance ("ACR") as a notable example.
- In the UK, despite the overhang of Brexit and a continuation of softening rates, strong appetite continues to exist for UK P&C targets (both carriers and intermediaries), which is partially driven by GBP depreciation.

- Brexit is also driving UK-centric operators to seek continental EU operating bases, both via start-up and outward M&A, but with a limited universe of meaningful targets, transactions have been relatively hard to find.

As summarized in the Aon Securities Weekly Public Market Recap, most global (re)insurers' stock prices and valuation multiples have increased over the past year with the publicly traded universe trading at a median of approximately 95 percent of its 52 week high. Year-to-date the health, title lines, and London specialty sectors have been the best performers with nominal returns of 26.5 percent, 22.1 percent, and 12.5 percent, respectively. Florida specialty and P&C small cap specialty lines sectors have been the worst performers with nominal returns of 11.3 percent and 3.1 percent, respectively.

In conclusion, Aon Securities expects M&A activity to continue at an important pace but with share prices near 52-week highs and the increasing uncertainty in Washington (e.g. regulation, taxes), some buyers will take pause. Regardless of the near-term uncertainty, M&A will continue as an important tool to achieve (re)insurers' strategic, diversification and expense, and capital efficiency objectives.

ILS-Related Markets

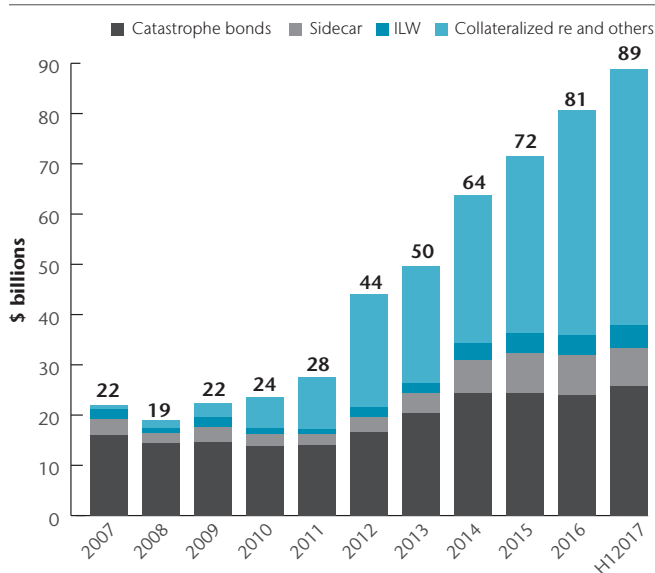
Total capital deployed by the alternative markets grew to USD88.8 billion by June 30, 2017, an increase of 10 percent from year end 2016. As shown in exhibit 18, alternative capital markets represented 15 percent of the global reinsurer capital at June 30, 2017.

Quota share sidecars

USD1.8 billion in limit was secured through nine quota share sidecar transactions that have come to market since June 30, 2016. Of these, five were renewals from 2016 and four were new vehicles. Two of the new sidecars were by sponsors that have previously not utilized sidecars to access the alternative capital market.

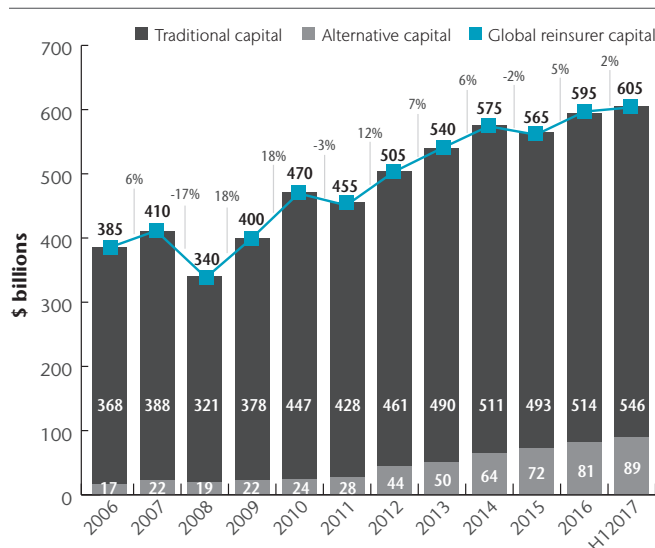
Silverton Re Ltd. returned for a fourth consecutive year, securing USD130 million for its Series 2017-1 issuance. Hannover Re's K Cessions and Brit's Versutus Ltd. sidecars expanded by 10 percent and 82 percent and upsized by USD50 million and USD67.5 million, respectively. The expansion of these renewing sidecars demonstrates the growing importance of alternative capital for sponsors. Exhibit 19 outlines the renewal quota share sidecars launched during 12 months to June 30, 2017.

Exhibit 17: Alternative market development



Source: Aon Securities Inc.

Exhibit 18: Global reinsurer capital



Source: Individuals company reports, Aon Benfield Analytics, Aon Securities Inc.

Exhibit 19: Renewing quota share sidecars launched during 12 months to June 30, 2017

Sidecar	Inception date	(Re)insurer	Size (USD millions)
Silverton Re Ltd.	December 2016	Aspen Re	130.0
Eden Re II Ltd. Series 2017-1 Class A	December 2016	Munich Re	101.4
Eden Re II Ltd. Series 2017-1 Class B	January 2017	Munich Re	258.7
K-Cessions	Januar, 2017	Hannover Re	550.0
Versutus Ltd.	March 2017	Brit	150.0

Source: Company filings and press releases.

New sidecars shown in exhibit 20 below reveal a continued focus from sponsors to evaluate and utilize sidecars as a strategic opportunity to access the ILS market. Hamilton Re and Liberty Mutual Insurance Company (Liberty) are both first time sidecar sponsors while RenaissanceRe returned to the market with a new vehicle.

Exhibit 20: New quota share sidecars launched during 12 months to June 30, 2017

Sidecar	Inception date	(Re)insurer	Size (USD millions)
Limestone Re Ltd.	December 2016	Liberty Mutual Insurance Company	160.0
Leo Re Ltd.	December 2016	Munich Re	200.0
Fibonacci Reinsurance Ltd.	December 2016	RenaissanceRe	140.0
Turing Re Ltd.	June 2017	Hamilton Re	65.0

Source: Company filings and press releases.

Limestone Re Ltd., the transaction sponsored by Liberty, marks the emerging trend of sponsors utilizing sidecar transactions to access not only retrocession but also reinsurance capacity. In addition to Liberty, Brit has also ceded some of its US property binder insurance risks as part of the 2017 renewal of its Versutus Ltd sidecar. Allowing investors to access insurance risks through sidecars could provide a substantial opportunity for new transactions and fuel growth for existing vehicles.

Actively managed sidecars and start-up reinsurance vehicles

Since 2016, reinsurers' utilization of actively managed vehicles has continued. Mt. Logan Re, Ltd. (Mt. Logan), Hiscox Re Insurance Linked Strategies (Hiscox Re ILS) and AlphaCat Managers (AlphaCat) combined assets have surpassed USD5.3 billion. In the period under review, AlphaCat and Hiscox Re ILS each grew by at least 25 percent. Chief Operating Officer of Hiscox Re ILS, Richard Lowther said: "While the rebranding under Hiscox Re Insurance Linked Strategies (from Kiskadee) reflects the growing independence of this area of our business, our mandate continues to be to provide attractive and diverse ILS investment opportunities for our investors which also meet the broader needs of Hiscox Re's clients".

In December 2016, Enstar Group (Enstar) launched an unrated total return reinsurer named KaylaRe Ltd., alongside investment manager Hillhouse Capital Management, Ltd. and financial services equity investor Stone Point Capital LLC. The vehicle launched with USD620 million of equity capital, USD300 million of which was contributed by Enstar, USD270 million by funds managed by Hillhouse Capital Management, Ltd. and USD50 million by funds managed by Stone Point Capital LLC. KaylaRe's access to Enstar's sourced legacy business, quota share

transaction with StarStone, and its focus to become increasingly market facing to underwrite third-party reinsurance business differentiates it from other total return reinsurers.

Somerset Re, a new Bermuda-based life and annuity reinsurer that raised USD375 million from several strategic and high net worth investors, received a "B++" rating from A.M. Best. While most total return reinsurer start-ups over the past couple of years have focused on the property and casualty industry, Knighthead Annuity & Life Assurance and Nassau Reinsurance Group have targeted the life reinsurance market.

Collateralized reinsurance market trends⁷

Collateralized reinsurance was the fastest growing component of alternative capital during the 12-month period under review. Continuing the prior year's trends, a large part of this growth was driven by ILS investors pursuing less-liquid strategies.

To support this growth, alternative capital providers continued to broaden their access to risk through the creation of managing general agency (MGA) partnerships. For example, Ventus Risk Management (Ventus) and an undisclosed top five ILS manager have announced an MGA partnership. The ILS manager provides capacity to Ventus to write small-to-medium-size enterprise commercial US insurance business in the excess and surplus lines sector. Ventus sources this business from wholesale brokers, but initially used the capacity provided by XL Catlin.

To broaden its own risk, Nephila Capital (Nephila) took a separate route and shifted its syndicate's business focus from reinsurance to insurance in 2016. Nephila wrote primary insurance business through the syndicate for the first time in 2016 with USD107.7 million of gross premium accounting for

⁷ Source: Company filings and press releases.

the majority of the total USD175.1 million premium written. Shifting the business mix to insurance increased the syndicate's combined ratio from 45 to 80 percent as insurance businesses typically run at a higher combined ratio than reinsurance businesses. With the 140 percent increase in top-line premium from 2015, Nephila's syndicate was one of the fastest growing syndicates at Lloyd's in 2016.

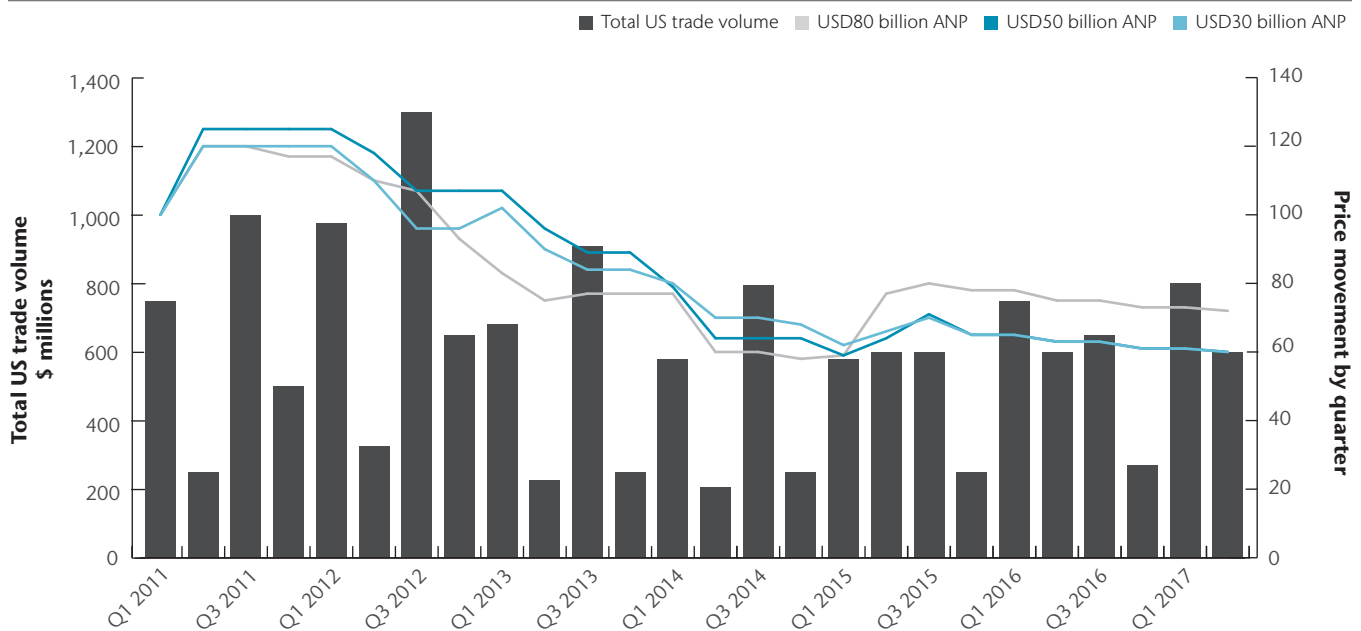
Further, ILS managers continue to monitor the weather derivative market for investment opportunities. Several renewable energy investors have expressed interest in securing long-term predictable revenues by mitigating power generation volume uncertainty. These market dynamics allowed Allianz Risk Transfer and Nephila to close their second revenue hedge transaction, which provides Old Settler Wind's facilities in Texas the opportunity to manage its revenue volatility. As part of the transaction, Old Settler Wind has executed a 10-year proxy revenue swap with Allianz Risk Transfer and Nephila, which enabled securing third-party commercial financing, according to Allianz Risk Transfer.

Industry loss warranty (ILW)

There was an increase in capacity from last year in both the traditional and ILS markets. As a result, a number of markets were prepared to offer material increases in limit on their expiring deals for 2017. Transaction volume increased at January 1, 2017, while overall limit executed remained relatively flat for mid-year deals. Total ILW market trading volume for the 12 months ending June 30, 2016 was estimated at USD4.5 billion across both collateralized and traditional forms. There was a noticeable reduction in the volume of ILW risk transactions with exposures outside of the US, with aggregate transactions covering US exposures still in high demand.

Rates at both the January 1 and June 1 renewals were generally down 2.5 to 5.0 percent and continued pressure is expected on the rate environment through 2017. Regional coverages (excluding Florida) and second event covers were very competitively priced and ILW markets have continued to offer coverages at lower attachment levels to meet the demand. A number of first-time buyers have once again entered the market, notably from the ILS sector, as portfolio managers sought to hedge against reduced expected returns as rates remain under pressure.

Exhibit 21: ILW trade volume and US ANP price movement



Source: The Global Re Specialty Team of Aon UK Limited.

Private debt and surplus notes

In early 2017, Demotech issued revised guidance in Florida stating that a number of the state's smaller homeowners' insurers could be downgraded amid mounting pressure from the AOB crisis, judicial reversals, and 2016 catastrophe losses. Consequently, several Florida insurance companies have issued debt to raise additional capital to meet the capital requirements Demotech has requested. Below we have listed examples of private debt placements that were also supported by ILS investors. The trend of ILS investment managers looking to access returns through private debt placements continues, which signals that managers continue to broaden their horizons

to access new sources of returns. Demotech ultimately held-off the large-scale rating downgrades of Florida property insurers after a number of insurers increased their claims reserves and policyholder surplus. Cypress Property & Casualty Insurance Company was the only company whose rating was revised from A' (Prime) to A (Exceptional). Demotech's review did trigger some acquisitions including that of Elements Property Insurance Company by Avatar Property & Casualty Insurance Company and the acquisition of Mount Beacon Insurance Company by Florida Specialty Insurance Company.

Exhibit 22: Private debt issuances in the state of Florida

Issuer	State	Rating	Issuance year	Term (years)	Issuance amount (USD millions)	Rate terms
Heritage Insurance Holdings, Inc.				7	79.5	8.75% + 3mL
United Insurance Holdings Corp.	FL	A (Demotech)	2016	10	30.0	5.75% + 3mL
Security First Insurance Company				6	60.0	Not disclosed

Source: Statutory statements and other company reports.

Regional Update: North America

North American perils continued to dominate catastrophe bond issuances as 28 of the 32 catastrophe bonds issued covered US property risk. In terms of issuance size, this represents 78 percent as compared to 83 percent the year before. Although total limit of US property coverage continued to increase, this represents a decreasing market share, which is in line with global exposure to insured property risk. A notable shift in North American perils is the inclusion of Canada to the covered areas of the bonds. In the 12-month period under review, 21 percent of the North America perils limit issued included Canada as a covered territory. Further, there is increased use of other peril, which is included as a covered peril on bonds, representing 11 percent of the total US exposed catastrophe bond market. Introduced in 2016, other peril is defined as a naturally occurring event assigned a catastrophe code that is not a named storm, earthquake, severe thunderstorm, winter storm, wildfire, volcanic eruption, meteorite impact, or flood. Similar to volcanic eruption and meteorite impact, other peril is an unmodeled peril.

For this 12-month period, cedents were composed of both repeat and first-time members of the risk-transfer capital markets. Regional insurers, global reinsurers and corporations sought coverage from named storm, earthquake, severe thunderstorm, winter storm, wildfire, volcanic eruption, meteorite impact and other peril. Twenty three repeat sponsors and six new sponsors comprised the market in the year under review, with new sponsors making up 11.2 percent of the total limit issued.

Large demand from investors caused spreads to soften, and 57 percent of the total limit for US P&C was offered at or below the initial price guidance.

Despite the large amount of insured losses incurred during the 12-month period, only one catastrophe bond was triggered.

Second half 2016

As seen in exhibit 23, five North America property transactions closed in the second several of 2016. Notably, several of the transactions used IBRD notes as collateral for the bonds, an increasingly common practice to benefit the investors with increased returns. An example was the American Strategic Insurance Group's USD200 million issuance of Bonanza Reinsurance 2016 Ltd., which offered per occurrence coverage for the perils of hurricane and severe thunderstorm.

Exhibit 23: Second half of 2016 property catastrophe bonds covering US perils

Beneficiary	Issuer	Series	Class	Size	Covered perils	Trigger	Rating	Initial expected loss*	Initial interest spread
Allianz Risk Transfer (Bermuda) Limited	Blue Halo Re Ltd.	Series 2016-2	Class C	\$225.0	US HU, EQ	Industry	Not rated	4.49%	8.25%
United Services Automobile Association	Residential Reinsurance 2016 Limited	Series 2016-II	Class 2	\$80.0	US TC, EQ, WS, ST, WF, VE, MI, OP	Indemnity	Not rated	6.35%	n/a
			Class 3	\$150.0			B-	3.29%	5.25%
			Class 4	\$170.0			B	1.72%	3.50%
California Earthquake Authority	Ursa Re Ltd.	Series 2016-1	Class A	\$500.0	CAL EQ	Indemnity	Not rated	2.18%	4.00%
American Strategic Insurance Group	Bonanza Reinsurance 2016 Ltd	Series 2016-1	Class A	\$150.0	US HU, ST	Indemnity	Not rated	1.80%	3.75%
			Class B	\$50.0	US HU			2.69%	5.00%
XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2016-1	Class A-1	\$75.0	US HU, EQ, CAN EQ, EU WS, and AU TC, EQ	Industry	Not rated	9.55%	13.25%
			Class B-1	\$125.0				4.98%	8.00%
			Class C-1	\$175.0				3.02%	6.25%
			Class D-1	\$175.0				2.03%	5.25%
			Class E-1	\$200.0				1.45%	4.50%
Total				\$2,075.0					

Source: Aon Securities Inc.

* Initial modeled annual expected loss; sensitivity cases if US hurricane is a covered peril.

Legend

AU—Australia
 CAL—California
 CAN—Canada
 EU—Europe
 US—United States

EQ—Earthquake
 HU—Hurricane
 MI—Meteorite Impact
 OP—Other Peril
 ST—Severe Thunderstorm
 TC—Tropical Cyclone
 VE—Volcanic Eruption
 WF—Wildfire
 WS—Winter Storm

First half 2017

Twenty-three North America property transactions closed in the first half of 2017. This represents a record-setting total issuance volume of USD8.3 billion. Though issuance volume is due in part to a record amount of maturities that occurred during this period, there were also a large number of new participants in the market and upsizing that occurred, which largely impacted the total limit issued.

The USD190 million Riverfront Re Ltd. transaction was issued on behalf of Great American Insurance Company and its affiliates (American Empire, Mid-Continent, National Interstate, and Lloyds Syndicate 2468 – Neon). The transaction marks Great American's second issuance in the catastrophe bond market. The transaction has two classes of notes that provide occurrence and annual aggregate protection on an indemnity basis. Riverfront Re Ltd. covers losses arising from named storm, earthquake, severe thunderstorm, winter storm, wildfire, volcanic eruption, and meteorite impact in the 50 states of the US, the District of Columbia, and Canada. The risks covered are primarily commercial property risks including commercial property, lender placed, auto physical damage, aviation, inland marine, and equine mortality, and was notable for including retrocession coverage.

In the second quarter of 2017, the Metropolitan Transportation Authority utilized MetroCat Re Ltd. to issue USD125.0 million to cover storm surges in New York. Because of the flooding caused by Hurricane Sandy and the potential for contingent business interruption due to another future event, the MTA sought parametric index coverage that activates when a storm surge causes water to reach a certain level, a level at which flooding would occur in MTA subways.

On May 8, 2017, Torrey Pines Re Ltd. issued three classes of notes on behalf of Palomar Specialty Insurance Company, a new entrant into the catastrophe bond market. These notes covered earthquake for the Class A, B, and C notes, and hurricane and severe thunderstorm for the Class C notes. Torrey Pines Re Ltd. utilized IBRD notes as collateral, offering 6-Month LIBOR minus 40 basis points plus the coupon to investors.

Model updates

In June 2017, AIR released an updated earthquake model for the US. This includes an updated event generation, intensity calculation, and damage estimation. Additionally, sub-perils like fire following, liquefaction, and sprinkler leakage that were previously supported, have undergone comprehensive updates. Further, two new sub-perils, tsunami and landslide, were added to give a more comprehensive view of risk.

Exhibit 24: First half of 2017 property catastrophe bonds covering US perils

Beneficiary	Issuer	Series	Class	Size	Covered perils	Trigger	Rating	Initial expected loss*	Initial interest spread
XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2017-1	Class A-2	\$50.0	US HU, EQ, CA EQ, EU WS and AU TC, EQ	Industry	Not rated	9.55%	13.25%
			Class B-2	\$50.0				4.98%	8.00%
			Class C-2	\$150.0				3.02%	6.25%
			Class D-2	\$150.0				2.03%	5.25%
ICAT Syndicate 4242	Buffalo Re Ltd.	Series 2017-1	Class E-2	\$125.0	US HU, EQ	Indemnity	Not rated	1.45%	4.50%
			Class A	\$105.0				1.31%	3.25%
			Class B	\$59.5				4.46%	6.75%
Heritage Property & Casualty Insurance Company and Zephyr Insurance Company, Inc.	Citrus Re Ltd.	Series 2017-1	Class A	\$125.0	FL/GA/NC/SC HU	Indemnity	Not rated	3.65%	6.00%
Allstate Insurance Company	Sanders Re Ltd.	Series 2017-1	Class A	\$375.0	US HU, EQ, WS, ST, VE, MI	Indemnity	Not rated	0.97%	3.00%
State Farm Fire and Casualty Company	Merna Re Ltd.	Series 2017-1	Class A	\$300.0	New Madrid EQ	Indemnity	Not rated	0.41%	2.00%
Everest Reinsurance Company	Kilimanjaro II Re Limited	Series 2017-1 & Series 2017-2	Class A-1	\$225.0	US/CAN/PR HU and EQ	Industry	Not rated	6.34%	10.00%
			Class B-1	\$400.0				4.21%	7.50%
			Class C-1	\$325.0				2.86%	6.00%
			Class A-2	\$50.0				6.34%	10.00%
			Class B-2	\$75.0				4.21%	7.50%
			Class C-2	\$175.0				2.86%	6.00%
Louisiana Citizens Property Insurance Corporation	Pelican IV Re Ltd.	Series 2017-1	Class A	\$100.0	LA HU	Indemnity	Not rated	0.96%	2.25%
Security First Insurance Company	First Coast Re Ltd.	Series 2017-1	Class A	\$175.0	FL HU, ST	Indemnity	Not rated	2.01%	4.25%
American Integrity Insurance Company of Florida	Integrity Re Ltd.	Series 2017-1	Class A	\$72.0	FL HU	Indemnity	Not rated	0.89%	3.25%
			Class B	\$3.0				11.30%	14.50%
			Class C	\$100.0				1.58%	4.00%
			Class D	\$35.0				1.89%	4.25%
United Services Automobile Association	Residential Re Limited	Series 2017-1	Class 10	\$50.0	US TC, EQ, WS, ST, WF, VE, MI, OP	Indemnity	Not rated	15.97%	n/a
			Class 11	\$225.0				2.43%	4.75%
			Class 13	\$150.0				BB-	0.68%
Nationwide Mutual Insurance Company	Caelus Re V Limited	Series 2017-1	Class A	\$75.0	US HU, EQ, ST, WS, WF, VE, MI, OP	Indemnity	Not rated	0.95%	3.25%
			Class B	\$150.0				1.85%	4.50%
			Class C	\$75.0				3.55%	6.50%
			Class D	\$75.0				5.77%	9.25%
Palomar Specialty Insurance Company	Torrey Pines Re Ltd.	Series 2017-1	Class A	\$45.0	US EQ	Indemnity	Not rated	0.89%	3.00%
			Class B	\$66.0				1.49%	3.75%
			Class C	\$55.0				3.15%	6.25%
Citizens Property Insurance Corporation	Everglades Re II Ltd.	Series 2017-1	Class A	\$300.0	FL HU	Indemnity	Not rated	2.28%	5.00%
Heritage Property & Casualty Insurance Company	Citrus Re Ltd.	Series 2017-2	Class B	\$35.0	FL/GA/NC/SC HU	Indemnity	Not rated	7.14%	10.75%
California Earthquake Authority	Ursa Re Ltd.	Series 2017-1	Class B	\$425.0	CAL EQ	Indemnity	Not rated	1.11%	3.50%
			Class E	\$500.0				3.33%	6.00%
Metropolitan Transportation Authority	MetroCat Re Ltd.	Series 2017-1	Class A	\$125.0	NY HU, SS, EQ	Parametric	Not rated	2.25%	3.70%
Texas Windstorm Insurance Association	Alamo Re Ltd.	Series 2017-1	Class A	\$400.0	TX HU, ST	Indemnity	Not rated	1.88%	3.75%
Castle Key Insurance Company and Castle Key Indemnity Company	Sanders Re Ltd.	Series 2017-2	Class A	\$200.0	FL HU, ST, VE, MI, WF	Indemnity	Not rated	0.84%	3.25%
Great American Insurance Company and its affiliates	Riverfront Re Ltd.	Series 2017-1	Class A	\$142.5	US/CAN HU, EQ, ST, WS, WF, VE, MI US/CAN HU, EQ, ST, WS	Indemnity	Not rated	1.09%	4.50%
			Class B	\$47.5				2.58%	6.25%
Avatar Property and Casualty Insurance Company	Casablanca Re Ltd.	Series 2017-1	Class A	\$66.95	FL HU	Indemnity	Not rated	0.96%	3.75%
			Class B	\$26.3				2.08%	5.25%
			Class C	\$6.75				10.99%	16.00%
Massachusetts Property Insurance Underwriting Association	Cranberry Re Ltd.	Series 2017-1	Class A	\$350.0	MA HU, ST, WS	Indemnity	Not rated	0.47%	2.00%
Tokio Millennium Re AG	Spectrum Capital Ltd.	Series 2017-1	Class A	\$160.0	US/CAN EQ and US NS, ST, WS, WF	Industry	Not rated	3.05%	5.75%
			Class B	\$270.0				0.88%	3.50%
AXIS Specialty Limited	Northshore Re II Limited	Series 2017-1	Class A	\$350.0	US HU and US/CAN EQ	Industry	Not rated	4.67%	7.25%
Total				\$7,595.5					

Source: Aon Securities Inc.

*Initial modeled annual expected loss; sensitivity cases if US hurricane is a covered peril.

Legend

CAL—California
CAN—Canada
EU—Europe
FL—Florida
GA—Georgia
LA—Louisiana
MA—Massachusetts

NC—North Carolina
NY—New York
PR—Puerto Rico
SC—South Carolina
TX—Texas
US—United States

EQ—Earthquake
HU—Hurricane
MI—Meterorite Impact
NS—Named Storm
OP—Other Peril
SS—Storm Surge
ST—Severe Thunderstorm

TC—Tropical Cyclone
WF—Wildfire
WS—Winter Storm

Regional Update: Europe

Catastrophe bond issuance covering European perils has been particularly light in the 12-month period ending June 30 2017, with a total of three European deals brought to market, for a combined issuance size of EUR495 million. This is due to the continued softening of the European traditional market. Furthermore, the widespread negative interest rate environment and the recent decision by the European Bank for Reconstruction and Development to issue their medium-term notes at negative yield to maturity have significantly restricted the range of viable collateral solutions available to European sponsors. Two European transactions matured this year (Groupama's Green Fields II 2013-1 A and AXA's Calypso Capital II) which were not renewed.

In December 2016, Generali issued Horse Capital I DAC, a novel transaction which protects the group against the deterioration of their third-party liability loss ratio across Generali owned insurers located in 7 different European countries. The transaction is triggered when the loss ratio for the aggregate of these reference insurers exceeds a predetermined attachment level. The transaction was upsized twice and closed up 42 percent from its initial target size of EUR180 million, indicating the market's appetite for innovative transactions which offer significant diversification benefit from this year's heavily US concentrated issuances.

Generali returned to the market in June 2017 with Lion II Re DAC, a second catastrophe bond issuance from its Irish domiciled special purpose vehicle, providing Generali with EUR255 million of reinsurance coverage against European windstorm, European flood, and Italy earthquake events. This transaction is the first to include European flood on an indemnity basis and paid a multiple of just 1.33 times expected loss, demonstrating investor acceptance of AIR's European flood model.

Dutch insurer Achmea also returned to the market with Windmill I Re 2017-1, a EUR40 million private catastrophe bond providing indemnity based reinsurance coverage against European windstorm events. The transaction is the first of its kind to be modelled using Aon's Impact Forecasting® platform. Achmea and Aon Benfield Analytics collaborated to produce bespoke vulnerability curves to more accurately represent the underlying risks based on historical claims information. This transaction sets a precedent and further transactions could be brought to market using Impact Forecasting's bespoke modelling capabilities.

Brexit

Having voted to leave the European Union (EU) on June 23, 2016, the UK formally began the process of leaving the EU by triggering Article 50 of the Treaty of the European Union on March 29, 2017. Theresa May called for a snap election which was held on June 8, 2017 in order to consolidate power and improve the UK's negotiating position. In an unexpected turn of events, the election delivered a hung parliament and a coalition government was formed between the Conservatives and the Democratic Unionist Party (DUP). The narrow margin may require the UK to soften their stance in order to assure parliamentary approval. The GBP experienced a weakening following the election due to the increased uncertainty resulting from the narrow margin held by the Conservative DUP coalition.

The first round of negotiations commenced on June 19, 2017 with David Davis, Secretary of State for Exiting the European Union, representing the UK. The EU has insisted on a phased approach to Brexit negotiations, which requires the agreement on the rights of EU citizens in the UK and the separation bill that will be paid by the UK to the EU. Once these talks have concluded it will then be possible for trade discussions to commence. European officials have suggested that it would be difficult for the UK to retain access to the single market and maintain free movement of capital while restricting freedom of movement.

The insurance industry has attempted to mitigate the impact of Brexit through the establishment of subsidiaries in Europe with Lloyd's of London announcing plans to establish itself in Brussels. Brussels and Luxembourg appear to be the domiciles of choice with their respective regulators offering accommodating terms.

Negative interest rates

After a prolonged period of low interest rates, central bank policy is beginning to diverge. The US Federal Reserve has implemented two rate rises so far in 2017 and it looks likely that the Bank of England will raise rates towards the end of 2017. During the June 2017 European Central Bank (ECB) Forum in Sintra Portugal, the president of the ECB Mario Draghi dismissed speculation of a rate rise in the near term and stated that the ECB would be prudent in its adjustment of monetary policy.

The negative interest rate environment in Europe has adversely affected catastrophe bond issuance. The European Bank for Reconstruction and Development (EBRD) Medium Term Note program now issues callable notes at a premium over par. Despite this, the EBRD remains the preferred solution over European money market funds.

Regional Update: Asia Pacific

During the 12-months period ending June 30, 2017, two catastrophe bonds covering Japan perils were brought to market by repeat sponsors. The two transactions, totaling USD1.14 billion, were issued to replace expiring bonds and were placed at an increased transaction size due to available capacity and investor appetite. The covered perils consisted of USD1.92 billion of earthquake peril and USD900 million of typhoon peril. Average spreads of all Asia Pacific catastrophe bonds is 2.45 percent for an average expected loss of 0.81 percent.

In September 2016, the National Mutual Insurance Federation of Agricultural Cooperatives (Zenkoyoren) secured USD700 million in capacity through Nakama Re Ltd. Series 2016-1 to replace the maturing USD300 million catastrophe bond, Nakama Re Ltd. Series 2013-1. Nakama Re Series 2016-1 provides five years indemnity coverage for earthquake across two tranches covering rolling three-year term aggregate losses. The less risky Class 1 notes initially targeted USD200 million and was subsequently upsized to USD500 million while the riskier Class 2 notes upsized from initial sizing of USD50 million to USD200 million at closing. The Class 1 notes, which have an annualized expected

loss of 0.49 percent and cover the highest layer of Nakama Re program, were priced at the low end of marketed price guidance at 2.2 percent. The Class 2 notes were also priced at the low end of marketed price guidance at 3.25 percent for an annualized expected loss of 1.47 percent. With the issuance of the Series 2016-1, the total issuance under the Nakama Re Ltd. program has reached USD1.675 billion.

In April 2017, Sompo Japan and Nipponkoa Insurance Inc. (SJNK) returned to the market with its third issuance, Aozora Re Ltd. Series 2017-1. SJNK secured USD480 million of four year indemnity coverage on a per occurrence basis following the maturity of JPY10.125 billion capacity of Aozora Re Ltd. Series 2013-1. SJNK accessed the capital markets for two consecutive years and achieved improved pricing terms as the Series 2017-1 provided coverage for the layer at reduced pricing, 200bps, with an expected loss higher than the Series 2016-1.

Both of the two transactions issued during the 12-month period ending June 30 achieved the size and pricing favorable to the seasoned sponsors, demonstrating the strong appetite for the diversifying perils.

Exhibit 25: Property catastrophe bonds covering Asia Pacific perils

Beneficiary	Issuer	Series	Class	Size (USD millions)	Covered perils	Trigger	Rating	Initial expected loss*	Initial interest spread
National Mutual Insurance Federation of Agricultural Cooperatives	Nakama Re Ltd.	Series 2016-1	Class 1	\$550.0	JP EQ	Indemnity	Not rated	0.49%**	2.20%
			Class 2	\$150.0			Not rated	1.47%**	3.25%
Sompo Japan Nipponkoa Insurance Inc.	Aozora Re Ltd.	Series 2017-1	Class A	\$480.0	JP TY	Indemnity	Not rated	1.14%	2.00%

Source: Aon Securities Inc.

*Initial modeled annual expected loss.

**Nakama Re Series 2016-1 notes utilize a term aggregate structure. Expected losses shown are annualized.

Legend

JP—Japan

EQ—Earthquake

TY—Typhoon

April 1 reinsurance renewals

In Japan, underlying catastrophe exposures increased modestly at April 1, 2017 property catastrophe renewals and most programs achieved risk adjusted rate reductions of approximately 5 percent. Increased catastrophe limit was purchased but there was ample capacity to meet demand. Some cedants continued to seek more multi-year coverage. Earthquake primary rates remained stable and some cedants indicated projected income growth.

The Kumamoto earthquake, which occurred in April 2016, had an estimated insured loss of USD5.5 to 6 billion; more than half of which was paid by the government dwelling earthquake scheme. Despite this recent event, the majority of earthquake quota share placements returned profit to reinsurers and this had little impact on renewal terms—some cedants achieved 1 to 2 percentage point improvement on the ceding commission.

Model updates

RMS released the Southeast Asia (SEA) Earthquake Model in RiskLink v17.0. This includes re-developed models for Indonesia and the Philippines, and new models for Malaysia, Singapore, Thailand, and Vietnam. The models combine new data and understanding gained from recent events in the region with the latest modelling approaches. The version 17.0 release updated all components of the existing Indonesia Earthquake Model and the Philippines Earthquake Models. In addition to the release of the SEA earthquake, RMS also released new South Korea and Taiwan typhoon models which incorporate the latest RMS science and innovations in tropical cyclone wind and flood (both inland and coastal) modelling. Both the models also include the RMS Industrial Facilities Model for industrial risks. RMS also released for the first time Industry Exposure Databases (IEDs) for the above territories as well.

AIR released a new Severe Thunderstorm Model for Australia, which explicitly models tornadoes, hail, and straight line winds, as well as sub-peril-specific damage functions across the entire continent. AIR also updated its existing models in Australia—The AIR Bushfire Model for Australia and the AIR Earthquake Model for Australia are enhanced by the support of new 100,000 year stochastic catalogs. In addition, the AIR Bushfire Model for Australia includes a new fuels layer. The Industry Exposure Database for Australia now includes exposures through the end of 2015 as well as large industrial facilities.

Aon Benfield's catastrophe development team, Impact Forecasting, also released a new model for Malaysia Flood which incorporates both riverine flood caused by monsoons and flash flood by thunderstorms. They also released new models for assessing flood, typhoon and earthquake risk in Vietnam and a fully probabilistic flood model for Jakarta.

In the fall of 2017, AIR is planning to release an update to the Japan model which will include the first Japan non-typhoon related inland flood model. RMS also plans to release a new Japan typhoon model in their new platform, and typhoon-induced inland flood and storm surge will be included.

Impact Forecasting will release an updated Japan earthquake model to cover all lines of business and incorporate the latest government and scientific views.

Natural catastrophe losses

The flood peril left a heavy financial toll in China in 2016. The most notable event occurred during the summer months (May-August) and affected much of the Yangtze River Basin region. The El Niño-enhanced Mei Yu rains led to catastrophic flooding in eleven provinces. At least 475 fatalities resulted and an estimated 500,000 homes were impacted. Economic losses reached USD28 billion; less than three percent of which was covered by insurance. Other significant flood events were noted in northeastern China (July), southeastern Australia (September), and throughout India during the summer monsoon season (June-September).

A magnitude-7.8 earthquake struck near Kaikoura in New Zealand on November 13 which prompted economic losses of approximately USD2.3 billion. As of May 31, 2017 some 43,000 claims had been settled by private insurers with a value of USD1.3 billion.

Three tropical cyclones caused economic losses of at least USD1 billion each in the second half of 2016; Super Typhoon Nepartak in Taiwan and China, Super Typhoon Meranti in Taiwan and China, and Super Typhoon Chaba in South Korea. These three events were also the costliest in terms of insured losses. A summary of selected tropical cyclone losses is shown on the next page.

Exhibit 26: Second half of 2016 select tropical cyclone losses

Date	Event details	Countries impacted	Fatalities	Economic Loss (2017 USD)	Insured Loss (2017 USD)
September 2016	STY Meranti	China, Taiwan, Philippines	44	2.5 billion	253 million
July 2016	STY Nepartak	China, Taiwan	78	1.4 billion	101 million
October 2016	STY Chaba	Japan, Korea	7	1.0 billion	127 million
October 2016	STY Haima	Philippines, China	19	977 million	76 million
September 2016	TY Megi	Taiwan, China	43	950 million	76 million

Source: Aon Securities Inc.

The costliest natural disaster during the first half of 2017 was a multi-week flood event from mid-June into early July across China's Yangtze River basin that left more than 410,000 homes damaged or destroyed, vast swaths of cropland submerged, and damaged infrastructure. Total economic losses exceeded USD6.4 billion.

Also of note was Cyclone Debbie which made landfall in late March in Australia and led to significant flooding in southeastern Queensland and northeastern New South Wales. Economic losses were estimated to have reached USD2.0 billion. The remnants of the system additionally brought heavy rainfall to New Zealand during the first week of April causing flooding in portions of both North and South Islands. Insured losses prompted by the cyclone reached USD1.1 billion in Australia alone.

China

One year after China's central government introduced the Earthquake Catastrophe Insurance System for Urban & Rural Residence, substantial progress has been made in providing earthquake insurance products to residents. In December 2016, the Shanghai Insurance Exchange (SIE) launched an online catastrophe insurance operation platform where beginning in July 2017, residents can purchase earthquake catastrophe insurance via Wechat from the SIE. This product is underwritten by China Urban & Rural Residence Earthquake Catastrophe Insurance Pool.

Preliminary government-backed earthquake schemes continue to progress. In May 2017, Zhang Jia Kou, a prefecture in Hebei province, commenced an earthquake insurance pilot program that covers loss caused by destructive earthquake (magnitude 4.7 or above and intensity VI or above, as determined by the government earthquake authority) and related aftermath, such as fire, volcano eruption, and mudslide. The insured amount is set at CNY50,000 per high-rise residence and CNY20,000 per low-rise residence. That same month, the first-ever province-level government-backed earthquake scheme began in the province of Sichuan. The amount insured is set at CNY50,000 per urban residence and CNY20,000 per rural residence. While the Zhang Jia Kou pilot program is fully funded by the government, the Sichuan program is 40 percent funded by individual policyholders and 60 percent funded by the government.

Recently, Ping An Insurance partnered with Swiss Re to launch parametric property insurance for Chinese typhoon coverage, accessible by mobile devices, which marked China's first mobile-enabled typhoon property insurance solution. The personal and commercial product encompasses coastal provincial regions in Southeast China prone to typhoons.

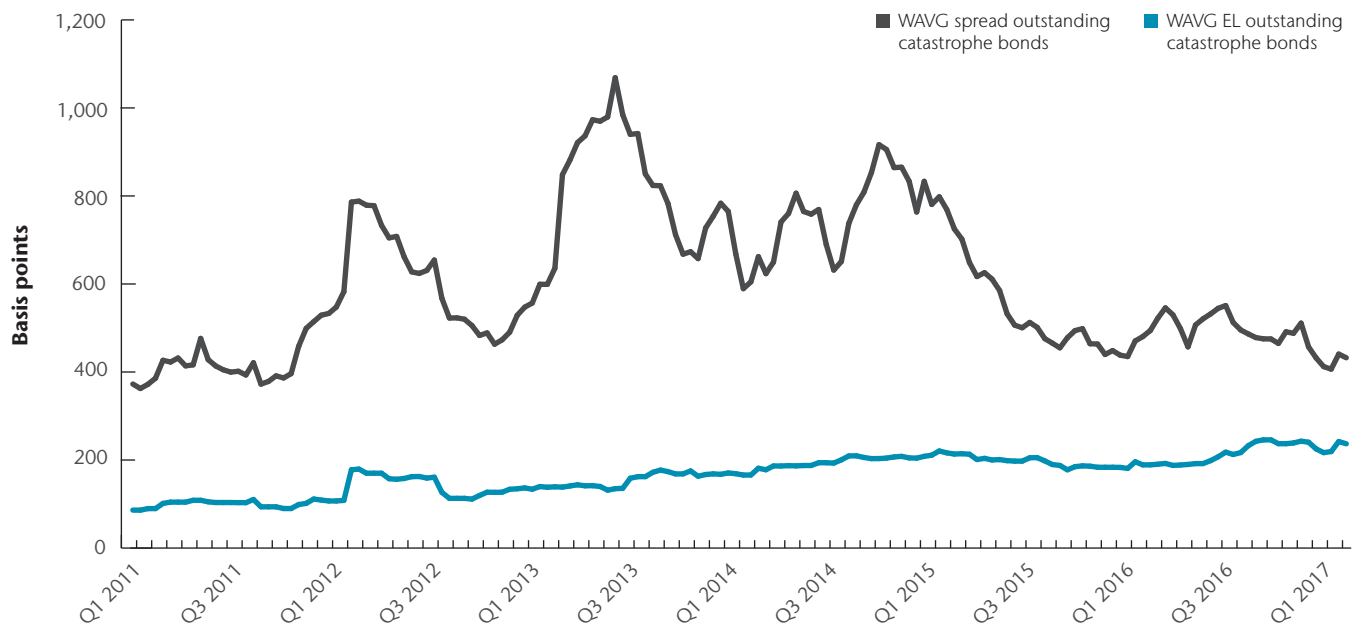
Collateral Solutions

One of the most prominent trends witnessed in the catastrophe bond market over the last 12 months has been the increased utilization of collateral investments other than US Money Market Funds for new catastrophe bond issuances.

The overall decrease in catastrophe bond spreads (50 percent decrease in the weighted average spread from June 30, 2012 to June 30, 2017) coupled with a fairly stagnant US interest rate environment have left both sponsors and investors open to innovative collateral investments that offer an increased yield to the overall transaction, while retaining a robust credit rating.

This trend has been evidenced in the increased utilization of debt securities from highly-rated international institutions as the permitted investments 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).

Exhibit 27: Catastrophe bond spread



Source: Aon Securities Inc., Bloomberg

From July 1, 2015 through June 30, 2016, USD1.41 billion of IBRD and EBRD notes were used as permitted investments for catastrophe bond transactions, representing 27 percent of the period's total notional amount. However for the 12 months ending June 30, 2017, USD6.43 billion of IBRD and EBRD notes were used as permitted investments for new catastrophe bond issuances, representing 57 percent of the total notional amount issued.

- Notes issued by the IBRD and the EBRD are particularly attractive to sponsors and investors for use as a permitted investment in catastrophe bond transactions.
- The IBRD and EBRD notes' floating interest rates have produced higher returns when compared to US Money Market Funds over the same period.

- Both the IBRD and the EBRD retain AAA credit ratings, making their notes an ideal collateral investment .
- Notes issued by the IBRD and EBRD are structured with a put option, allowing for the flexibility to convert the notes to cash before the transaction's scheduled redemption date.
- With 65 percent of the outstanding notional amount of catastrophe bond collateral invested in US Money Market Funds, new catastrophe bond issuances with collateral invested in IBRD and EBRD notes offer catastrophe bond investors further diversification to their portfolios.

In the current rate environment, we expect that both investors and sponsors will 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 28: IBRD and EBRD notes program description

IBRD notes	EBRD notes
<p>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 pursuant to the IBRD's existing Global Debt Issuance Facility. The IBRD is rated Aaa by Moody's and AAA by Standard & Poor's.</p>	<p>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 the 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.</p>

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

A Market Discussion with ILS Participants

A panel interview hosted by Aon Securities

Aon Securities recently discussed the different collateral solutions and their impact on the ILS market with four active participants. The conversation, transcribed in this section, provides insight into their views and aspirations for the market as a whole. Our panel included:

- Michael Demetre—Senior Vice President and Chief Risk Officer, Allstate Insurance Company
- Carlo Segni—Lead Financial Officer Derivatives and Structured Finance, The World Bank
- Rom Aviv—Managing Partner, IBI ILS Partners Ltd.
- Rob Proctor—Chief Executive Officer, Securis Investment Partners LLP

Michael Demetre—Allstate Insurance Company
Senior Vice President and Chief Risk Officer

1. Allstate recently switched their collateral solution from US Treasury Money Market Funds to the World Bank's IBRD notes. Could you elaborate on why the decision was made to make the switch?

As we look to lower our costs for reinsurance, IBRD notes provided a unique opportunity. IBRD notes provided an increased yield that benefited both investors and Allstate with a minimal change in risk profile of the collateral. While not for all issuers, the remaining event liquidity risk was reviewed and accepted due to our strong liquidity position.

2. The collateral in one of Allstate's previous catastrophe bonds was impacted by Lehman Brothers bankruptcy in 2008. Did that impact change your view on collateral solutions within the ILS market?

The Lehman swap was an innovative solution and the financial crisis showed the potential downsides of the structures used at the time. Allstate seeks to minimize our counter-party risks in all areas, not just ILS or reinsurance and with the advancements of the ILS structures and vehicles, we feel comfortable with our traditional trust agreements. IBRD's risk, for now, is acceptable but as they continue to be utilized in ILS structures, we will monitor concentrations. It may get to a point that IBRD notes will not be acceptable to Allstate.

3. How does Allstate view the credit risk of utilizing IBRD notes versus other solutions such as US Treasury Money Market Funds?

Again, the credit rating of the IBRD notes and the liquidity fell within our appetite to utilize as collateral. Of course, money market funds would be preferable from a security perspective but we have to balance risks and have deemed IBRDs to be an acceptable trade off from the more secure money market funds.

4. If a new collateral solution were to enter the market place, what attributes would it need for you to consider it as part of Allstate's catastrophe bond collateral solutions?

For other solutions to be employed, we would need to find alternative notes or collateral that provide excellent security while also having a solid capability for liquidation in stressed situations.

Carlo Segni—The World Bank

Lead Financial Officer Derivatives and Structured Finance

1. *IBRD notes have been the leading collateral solution in 2017 with 53 percent market share and USD4.5 billion of issuance as of June 30, 2017. What has made the ILS market an attractive funding source for the World Bank?*

We are glad to be able to provide an attractive collateral solution to the ILS market. We see the ILS market as an important source of risk transfer capacity for our 189 member countries, and therefore by supporting the ILS market, we are providing a benefit to our members. Issuing floating rate notes also fits our balance sheet and loan portfolio, which are based on floating rates indexes. Additionally, the duration of these notes is attractive, and the liquidity risk we face on these bonds is uncorrelated with the other types of callable and puttable securities we issue.

2. *Does the World Bank have continued interest in providing access to IBRD notes or other forms of collateral to the ILS markets?*

We will continue to provide access to these notes, and are always looking to expand to other currencies. For now, we have the ability to issue in both EUR and USD.

3. *Is there any concern within the World Bank regarding a large natural catastrophe event that would cause multiple catastrophe bonds to exercise the put options on their IBRD collateral?*

We closely monitor the size of the ILS puttable portfolio as well as the concentration of risk. The portfolio is well diversified across perils, and is supported by our very strong balance sheet and liquidity position. It is also important to look at our ILS puttable portfolio in the context of our overall funding program, which is USD45 to 60 billion annually, and in light of the fact that we have been able to maintain continuous access to the capital markets, even during times of market stress, for the last 70 years.

4. *Is there a minimum size that World Bank considers when deciding whether to offer the IBRD medium term note program?*

We do not have an explicit policy on minimum size, but notes below USD10 million may not be economically efficient.

Rom Aviv—IBI ILS Partners Ltd.
Managing Partner

1. *How important is it to invest in bonds with different collateral as part of an overall investment strategy?*

Unlike many other securitized products, where collateral can be directly or indirectly used for gearing, repayments or other business prospects, the overall catastrophe bond market has a typically stable and high quality collateral structure from both an operational standpoint as well as from an investment angle. Therefore, at this stage of the market, we believe that, with respect to collateral structure, diversification is not a top priority. That said, we actively monitor and explore the fine-print associated with each collateral investment during the life-cycle of a transaction and map all the major risks.

2. *All things being equal (including the yield), what are some benefits to investing in bonds that use treasury funds? What are some benefits to using bonds that use IBRD?*

Treasury funds invest in a variety of US government backed short dated instruments, as opposed to IBRD notes which are typically issued for longer risk periods. Moreover, sovereign rates are very hard to manipulate, whereas the LIBOR rate may be more prone to manipulation, as we have seen in the recent decade. Lastly, the treasury market is substantially larger.

On the other hand, IBRD notes typically offer limited exposure to portfolio management and operational risks. Furthermore, there are no management fees for IBRD structures. Current IBRD solutions also tend not to be impacted by mark-to-market movements hence they protect principal from short-falling, which is not necessarily the case with some treasury funds as evidenced through the minor losses to collateral experienced by the Queen Street series in 2014. IBRD notes also offer a higher level of transparency and clarity due to their exclusive dependence on LIBOR.

3. *Would a bond utilizing the current higher yielding collateral option encourage you to invest in a bond with a lower spread than your usual target, given the potential combined coupon?*

We separate the insurance spread versus the interest associated with the collateral structure, simply because the two elements compensate us for two distinct risks that we bear. The latter is considered a starting point to maintain

the appeal of ILS opportunities horizontally compared to other asset classes in various market regimes and as a tool to maintain short duration. It can be indeed a concern if discipline is loosened and some investors follow what we think is inadequate logic. For instance, in the very theoretical scenario of mid-single digit short term interest for US treasuries, investors may end up investing in transactions with an expected loss exceeding the insurance spread.

4. *Is there a point at which the market becomes too concentrated on one collateral solution? In your opinion, what is that market share percentage?*

Looking at the current market there are two main collateral structures (MMF and IBRD notes). There is a tendency for new issuances to be skewed towards an IBRD collateral solution as opposed to vintage issuances featuring mainly treasury funds. Provided that collateral solutions remain of an adequate quality in terms of limiting credit exposure to highly rated quasi-governmental entities or governments, and also in terms of the potential compensation, such as IBRD which are typically are linked to LIBOR, we would not consider the market overly concentrated, even in case of a significant shift towards IBRD notes. What could be a concern is if the ratio of overall IBRD notes utilized by ILS transaction to the overall debt issued by the World Bank and its subsidiaries exceeds some meaningful threshold, which would depend on macro-economic factors in our view.

5. *How interesting are additional collateral solutions? What would it take for them to gain in popularity?*

In the short term, buying directly a T-bill per-issuance and then reinvesting at maturity rather than buying a treasury fund could save costs and enhance transparency. In the medium-to-long term, we could see hybrid catastrophe bond products offering hedgers natural catastrophe protection as well as debt simultaneously, or a variation on this. Hedgers utilizing this product might be (re)insurers, corporates and governments with rationale ranging from the need for regulatory capital to general business development objectives. We believe ILS investors could play a unique role in the support of development of such products provided pricing is adequate and, even more importantly, a collateral solution is properly established.

1. How important is it to invest in bonds with different collateral as part of an overall investment strategy?

Most important to us, as an investor, is that any collateral strategy employed be one that maximizes capital preservation above all else, while offering a benchmark linked floating return. Consequently, a collateral strategy that does not suffer from liquidity or credit risk, post event or otherwise, be that event an insurance industry event, or a financial markets event, becomes important. As one would expect, we monitor collateral exposures in both the catastrophe bond market and wider ILS markets cognizant of the fact that ILS assets are consuming a bigger share of certain collateral mechanisms, however the range of strategies that meet these requirements, alongside the additional loss-related liquidity requirements of sponsors, is limited, thus making concentrations hard to avoid. While a greater range of collateral options would be welcome, we take comfort in the high credit quality of the mechanisms available.

2. All things being equal (including the yield), what are some benefits to investing in bonds that use treasury funds? What are some benefits to using bonds that use IBRD?

Treasury funds are actively managed and provide portfolio diversification, credit risk management, and duration controls. Being actively managed, as investors we avoid some tail risk events similar to the debt ceiling episode of 2015 that we would be exposed to if passively holding treasury securities to maturity. Of course the most obvious attraction of the IBRD Note is the higher yield, but if we assume all things, including yield, are equal (as we are asked to in the question, but which they are not!), the key issue becomes credit quality. The credit quality of both MMFs and the IBRD Note are nominally equivalent, so it becomes a matter of perception. While a default by either issuer (effectively the US Government, in the case of MMFs, or the combined 185 member countries of the IBRD) must be considered highly unlikely, one may take some comfort in numbers in the case of IBRD, but against that trade-off political willingness in its support.

3. Would a bond utilizing the current higher yielding collateral option encourage you to invest in a bond with a lower spread than your usual target, given the potential combined coupon?

We treat the collateral yield independent of the insurance risk interest spread on a bond, and as such would not entertain opportunities to take on higher yielding collateral as a means of offsetting below market risk spreads. Worth noting is that our investors are looking for reinsurance premia above a reference rate, such as LIBOR or mid swaps. Taking on higher yield by going further out in the yield curve would increase the correlation between ILS assets and the wider capital markets and is not of interest to us.

Certain bonds priced at or near the catastrophe bond market's floor and subsequently below the return thresholds of most of our strategies could be viewed as more acceptable if coupled with a higher collateral yield. However, one should bear in mind that this effect is being replicated across the entire cat risk curve and as such, the relative attractiveness only shifts very marginally.

4. Is there a point at which the market becomes too concentrated on one collateral solution? In your opinion, what is that market share percentage?

When it comes to investing in catastrophe bonds and ILS collateral the options available are necessarily governed by the unique liquidity requirements of sponsors. For us, as investors, it then becomes a question of which of the available instruments offer us capital preservation and a suitable return on our collateral whilst satisfying the sponsors' requirements. The reality is that these options are limited—in practice only MMFs and IBRD Notes fulfil the criteria—and, as a result, the catastrophe bond/ILS market accounts for a meaningful proportion of these instruments. While a greater diversification of investments would be desirable, we take comfort in the robustness of the current instruments. Aside from the comparable credit quality of the instruments, which we have already discussed, IBRD is selective in which markets it will issue notes into and, in the case of catastrophe bonds we understand it takes comfort in its ability to refinance itself post a severe natural catastrophe event. In the case of MMFs, whilst the underlying asset is essentially the same, we can diversify over a range of funds, thus reducing exposure to operational risk and weight allocations to funds which are most efficient in terms of returns. As such, we are not unduly concerned by the levels of concentration, though clearly going forward, the wider the choice, the better.

**5. *How interesting are additional collateral solutions?
What would it take for them to gain in popularity?***

These are always interesting to consider, particularly for currencies currently generating negative or zero returns, such as JPY. For instance, collateral swap structures may provide a pick-up. However requirements unique to ILS, such as being able to be unwound in the event of insured losses and other termination events, introduce cost and risks. The use of other currencies might sometimes offer an arbitrage, but the same problem emerges—the play would involve putting on a currency hedge and, because of the potential need to liquidate the collateral before maturity, would introduce potential mark-to-market issues. As always, our main point of diligence on collateral is ensuring they remain truly floating, have minimal interest rate risk and maximize capital preservation.

Appendix I

Property Catastrophe Bonds—Transaction Summary

As of June 30, 2017

Source: Aon Securities Inc.

Summary of catastrophe bonds—December 1996 through June 2017

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Dec-96	St Paul Re UK	George Town Re, Ltd.			Worldwide All Perils incl. Marine & Aviation	Indemnity	TRS	\$44,500			
Dec-96	St Paul Re UK*	George Town Re, Ltd.			Worldwide All Perils incl. Marine & Aviation	Indemnity	TRS	\$24,000	Aaa	AAA	
Jun-97	United Services Automobile Association	Residential Reinsurance Limited		Class A-1	US HU	Indemnity	TRS	\$163,800	Aaa	AAA	
Jun-97	United Services Automobile Association	Residential Reinsurance Limited		Class A-2	US HU	Indemnity	TRS	\$313,180	Ba2	BB	BB
Oct-97	Swiss Reinsurance Company Ltd.	SR Earthquake Fund, Ltd.		Class A-1	US EQ	Industry index	TRS	\$42,000	Baa3		BBB-
Oct-97	Swiss Reinsurance Company Ltd.*	SR Earthquake Fund, Ltd.		Class A-2	US EQ	Industry index	TRS	\$20,000	Baa3		BBB-
Oct-97	Swiss Reinsurance Company Ltd.	SR Earthquake Fund, Ltd.		Class B	US EQ	Industry index	TRS	\$60,300	Ba1		BB
Oct-97	Swiss Reinsurance Company Ltd.	SR Earthquake Fund, Ltd.		Class C	US EQ	Industry index	TRS	\$14,700	Ba3		B
Nov-97	Tokio Marine & Nichido Fire Insurance Co., Ltd.	Parametric Re, Ltd.			JP EQ	Parametric	TRS	\$80,000	Ba2		
Nov-97	Tokio Marine & Nichido Fire Insurance Co., Ltd.	Parametric Re, Ltd.			JP EQ	Parametric	TRS	\$20,000	Baa3		
Mar-98	Centre Solutions (Bermuda) Limited (Zurich Group)	Trinity Re, Ltd.		Class A-1	US HU	Indemnity	TRS	\$10,467	Aaa		AAA
Mar-98	Centre Solutions (Bermuda) Limited (Zurich Group)	Trinity Re, Ltd.		Class A-2	US HU	Indemnity	TRS	\$61,533	Ba3		BB
Jun-98	United Services Automobile Association	Residential Reinsurance Limited			US HU	Indemnity	TRS	\$450,000	Ba2	BB	BB
Jun-98	The Yasuda Fire and Marine Insurance Company Limited	Pacific Re, Ltd.			JP TY	Indemnity	TRS	\$80,000	Ba3		BB-
Jul-98	United States Fidelity and Guaranty Company	Mosaic Re, Ltd.		Class A	US HU, EQ, ST	Indemnity	TRS	\$24,000			
Jul-98	United States Fidelity and Guaranty Company	Mosaic Re, Ltd.		Class B	US HU, EQ, ST	Indemnity	TRS	\$21,000			
Jul-98	United States Fidelity and Guaranty Company	Mosaic Re, Ltd.			US HU, EQ, ST	Indemnity	TRS	\$9,000			
Dec-98	Centre Solutions (Bermuda) Limited (Zurich Group)	Trinity Re 1999, Ltd.		Class A-1	US HU	Indemnity	TRS	\$2,385	Aaa		AAA
Dec-98	Centre Solutions (Bermuda) Limited (Zurich Group)	Trinity Re 1999, Ltd.		Class A-2	US HU	Indemnity	TRS	\$51,615	Ba3		BB
Feb-99	United States Fidelity and Guaranty Company	Mosaic Re II, Ltd.		Class A	US HU, EQ, ST	Indemnity	TRS	\$25,000			
Feb-99	United States Fidelity and Guaranty Company	Mosaic Re II, Ltd.		Class B	US HU, EQ, ST	Indemnity	TRS	\$20,000			
Mar-99	Kemper	Domestic, Inc.			US EQ	Indemnity	TRS	\$80,000	Ba2	BB+	
Mar-99	Kemper*	Domestic, Inc.			US EQ	Indemnity	TRS	\$20,000			
Apr-99	Sorema S..A	Halyard Re B.V.	Series 1999		EU, JP EQ, TY	Indemnity	TRS	\$17,000			
May-99	Oriental Land Co., Ltd.	Concentric, Ltd.			JP EQ	Parametric	TRS	\$100,000	Ba1	BB+	

*Equity

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Jun-99	United Services Automobile Association	Residential Reinsurance Limited			US HU	Indemnity	TRS	\$200,000	Ba2	BB	
Jun-99	Gerling-Konzern Globale Rückversicherungs-Aktiengesellschaft	Juno Re, Ltd.			US HU	Indemnity	TRS	\$80,000		BB	BB+
Nov-99	American Re	Gold Eagle Capital Limited		Class A	US HU, EQ	Modeled loss	TRS	\$50,000	Baa3		BBB-
Nov-99	American Re	Gold Eagle Capital Limited		Class B	US HU, EQ	Modeled loss	TRS	\$126,600	Ba2		BB
Nov-99	American Re*	Gold Eagle Capital Limited			US HU, EQ	Modeled loss	TRS	\$5,500	Ba1		BB+
Nov-99	American Re*	Gold Eagle Capital Limited			US HU, EQ	Modeled loss	TRS	\$3,600		BB+	
Nov-99	Gerling-Konzern Globale Rückversicherungs-Aktiengesellschaft	Namazu Re, Ltd.			JP EQ	Modeled loss	TRS	\$100,000		BB	
Mar-00	Lehman Re Ltd.	Seismic Limited			US EQ	Industry index	TRS	\$145,500	Ba2		BB+
Mar-00	Lehman Re Ltd.*	Seismic Limited				Industry index	TRS	\$4,500			
Mar-00	SCOR	Atlas Reinsurance p.l.c.		Class A	EU Wind, CA/JP EQ	Indemnity	TRS	\$70,000		BBB+	BBB+
Mar-00	SCOR	Atlas Reinsurance p.l.c.		Class B	EU Wind, CA/JP EQ	Indemnity	TRS	\$30,000		BBB-	BBB-
Mar-00	SCOR	Atlas Reinsurance p.l.c.		Class C	EU Wind, CA/JP EQ	Indemnity	TRS	\$100,000		B-	B-
Apr-00	Sorema SA	Halyard Re B.V.	Series 2000		EU/JP Wind, JP EQ	Indemnity	TRS	\$17,000			
May-00	State Farm Companies	Alpha Wind 2000-A Ltd.			US HU	Indemnity	TRS	\$52,500		BB+	
May-00	State Farm Companies*	Alpha Wind 2000-A Ltd.			US HU	Indemnity	TRS	\$37,500		BB	
Jun-00	United Services Automobile Association	Residential Reinsurance 2000 Limited			US HU	Indemnity	TRS	\$200,000	Ba2		BB+
Jul-00	Vesta Fire Insurance Corporation	NeHi, Inc.			US HU	Modeled loss	TRS	\$41,500	Ba3		BB
Jul-00	Vesta Fire Insurance Corporation*	NeHi, Inc.			US HU	Modeled loss	TRS	\$8,500			
Nov-00	Assurances Generales de France I.A.R.T.	Mediterranean Re p.l.c.		Class A	EU Wind, EQ	Modeled loss	TRS	\$41,000	Baa3	BBB+	BBB
Nov-00	Assurances Generales de France I.A.R.T.	Mediterranean Re p.l.c.		Class B	EU Wind, EQ	Modeled loss	TRS	\$88,000	Ba3	BB+	BB+
Dec-00	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	PRIME Capital CalQuake & EuroWind Ltd.			US EQ, EU Wind	Parametric index	TRS	\$129,000	Ba3	BB+	BB
Dec-00	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft*	PRIME Capital CalQuake & EuroWind Ltd.		Class B	US EQ, EU Wind	Parametric index	TRS	\$6,000			
Dec-00	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	PRIME Capital Hurricane Ltd.			US HU	Parametric index	TRS	\$159,000	Ba3	BB+	BB
Dec-00	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft*	PRIME Capital Hurricane Ltd.		Class B	US HU	Parametric index	TRS	\$6,000			
Feb-01	Swiss Reinsurance Company Ltd.	Western Capital Limited			US EQ	Industry index	TRS	\$97,000	Ba2		BB+
Feb-01	Swiss Reinsurance Company Ltd.*	Western Capital Limited			US EQ	Industry index	TRS	\$3,000			

*Equity

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Mar-01	American Re	Gold Eagle Capital 2001 Limited			US HU, EQ	Modeled loss	TRS	\$116,400	Ba2	BB+	
Apr-01	Sorema SA	Halyard Re B.V.			EU Wind, JP EQ, TY	Indemnity	TRS	\$17,000			
May-01	Swiss Reinsurance Company Ltd.*	SR Wind Ltd.		Class B-1	US HU, EU Wind	Parametric index	TRS	\$1,800		BB	BB
May-01	Swiss Reinsurance Company Ltd.*	SR Wind Ltd.		Class B-2	US HU, EU Wind	Parametric index	TRS	\$1,800		BB	BB
May-01	Swiss Reinsurance Company Ltd.	SR Wind Ltd.		Class A-1	US HU, EU Wind	Parametric index	TRS	\$58,200		BB+	BB+
May-01	Swiss Reinsurance Company Ltd.	SR Wind Ltd.		Class A-2	US HU, EU Wind	Parametric index	TRS	\$58,200		BB+	BB+
Jun-01	United Services Automobile Association	Residential Reinsurance 2001 Limited			US HU	Indemnity	TRS	\$150,000	Ba2	BB+	
Jun-01	Zurich Insurance Company*	Trinom Ltd.			US HU, EQ, EU Wind	Modeled loss	TRS	\$4,856	B2	B+	
Jun-01	Zurich Insurance Company	Trinom Ltd.		Class A-1	US HU, EQ, EU Wind	Modeled loss	TRS	\$60,000	Ba2	BB	BB-
Jun-01	Zurich Insurance Company	Trinom Ltd.		Class A-2	US HU, EQ, EU Wind	Modeled loss	TRS	\$97,000	Ba1	BB+	BB
Dec-01	SCOR	Atlas Reinsurance II p.l.c.		Class A	EU Wind, CA/JP EQ	Parametric/parametric index	TRS	\$50,000	A3	A	
Dec-01	SCOR	Atlas Reinsurance II p.l.c.		Class B	EU Wind, CA/JP EQ	Parametric/parametric index	TRS	\$100,000	Ba2	BB+	
Dec-01	Lehman Re Ltd.	Redwood Capital I, Ltd.			US EQ	Industry index	TRS	\$160,050	Ba2	BB+	
Dec-01	Lehman Re Ltd.*	Redwood Capital I, Ltd.			US EQ	Industry index	TRS	\$4,950			
Mar-02	Lehman Re Ltd.	Redwood Capital II, Ltd			US EQ	Industry index	TRS	\$194,000	Baa3	BBB-	
Mar-02	Lehman Re Ltd.*	Redwood Capital II, Ltd			US EQ	Industry index	TRS	\$6,000	Ba1	BBB-	
Apr-02	Lloyd's Syndicate 33 (Hiscox)	St. Agatha Re Ltd.			US EQ	Modeled loss	Bank Deposit	\$33,000		BB+	
May-02	Nissay Dowa General Insurance Co., Ltd.	Fujiyama Ltd.			JP EQ	Parametric	TRS	\$67,900		BB+	
May-02	Nissay Dowa General Insurance Co., Ltd.*	Fujiyama Ltd.			JP EQ	Parametric	TRS	\$2,100		BB	
May-02	United Services Automobile Association	Residential Reinsurance 2002 Limited			US HU	Indemnity	TRS	\$125,000	Ba3	BB+	
Jun-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-1	Class A	US HU	Parametric index	TRS	\$85,000	Ba3	BB+	
Jun-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-1	Class B	EU Wind	Parametric index	TRS	\$50,000	Ba3	BB+	
Jun-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-1	Class C	US EQ	Parametric index	TRS	\$30,000	Ba3	BB+	
Jun-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-1	Class D	US EQ	Parametric index	TRS	\$40,000	Baa3	BBB-	
Jun-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-1	Class E	JP EQ	Parametric index	TRS	\$25,000	Ba3	BB+	

*Equity

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Jun-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-1	Class F	US/EU Wind, US/JP EQ	Parametric index	TRS	\$25,000	Ba3	BB+	
Sep-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-2	Class B	EU Wind	Parametric index	TRS	\$5,000	Ba3	BB+	
Sep-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-2	Class C	US EQ	Parametric index	TRS	\$20,500	Ba3	BB+	
Sep-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-2	Class D	US EQ	Parametric index	TRS	\$1,750	Baa3	BBB-	
Dec-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-3	Class A	US HU	Parametric index	TRS	\$8,500	Ba3	BB+	
Dec-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-3	Class B	EU Wind	Parametric index	TRS	\$21,000	Ba3	BB+	
Dec-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-3	Class C	US EQ	Parametric index	TRS	\$15,700	Ba3	BB+	
Dec-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-3	Class D	US EQ	Parametric index	TRS	\$25,500	Baa3	BBB-	
Dec-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-3	Class E	JP EQ	Parametric index	TRS	\$30,550	Ba3	BB+	
Dec-02	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2002-3	Class F	US/EU Wind, US/JP EQ	Parametric index	TRS	\$3,000	Ba3	BB+	
Dec-02	Vivendi Universal, S.A.	Studio Re Ltd.			US EQ	Parametric index	TRS	\$150,000	Ba2	BB+	
Dec-02	Vivendi Universal, S.A.*	Studio Re Ltd.			US EQ	Parametric index	TRS	\$25,000	B1	BB	
Mar-03	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2003-1	Class A	US HU	Parametric index	TRS	\$6,500	Ba3	BB+	
Mar-03	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2003-1	Class B	EU Wind	Parametric index	TRS	\$8,000	Ba3	BB+	
Mar-03	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2003-1	Class C	US EQ	Parametric index	TRS	\$6,500	Ba3	BB+	
Mar-03	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2003-1	Class D	US EQ	Parametric index	TRS	\$5,500	Baa3	BBB-	
Mar-03	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2003-1	Class E	JP EQ	Parametric index	TRS	\$8,000	Ba3	BB+	
Mar-03	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2003-1	Class F	US/EU Wind, US/JP EQ	Parametric index	TRS	\$8,140	Ba3	BB+	
May-03	United Services Automobile Association	Residential Reinsurance 2003 Limited			US HU, EQ	Indemnity	TRS	\$160,000	Ba2	BB+	
Jun-03	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2003-2	Class A	US HU	Parametric index	TRS	\$9,750	Ba3	BB+	
Jun-03	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2003-2	Class B	EU Wind	Parametric index	TRS	\$12,250	Ba3	BB+	
Jun-03	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2003-2	Class C	US EQ	Parametric index	TRS	\$7,250	Ba3	BB+	
Jun-03	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.	Series 2003-2	Class D	US EQ	Parametric index	TRS	\$2,600	Baa3	BBB-	
Jun-03	Zenkyoren	Phoenix Quake Ltd.			JP EQ	Parametric index	TRS	\$192,500	Baa3	BBB+	
Jun-03	Zenkyoren	Phoenix Quake Wind II Ltd.			JP TY, EQ	Parametric index	TRS	\$85,000	Ba1	BBB-	
Jun-03	Zenkyoren	Phoenix Quake Wind Ltd.			JP TY, EQ	Parametric index	TRS	\$192,500	Baa3	BBB+	

*Equity

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Jul-03	Swiss Reinsurance Company Ltd.	Arbor I Ltd.	Series 1		US/EU Wind, CA/JP EQ	Parametric index	TRS	\$95,000		B	
Jul-03	Swiss Reinsurance Company Ltd.	Arbor II Ltd.	Series 1		US/EU Wind, CA/JP EQ	Parametric index	TRS	\$26,500	A1	A+	
Jul-03	Swiss Reinsurance Company Ltd.	Palm Capital Ltd.	Series 1		US HU	Parametric index	TRS	\$22,350	Ba3	BB+	
Jul-03	Swiss Reinsurance Company Ltd.	Oak Capital Ltd.	Series 1		EU Wind	Parametric index	TRS	\$23,600	Ba3	BB+	
Jul-03	Swiss Reinsurance Company Ltd.	Sequoia Capital Ltd.	Series 1		US EQ	Parametric index	TRS	\$22,500	Ba3	BB+	
Jul-03	Swiss Reinsurance Company Ltd.	Sakura Capital Ltd.	Series 1		JP EQ	Parametric index	TRS	\$14,700	Ba3	BB+	
Aug-03	Central Reinsurance Corporation (for TREIP)	Formosa Re Ltd.			Taiwan EQ	Indemnity	TRS	\$100,000		NR	
Sep-03	Swiss Reinsurance Company Ltd.	Arbor I Ltd.	Series 2		US/EU Wind, CA/JP EQ	Parametric index	TRS	\$60,000		B	
Dec-03	Swiss Reinsurance Company Ltd.	Palm Capital Ltd.	Series 2		US HU	Parametric index	TRS	\$19,000	Ba3	BB+	
Dec-03	Swiss Reinsurance Company Ltd.	Arbor I Ltd.	Series 3		US/EU Wind, CA/JP EQ	Parametric index	TRS	\$8,850		B	
Dec-03	Swiss Reinsurance Company Ltd.	PIONEER 2002 Ltd.			US EQ	Parametric index	TRS	\$51,000	Baa3	BBB-	
Dec-03	Electricite de France	Pylon Ltd.		Class A	EU Wind	Parametric index	TRS	€ 70,000	A2	BBB+	
Dec-03	Electricite de France	Pylon Ltd.		Class B	EU Wind	Parametric index	TRS	€ 120,000	Ba1	BB+	
Dec-03	Swiss Reinsurance Company Ltd.	Redwood Capital III, Ltd.			US EQ	Industry index	TRS	\$150,000	Ba1	BB+	
Dec-03	Swiss Reinsurance Company Ltd.	Redwood Capital IV, Ltd.			US EQ	Industry index	TRS	\$200,000	Baa3	BBB-	
Mar-04	Swiss Reinsurance Company Ltd.	Oak Capital Ltd.	Series 2		EU Wind	Parametric index	TRS	\$24,000	Ba3	BB+	
Mar-04	Swiss Reinsurance Company Ltd.	Sequoia Capital Ltd.	Series 2		US EQ	Parametric index	TRS	\$11,500	Ba3	BB+	
Mar-04	Swiss Reinsurance Company Ltd.	Arbor Ltd.	Series 4		US/EU Wind, CA/JP EQ	Parametric index	TRS	\$21,000		B	
May-04	United Services Automobile Association	Residential Reinsurance 2004 Limited		Class A	US HU, EQ	Indemnity	TRS	\$127,500		BB	
May-04	United Services Automobile Association	Residential Reinsurance 2004 Limited		Class B	US HU, EQ	Indemnity	TRS	\$100,000		B	
Jun-04	Converium Ltd.	Helix 04 Limited			US/EU Wind, US/JP EQ	Modeled loss	Bank Deposit	\$100,000		BB+	
Jun-04	Swiss Reinsurance Company Ltd.	Arbor Ltd.	Series 5		US/EU Wind, CA/JP EQ	Parametric index	TRS	\$18,000		B	
Jun-04	Swiss Reinsurance Company Ltd.	Gi Capital Ltd.			JP EQ	Parametric index	TRS	\$125,000		BB+	
Sep-04	Swiss Reinsurance Company Ltd.	Oak Capital Ltd.	Series 3		EU Wind	Parametric index	TRS	\$10,500	Ba3	BB+	
Sep-04	Swiss Reinsurance Company Ltd.	Sequoia Capital Ltd.	Series 3		US EQ	Parametric index	TRS	\$11,000	Ba3	BB+	
Sep-04	Swiss Reinsurance Company Ltd.	Arbor Ltd.	Series 6		US/EU Wind, CA/JP EQ	Parametric index	TRS	\$31,800		B	

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Nov-04	Hartford Fire Insurance Company	Foundation Re Ltd.	Series 2004-I	Class A	US HU	Industry index	TRS	\$180,000		BB+	
Nov-04	Hartford Fire Insurance Company	Foundation Re Ltd.	Series 2004-I	Class B	US HU, EQ	Industry index	TRS	\$67,500		BBB+	
Dec-04	Swiss Reinsurance Company Ltd.	Arbor I Ltd.	Series 7		US/EU Wind, CA/JP EQ	Parametric index	TRS	\$15,000		B	
Dec-04	Swiss Reinsurance Company Ltd.	Redwood Capital V, Ltd.			US EQ	Industry index	TRS	\$150,000	Ba2	BB+	
Dec-04	Swiss Reinsurance Company Ltd.	Redwood Capital VI, Ltd.			US EQ	Industry index	TRS	\$150,000	Ba2	BB+	
Mar-05	Swiss Reinsurance Company Ltd.	Arbor I Ltd.	Series 8		US/EU Wind, CA/JP EQ	Parametric index	TRS	\$20,000		B	
May-05	United Services Automobile Association	Residential Reinsurance 2005 Limited		Class A	US HU, EQ	Indemnity	TRS	\$91,000		BB	
May-05	United Services Automobile Association	Residential Reinsurance 2005 Limited		Class B	US HU, EQ	Indemnity	TRS	\$85,000		B	
Jun-05	Factory Mutual Insurance Company	Cascadia Limited			US EQ	Parametric	TRS	\$300,000		BB+	BB
Jun-05	Swiss Reinsurance Company Ltd.	Arbor I Ltd.	Series 9		US/EU Wind, CA/JP EQ	Parametric index	TRS	\$25,000		B	
Jul-05	Zurich American Insurance Company	KAMP Re 2005 Ltd.			US HU, EQ	Indemnity	TRS	\$190,000		BB+	
Nov-05	PXRE Reinsurance Ltd.	Atlantic & Western Re Limited		Class A	US/EU Wind	Modeled loss	TRS	\$100,000		BB+	BB
Nov-05	PXRE Reinsurance Ltd.	Atlantic & Western Re Limited		Class B	US/EU Wind, US HU	Modeled loss	TRS	\$200,000		B+	B
Nov-05	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Aiolos Ltd.			EU Wind	Parametric index	TRS	€ 110,000		BB+	
Dec-05	Swiss Reinsurance Company Ltd.	Arbor I Ltd.	Series 10		US/EU Wind, CA/JP EQ	Parametric index	TRS	\$18,000		B	
Dec-05	PXRE Reinsurance Ltd.	Atlantic & Western Re II Limited		Class A	US/EU Wind, US EQ	Modeled loss	TRS	\$125,000		BB+	
Dec-05	PXRE Reinsurance Ltd.	Atlantic & Western Re II Limited		Class B	US/EU Wind, US EQ	Modeled loss	TRS	\$125,000		BB+	
Dec-05	Montpelier Reinsurance Ltd.	Champlain Limited		Class A	US/JP EQ	Modeled loss	TRS	\$75,000		B	B-
Dec-05	Montpelier Reinsurance Ltd.	Champlain Limited		Class B	US HU, EQ	Modeled loss	TRS	\$15,000		B+	B-
Jan-06	Swiss Reinsurance Company Ltd.	Australis Ltd.	Series 1		AU CY, EQ	Parametric index	TRS	\$100,000		BB	
Feb-06	Swiss Reinsurance Company Ltd.	Redwood Capital VII, Ltd.			US EQ	Industry index	TRS	\$160,000		BB+	
Feb-06	Swiss Reinsurance Company Ltd.	Redwood Capital VIII, Ltd.			US EQ	Industry index	TRS	\$65,000		BB+	
Feb-06	Hartford Fire Insurance Company	Foundation Re Ltd.	Series 2006-I	Class D	US HU, EQ	Industry index	TRS	\$105,000		BB	
May-06	The Fund for Natural Disasters	CAT-Mex Ltd.		Class A	Mexico EQ	Parametric	TRS	\$150,000		BB+	
May-06	The Fund for Natural Disasters	CAT-Mex Ltd.		Class B	Mexico EQ	Parametric	TRS	\$10,000		BB+	
May-06	ACE American Insurance Company	Calabash Re Ltd.	Series 2006-I	Class A-1	US HU	Industry index	TRS	\$100,000		BB	

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
May-06	United Services Automobile Association	Residential Reinsurance 2006 Limited		Class A	US HU, EQ	Indemnity	TRS	\$47,500		B	
May-06	United Services Automobile Association	Residential Reinsurance 2006 Limited		Class C	US HU, EQ	Indemnity	TRS	\$75,000		BB+	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 2	Class D	US HU	Industry index	TRS	\$10,250		B	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 2	Class E	US HU	Industry index	TRS	\$35,000			
Jun-06	Swiss Reinsurance Company Ltd.	Successor Japan Quake Ltd.	Series 2	Class C	JP EQ	Modeled loss	TRS	\$3,000		B	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Euro Wind Ltd.	Series 2	Class A	EU Wind	Parametric index	TRS	\$3,000	Ba3	BB	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Euro Wind Ltd.	Series 2	Class C	EU Wind	Parametric index	TRS	\$3,000	B3	B	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 1	Class B	US HU	Industry index	TRS	\$14,000	B1	BB-	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 1	Class C	US HU	Industry index	TRS	\$7,250	B2	B	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 1	Class D	US HU	Industry index	TRS	\$34,250		B	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 1	Class E	US HU	Industry index	TRS	\$5,000			
Jun-06	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 1	Class F	US HU	Industry index	TRS	\$54,000	B2	B	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Hurricane Modeled Ltd.	Series 1	Class B	US HU	Modeled loss	TRS	\$42,250	B1	BB-	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Cal Quake Parametric Ltd.	Series 1	Class A	US EQ	Parametric index	TRS	\$47,500	Ba3	BB	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Japan Quake Ltd.	Series 1	Class A	JP EQ	Modeled loss	TRS	\$103,470		BB	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Japan Quake Ltd.	Series 1	Class B	JP EQ	Modeled loss	TRS	\$26,250		BB-	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Japan Quake Ltd.	Series 2	Class C	JP EQ	Modeled loss	TRS	\$70,750		B	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Euro Wind Ltd.	Series 1	Class A	EU Wind	Parametric index	TRS	\$97,130	Ba3	BB	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Euro Wind Ltd.	Series 1	Class B	EU Wind	Parametric index	TRS	\$18,500	B1	BB-	
Jun-06	Swiss Reinsurance Company Ltd.	Successor Euro Wind Ltd.	Series 1	Class C	EU Wind	Parametric index	TRS	\$110,750	B3	B	
Jun-06	Swiss Reinsurance Company Ltd.	Successor II Ltd.	Series 1	Class A	US/EU Wind, US/JP EQ	Modeled loss, parametric index	TRS	\$73,200	B3	B	
Jun-06	Swiss Reinsurance Company Ltd.	Successor II Ltd.	Series 1	Class E	US/EU Wind, US/JP EQ	Modeled loss, parametric index	TRS	\$154,250			

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Jun-06	Swiss Reinsurance Company Ltd.	Successor III Ltd.	Series 1	Class A	US/EU Wind, JP EQ	Modeled loss, parametric index	TRS	\$7,200			
Jun-06	Swiss Reinsurance Company Ltd.	Successor IV Ltd.	Series 1	Class A	US/EU Wind, US/JP EQ	Modeled loss, parametric index	TRS	\$30,000		B	
Jun-06	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Carillon Ltd.	Series 1	Class A-2	US HU	Industry index	TRS	\$23,500		B+	
Jun-06	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Carillon Ltd.	Series 1	Class B	US HU	Industry index	TRS	\$10,000		B	
Jun-06	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Carillon Ltd.	Series 1	Class A-1	US HU	Industry index	TRS	\$51,000		B+	
Jun-06	Liberty Mutual Insurance Company	Mystic Re Ltd.	Series 2006-1	Class A	US HU	Industry index	TRS	\$200,000		BB+	
Jun-06	Balboa Insurance Group	VASCO Re 2006 Ltd.			US HU	Indemnity	Bank Deposit	\$50,000		BB+	
Jun-06	Dominion Resources	DREWCAT Capital, Ltd.		Class A	US HU	Parametric index	TRS	\$50,000		NR	
Jul-06	Hannover Rück SE	Eurus Ltd.			EU Wind	Parametric index	TRS	\$150,000		BB	
Aug-06	Endurance Specialty Insurance Company	Shackleton Re Limited		Class A	US EQ	Industry index	TRS	\$125,000	Ba3	BB	
Aug-06	Endurance Specialty Insurance Company	Shackleton Re Limited		Class B	US HU	Industry index	TRS	\$60,000	Ba3	BB	
Aug-06	Endurance Specialty Insurance Company	Shackleton Re Limited		Class C	US HU, EQ	Industry index	TRS	\$50,000	Ba2	BB+	
Aug-06	Tokio Marine & Nichido Fire Insurance Co., Ltd.	Fhu-Jin Ltd.	Series 1	Class B	JP TY	Parametric index	TRS	\$200,000		BB+	
Aug-06	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 3	Class E	US HU	Industry index	TRS	\$50,000			
Aug-06	Factory Mutual Insurance Company	Cascadia II Limited			US EQ	Parametric	Bank Deposit	\$300,000		BB+	BB+
Nov-06	Hartford Fire Insurance Company	Foundation Re II Ltd.	Series 2006-1	Class G	US, HU, EQ, ST	Industry index	TRS	\$67,500		B	
Nov-06	Hartford Fire Insurance Company	Foundation Re II Ltd.	Series 2006-1	Class A	US HU	Industry index	TRS	\$180,000		BB+	
Nov-06	Liberty Mutual Insurance Company	Mystic Re Ltd.	Series 2006-2	Class A	US HU	Industry index	TRS	\$200,000		BB+	
Nov-06	Liberty Mutual Insurance Company	Mystic Re Ltd.	Series 2006-2	Class B	US HU	Industry index	TRS	\$125,000		BB	
Dec-06	Swiss Reinsurance Company Ltd.	Successor I Ltd.	Series 1	Class B	NA/EU W, CA/JP EQ	Industry index, modeled loss, parametric index	TRS	\$4,000			
Dec-06	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 4	Class E	US HU	Industry index	TRS	\$4,000			
Dec-06	Swiss Reinsurance Company Ltd.	Successor I Ltd.	Series 2	Class B	NA/EU W, CA/JP EQ	Industry index, modeled loss, parametric index	TRS	\$24,500			
Dec-06	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 5	Class E	US HU	Industry index	TRS	\$26,000			
Dec-06	Swiss Reinsurance Company Ltd.	Successor Euro Wind Ltd.	Series 3	Class A	EU Wind	Parametric index	TRS	\$118,000	Ba3	BB	

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Dec-06	Swiss Reinsurance Company Ltd.	Successor Euro Wind Ltd.	Series 3	Class C	EU Wind	Parametric index	TRS	\$15,000	B3	B	
Dec-06	Zurich American Insurance Company	Lakeside Re Ltd.			US EQ	Indemnity	Bank Deposit	\$190,000		BB+	
Dec-06	SCOR	Atlas Reinsurance III p.l.c.			JP EQ, EU Wind	Modeled loss	TRS	€120,000		BB+	
Dec-06	Swiss Reinsurance Company Ltd.	Redwood Capital IX Ltd.	Series 1	Class A	US EQ	Parametric index	TRS	\$125,000	Ba2	BB+	
Dec-06	Swiss Reinsurance Company Ltd.	Redwood Capital IX Ltd.	Series 1	Class B	US EQ	Parametric index	TRS	\$125,000	Ba2	BB+	
Dec-06	Swiss Reinsurance Company Ltd.	Redwood Capital IX Ltd.	Series 1	Class C	US EQ	Parametric index	TRS	\$18,000	Baa3	BBB-	
Dec-06	Swiss Reinsurance Company Ltd.	Redwood Capital IX Ltd.	Series 1	Class D	US EQ	Parametric index	TRS	\$20,000	Ba3	BB	
Dec-06	Swiss Reinsurance Company Ltd.	Redwood Capital IX Ltd.	Series 1	Class E	US EQ	Parametric index	TRS	\$12,000	B3	B	
Jan-07	ACE American Insurance Company	Calabash Re II Ltd.	Series 2006-1	Class A-1	US HU	Modeled loss	TRS	\$100,000		BB	
Jan-07	ACE American Insurance Company	Calabash Re II Ltd.	Series 2006-1	Class D-1	US EQ	Modeled loss	TRS	\$50,000		B+	
Jan-07	ACE American Insurance Company	Calabash Re II Ltd.	Series 2006-1	Class E-1	US HU, EQ	Modeled loss	TRS	\$100,000		BB	
Mar-07	Swiss Reinsurance Company Ltd.	Australis Ltd.	Series 2		AU CY, EQ	Parametric index	TRS	\$50,000		BB	
Apr-07	Allianz Global Corporate & Specialty AG	Blue Wings Ltd.	Series 1	Class A	US EQ, UK Flood	Modeled loss, parametric index	TRS	\$150,000		BB+	
Apr-07	Aspen Insurance Limited	Ajax Re Limited	Series 1	Class A	US EQ	Industry index	TRS	\$100,000		BB	
Apr-07	Chubb Group	East Lane Re Ltd.	Series 2007-1	Class A	US HU	Indemnity	TRS	\$135,000		BB+	
Apr-07	Chubb Group	East Lane Re Ltd.	Series 2007-1	Class B	US HU	Indemnity	TRS	\$115,000		BB+	
May-07	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Carillon Ltd.	Series 2	Class E	US HU	Industry index	TRS	\$150,000		B	
May-07	The Travelers Indemnity Company	Longpoint Re Ltd.	Series 2007-1	Class A	US HU	Industry index	TRS	\$500,000		BB+	
May-07	Swiss Reinsurance Company Ltd.	Successor II Ltd.	Series 2	Class A	NA/EU W, CAL/JJP EQ	Modeled loss, Parametric index	TRS	\$100,000		B	
May-07	Mitsui Sumitomo Insurance Co., Ltd.	AKIBARE Ltd.	Series 1	Class A	JP TY	Parametric index	TRS	\$90,000		BB+	
May-07	Mitsui Sumitomo Insurance Co., Ltd.	AKIBARE Ltd.	Series 1	Class B	JP TY	Parametric index	TRS	\$30,000		BB+	
May-07	Swiss Reinsurance Company Ltd.	MedQuake Ltd.	Series 1	Class A	EU EQ	Parametric index	TRS	\$50,000		BB-	
May-07	Swiss Reinsurance Company Ltd.	MedQuake Ltd.	Series 1	Class B	EU EQ	Parametric index	TRS	\$50,000		B	
May-07	Liberty Mutual Insurance Company	Mystic Re II Ltd.	Series 2007-1		US HU	Industry index	TRS	\$150,000		B+	
May-07	United Services Automobile Association	Residential Reinsurance 2007 Limited	Series 2007-1	Class 1	US HU, EQ	Indemnity	TRS	\$145,000		BB	
May-07	United Services Automobile Association	Residential Reinsurance 2007 Limited	Series 2007-1	Class 2	US HU, EQ	Indemnity	TRS	\$125,000		B	

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
May-07	United Services Automobile Association	Residential Reinsurance 2007 Limited	Series 2007-1	Class 3	US HU, EQ	Indemnity	TRS	\$75,000		B	
May-07	United Services Automobile Association	Residential Reinsurance 2007 Limited	Series 2007-1	Class 4	US HU, EQ	Indemnity	TRS	\$155,000		BB+	
May-07	United Services Automobile Association	Residential Reinsurance 2007 Limited	Series 2007-1	Class 5	US HU, EQ	Indemnity	TRS	\$100,000		BB+	
Jun-07	Glacier Reinsurance AG	Nelson Re Ltd.	Series 2007-1	Class A	US/EU W, US EQ	Industry index, modeled loss	TRS	\$75,000		B	
Jun-07	Allstate Insurance Company	Willow Re Ltd.	Series 2007-1	Class B	US HU	Industry index	TRS	\$250,000		BB+	
Jun-07	Swiss Reinsurance Company Ltd.	Spinnaker Capital Ltd.	Series 1 2007		US HU	Industry index	TRS	\$200,000	B1		
Jun-07	Brit Insurance Limited	Fremantle Limited	Series 2007-1	Class A	US/EU/JP Wind, US/JP EQ	Industry index	TRS	\$60,000	Aa1		AAA
Jun-07	Brit Insurance Limited	Fremantle Limited	Series 2007-1	Class B	US/EU/JP Wind, US/JP EQ	Industry index	TRS	\$60,000	A3		BBB+
Jun-07	Brit Insurance Limited	Fremantle Limited	Series 2007-1	Class C	US/EU/JP Wind, US/JP EQ	Industry index	TRS	\$80,000	Ba2		BB-
Jun-07	Swiss Reinsurance Company Ltd.	Spinnaker Capital Ltd.	Series 2 2007		US HU	Industry index	TRS	\$130,200	Ba2		
Jun-07	Swiss Reinsurance Company Ltd.	FUSION 2007 Ltd.		Class A	JP TY, Mexico EQ	Parametric index	TRS	\$30,000		B	
Jun-07	Swiss Reinsurance Company Ltd.	FUSION 2007 Ltd.		Class B	JP TY, Mexico EQ	Parametric index	TRS	\$80,000		B	
Jun-07	Swiss Reinsurance Company Ltd.	FUSION 2007 Ltd.		Class C	Mexico EQ	Parametric index	TRS	\$30,000		BB+	
Jul-07	State Farm Mutual Automobile Insurance Company	Merna Reinsurance Ltd.		Tranche A	NA HU, EQ, ST, WS, WF	Indemnity	TRS	\$350,000	Aa2		AAA
Jul-07	State Farm Mutual Automobile Insurance Company	Merna Reinsurance Ltd.		Tranche B	NA HU, EQ, ST, WS, WF	Indemnity	TRS	\$666,600	A2		AA+
Jul-07	State Farm Mutual Automobile Insurance Company	Merna Reinsurance Ltd.		Tranche C	NA HU, EQ, ST, WS, WF	Indemnity	TRS	\$164,000	Baa2		A-
Jul-07	Arrow Capital Reinsurance Company, Limited	Javelin Re Ltd.		Class A	Worldwide All Perils	Indemnity	TRS	\$94,500		A-	
Jul-07	Arrow Capital Reinsurance Company, Limited	Javelin Re Ltd.		Class B	Worldwide All Perils	Indemnity	TRS	\$30,750		BBB-	
Jul-07	Swiss Reinsurance Company Ltd.	Spinnaker Capital Ltd.	Series 3 2007		US HU	Industry index	TRS	\$50,000		NR	
Oct-07	East Japan Railway Company	MIDORI Ltd.			JP EQ	Parametric	TRS	\$260,000		BB+	
Nov-07	Allianz Argos 14 GmbH	Blue Fin Ltd.	Series 1	Class A	EU Wind	Parametric index	TRS	€155,000		BB+	
Nov-07	Allianz Argos 14 GmbH	Blue Fin Ltd.	Series 1	Class B	EU Wind	Parametric index	TRS	\$65,000		BB+	
Nov-07	SCOR Global P&C SE	Atlas Reinsurance IV Limited			EU Wind, JP EQ	Modeled loss	TRS	€160,000		B	
Dec-07	Catlin Group	Newton Re Limited	Series 2007-1	Class A	US EQ	Industry index	Bank Deposit	\$87,500		BB+	
Dec-07	Catlin Group	Newton Re Limited	Series 2007-1	Class B	US HU	Industry index	Bank Deposit	\$137,500		BB+	
Dec-07	Swiss Reinsurance Company Ltd.	GlobeCat Ltd.	Series LAQ	Class A-1	Latin America EQ	Modeled loss	TRS	\$25,000	Ba3		
Dec-07	Swiss Reinsurance Company Ltd.	GlobeCat Ltd.	Series USW	Class A-1	US HU	Industry index	TRS	\$40,000	B3		

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Dec-07	Swiss Reinsurance Company Ltd.	GlobeCat Ltd.	Series CAQ	Class A-1	US EQ	Industry index	TRS	\$20,000	B1		
Dec-07	Groupama S.A.	Green Valley Ltd.	Series 1	Class A	EU Wind	Parametric index	TRS	€200,000	BB+		
Dec-07	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 6	Class C	US HU	Industry index	TRS	\$30,000	B2	B	
Dec-07	Swiss Reinsurance Company Ltd.	Successor Hurricane Industry Ltd.	Series 6	Class D	US HU	Industry index	TRS	\$30,000		B	
Dec-07	Swiss Reinsurance Company Ltd.	Successor II Ltd.	Series 3	Class C	US/EU Wind, US/JP EQ	Parametric index	TRS	\$50,000			
Dec-07	Swiss Reinsurance Company Ltd.	Successor II Ltd.	Series 3	Class E	US/EU Wind, US/JP EQ	Parametric index	TRS	\$50,000			
Dec-07	Swiss Reinsurance Company Ltd.	Redwood Capital X Ltd.	Series 1	Class A	US EQ	Parametric index	TRS	\$25,000	Baa3		
Dec-07	Swiss Reinsurance Company Ltd.	Redwood Capital X Ltd.	Series 1	Class B	US EQ	Parametric index	TRS	\$227,700	Ba2		
Dec-07	Swiss Reinsurance Company Ltd.	Redwood Capital X Ltd.	Series 1	Class C	US EQ	Parametric index	TRS	\$50,200	Ba3		
Dec-07	Swiss Reinsurance Company Ltd.	Redwood Capital X Ltd.	Series 2	Class D	US EQ	Industry index	TRS	\$130,500	Ba3		
Dec-07	Swiss Reinsurance Company Ltd.	Redwood Capital X Ltd.	Series 2	Class E	US EQ	Industry index	TRS	\$45,200	B2		
Dec-07	Swiss Reinsurance Company Ltd.	Redwood Capital X Ltd.	Series 2	Class F	US EQ	Industry index	TRS	\$20,000	NR		
Feb-08	Catlin Group	Newton Re Limited	Series 2008-1	Class A	US/EU/JP Wind, US/JP EQ	Indemnity	TRS	\$150,000		BB	
Mar-08	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street Ltd.	Series 1	Class A	EU Wind	Parametric index	TRS	€70,000		BB+	
Mar-08	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street Ltd.	Series 1	Class B	EU Wind	Parametric index	TRS	€100,000		B	
Mar-08	Chubb Group	East Lane Re II Ltd.	Series 2008-1	Class A	Northeast US All Natural Perils	Indemnity	TRS	\$75,000		BB	
Mar-08	Chubb Group	East Lane Re II Ltd.	Series 2008-1	Class B	Northeast US All Natural Perils	Indemnity	TRS	\$70,000		BB	
Mar-08	Chubb Group	East Lane Re II Ltd.	Series 2008-1	Class C	NA All Natural Perils	Indemnity	TRS	\$55,000		B-	
May-08	Zenkoyoren	Muteki Ltd.	Series 2008-1	Class A	JP EQ	Parametric index	TRS	\$300,000	Ba2		
May-08	HomeWise Preferred Insurance Company and HomeWise Insurance Company	Mangrove Re Ltd.	Series 2008-1	Class A	US HU	Indemnity	TRS	\$150,000	Ba2		
May-08	HomeWise Preferred Insurance Company and HomeWise Insurance Company	Mangrove Re Ltd.	Series 2008-1	Class B	US HU	Indemnity	TRS	\$60,000	B1		
May-08	United Services Automobile Association	Residential Reinsurance 2008 Limited	Series 2008-1	Class 1	US HU, EQ	Indemnity	TRS	\$125,000		BB	
May-08	United Services Automobile Association	Residential Reinsurance 2008 Limited	Series 2008-1	Class 2	US HU, EQ	Indemnity	TRS	\$125,000		B	
May-08	United Services Automobile Association	Residential Reinsurance 2008 Limited	Series 2008-1	Class 4	US (HU, EQ, ST, WS, WF)	Indemnity	TRS	\$100,000		BB+	
May-08	Flagstone Reinsurance Limited and Flagstone Reassurance Suisse SA	Valais Re Ltd.	Series 2008-1	Class A	US/EU/JP Wind, US/JP EQ	Indemnity	TRS	\$64,000	Ba2		

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
May-08	Flagstone Reinsurance Limited and Flagstone Reassurance Suisse SA	Valais Re Ltd.	Series 2008-1	Class C	US/EU/JP Wind, US/JP EQ	Indemnity	TRS	\$40,000	B3		
Jun-08	Glacier Reinsurance AG	Nelson Re Ltd.	Series 2008-1	Class G	US HU, EQ	Indemnity	TRS	\$67,500	B3		
Jun-08	Glacier Reinsurance AG	Nelson Re Ltd.	Series 2008-1	Class H	EU Wind	Indemnity	TRS	\$45,000	B3		
Jun-08	Glacier Reinsurance AG	Nelson Re Ltd.	Series 2008-1	Class I	EU Wind	Indemnity	TRS	\$67,500	B1		
Jun-08	Allstate Insurance Company	Willow Re Ltd.	Series 2008-1	Class D	US HU	Industry index	TRS	\$250,000		BB+	
Jun-08	Nationwide Mutual Insurance Company	Caelus Re Limited	Series 2008-1	Class A	US HU, EQ	Indemnity	TRS	\$250,000		BB+	
Jun-08	Swiss Reinsurance Company Ltd.	Vega Capital Ltd.	Series 2008-1	Class A	US/EU/JP Wind, US/JP EQ	Parametric index	TRS	\$21,000	A3	A-	
Jun-08	Swiss Reinsurance Company Ltd.	Vega Capital Ltd.	Series 2008-1	Class B	US/EU/JP Wind, US/JP EQ	Parametric index	TRS	\$22,500	Baa2	BBB	
Jun-08	Swiss Reinsurance Company Ltd.	Vega Capital Ltd.	Series 2008-1	Class C	US/EU/JP Wind, US/JP EQ	Parametric index	TRS	\$63,900	Ba3		
Jun-08	Swiss Reinsurance Company Ltd.	Vega Capital Ltd.	Series 2008-1	Class D	US/EU/JP Wind, US/JP EQ	Parametric index	TRS	\$42,600			
Jul-08	Allianz Risk Transfer (Bermuda) Limited	Blue Coast Ltd.	Series 2008-1	Class A	US HU	Industry index	TRS	\$70,000		BB-	
Jul-08	Allianz Risk Transfer (Bermuda) Limited	Blue Coast Ltd.	Series 2008-1	Class B	US HU	Industry index	TRS	\$30,000		B+	
Jul-08	Allianz Risk Transfer (Bermuda) Limited	Blue Coast Ltd.	Series 2008-1	Class C	US HU	Industry index	TRS	\$20,000		B-	
Aug-08	Platinum Underwriters Bermuda Ltd.	Topiary Capital Limited	Series 2008-1	Class A	US/EU W, US/JP EQ	Industry index	TRS	\$200,000		BB+	
Feb-09	SCOR Global P&C SE	Atlas V Capital Limited	Series 1		US HU, EQ	Industry index	TRS	\$50,000		B+	
Feb-09	SCOR Global P&C SE	Atlas V Capital Limited	Series 2		US HU, EQ	Industry index	TRS	\$100,000		B+	
Feb-09	SCOR Global P&C SE	Atlas V Capital Limited	Series 3		US HU, EQ	Industry index	TRS	\$50,000		B	
Mar-09	Chubb Group	East Lane Re III Ltd.	Series 2009-1	Class A	US HU	Indemnity	TRS	\$150,000		BB	
Mar-09	Liberty Mutual Insurance Company	Mystic Re II Ltd.	Series 2009-1		US HU, EQ	Industry index	TRS	\$225,000		BB	
Apr-09	Allianz Argos 14 GmbH	Blue Fin Ltd.	Series 2	Class A	US HU, EQ	Modeled loss	MTN	\$180,000		BB-	
Apr-09	Swiss Reinsurance Company Ltd.	Successor II Ltd.	Series 4	Class F	US HU, EQ	Parametric index	MMF	\$60,000			
May-09	Assurant, Inc.	Ibis Re Ltd.	Series 2009-1	Class A	US HU	Industry index	TRS	\$75,000		BB	
May-09	Assurant, Inc.	Ibis Re Ltd.	Series 2009-1	Class B	US HU	Industry index	TRS	\$75,000		BB-	
May-09	United Services Automobile Association	Residential Reinsurance 2009 Limited	Series 2009-1	Class 1	US HU, EQ	Indemnity	MMF	\$70,000		BB-	
May-09	United Services Automobile Association	Residential Reinsurance 2009 Limited	Series 2009-1	Class 2	US HU, EQ	Indemnity	MMF	\$60,000		B-	
May-09	United Services Automobile Association	Residential Reinsurance 2009 Limited	Series 2009-1	Class 4	US (HU, EQ, ST, WS, WF)	Indemnity	MMF	\$120,000		BB-	

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Jun-09	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Ianus Capital Ltd.			EU Wind, EQ	Parametric index, modeled loss	MTN	€50,000	B2		
Jun-09	ACE American Insurance Company	Calabash Re III Ltd.	Series 2009-1	Class A	US HU, EQ	Modeled loss	MTN	\$86,000		BB-	
Jun-09	ACE American Insurance Company	Calabash Re III Ltd.	Series 2009-1	Class B	US EQ	Modeled loss	MTN	\$14,000		BB+	
Jul-09	North Carolina JUA/IUA	Parkton Re Ltd.	Series 2009-1		NC Wind	Indemnity	MMF	\$200,000		B+	
Jul-09	Hannover Rück SE	Eurus II Ltd.	Series 2009-1	Class A	EU Wind	Parametric index	TPR	€150,000		BB	
Oct-09	The Fund for Natural Disasters	MultiCat Mexico 2009 Limited	Series 2009-1	Class A	Mex EQ	Parametric	MMF	\$140,000		B	
Oct-09	The Fund for Natural Disasters	MultiCat Mexico 2009 Limited	Series 2009-1	Class B	Mex, HU Pacific	Parametric	MMF	\$50,000		B	
Oct-09	The Fund for Natural Disasters	MultiCat Mexico 2009 Limited	Series 2009-1	Class C	Mex, HU Pacific	Parametric	MMF	\$50,000		B	
Oct-09	The Fund for Natural Disasters	MultiCat Mexico 2009 Limited	Series 2009-1	Class D	Mex, HU Atlantic	Parametric	MMF	\$50,000		BB-	
Nov-09	Flagstone Reassurance Suisse SA	Montana Re Ltd.	Series 2009-1	Class A	US HU, EQ	Industry index	TPR	\$75,000		B-	
Nov-09	Flagstone Reassurance Suisse SA	Montana Re Ltd.	Series 2009-1	Class B	US HU	Industry index	TPR	\$100,000		BB-	
Dec-09	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2009-1	Class I-S1	US HU, EQ, EU Wind	Industry index, parametric index	MMF	\$50,000			
Dec-09	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2009-1	Class I-U1	US HU, EQ	Industry index, parametric index	MMF	\$50,000		B-	
Dec-09	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2009-1	Class I-X1	US HU, EQ	Industry index, parametric index	MMF	\$50,000			
Dec-09	SCOR Global P&C SE	Atlas VI Capital Limited	Series 2009-1	Class A	EU Wind, JP EQ	Parametric index	Repo	€75,000		BB-	
Dec-09	The Travelers Indemnity Company	Longpoint Re II Ltd.	Series 2009-1	Class A	US HU	Industry index	MMF	\$250,000		BB+	
Dec-09	The Travelers Indemnity Company	Longpoint Re II Ltd.	Series 2009-1	Class B	US HU	Industry index	MMF	\$250,000		BB+	
Dec-09	Zurich American Insurance Company, Zurich Insurance Company Ltd	Lakeside Re II Ltd.			CAL EQ	Indemnity	MMF	\$225,000		BB-	
Dec-09	Swiss Reinsurance Company Ltd.	Redwood Capital XI Ltd.	Series 2009-1	Class A	CAL EQ	Industry index	MMF	\$150,000	B1		
Jan-10	Hartford Fire Insurance Company	Foundation Re III Ltd.	Series 2010-1	Class A	US HU	Industry index	MMF	\$180,000		BB+	
Mar-10	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2010-1	Class II-CN3	US HU, EU Wind	Industry index, modeled loss	MMF	\$45,000		B-	
Mar-10	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2010-1	Class II-CL3	US HU, EU Wind	Industry index, modeled loss	MMF	\$35,000			
Mar-10	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2010-1	Class II-BY3	US HU, EQ, EU Wind, JP EQ	Industry index, modeled loss	MMF	\$40,000			
Apr-10	State Farm Fire and Casualty Company	Merna Reinsurance II Ltd.			US EQ	Indemnity	MMF	\$350,000		BB+	
Apr-10	Assurant, Inc.	Ibis Re Ltd.	Series 2010-1	Class A	US HU	Industry index	MMF	\$90,000		BB	

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Apr-10	Assurant, Inc.	Ibis Re Ltd.	Series 2010-1	Class B	US HU	Industry index	MMF	\$60,000		B+	
May-10	North Carolina JUA/IUA	Johnston Re Ltd.	Series 2010-1	Class A	US HU	Indemnity	MMF	\$200,000		BB-	
May-10	North Carolina JUA/IUA	Johnston Re Ltd.	Series 2010-1	Class B	US HU	Indemnity	MMF	\$105,000		BB-	
May-10	National Union Fire Insurance Company of Pittsburgh	Lodestone Re Ltd.	Series 2010-1	Class A	US HU, EQ	Industry index	MMF	\$175,000		BB+	
May-10	National Union Fire Insurance Company of Pittsburgh	Lodestone Re Ltd.	Series 2010-1	Class B	US HU, EQ	Industry index	MMF	\$250,000		BB	
May-10	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	EOS Wind Limited		Class A	US HU	Industry index	MMF	\$50,000	Ba3		
May-10	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	EOS Wind Limited		Class B	US HU, EU Wind	Industry index, parametric index	MMF	\$30,000	Ba3		
May-10	Nationwide Mutual Insurance Company	Caelus Re II Limited	Series 2010-1	Class A	US HU, EQ	Indemnity	MMF	\$185,000		BB+	
May-10	Allianz Argos 14 GmbH	Blue Fin Ltd.	Series 3	Class A	US HU, EQ	Modeled loss	MMF	\$90,000		B-	
May-10	Allianz Argos 14 GmbH	Blue Fin Ltd.	Series 3	Class B	US HU, EQ	Modeled loss	MMF	\$60,000		BB	
May-10	United Services Automobile Association	Residential Reinsurance 2010 Limited	Series 2010-I	Class 1	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$162,500		BB	
May-10	United Services Automobile Association	Residential Reinsurance 2010 Limited	Series 2010-I	Class 2	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$72,500		B+	
May-10	United Services Automobile Association	Residential Reinsurance 2010 Limited	Series 2010-I	Class 3	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$52,500		B-	
May-10	United Services Automobile Association	Residential Reinsurance 2010 Limited	Series 2010-I	Class 4	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$117,500			
Jun-10	State Farm Mutual Automobile Insurance Company	Merna Reinsurance III Ltd			NA HU, EQ, ST, WS, WF	Indemnity	MMF	\$250,000			
Jul-10	Massachusetts Property Insurance Underwriting Association	Shore Re Ltd.	Series 2010-1	Class A	US HU	Indemnity	MMF	\$96,000		BB	
Sep-10	Groupama S.A.	Green Valley Ltd.	Series 2	Class A	EU Wind	Parametric index	MTN	€100,000		BB+	
Oct-10	AXA Global P&C	Calypso Capital Limited	Series 2010-1	Class A	EU Wind	Industry index	TPR	€275,000		BB	
Nov-10	American Family Mutual Insurance Company	Mariah Re Ltd.	Series 2010-1		US ST	Industry index	MMF	\$100,000		B	
Dec-10	United Services Automobile Association	Residential Reinsurance 2010 Limited	Series 2010-II	Class 1	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$210,000		BB	
Dec-10	United Services Automobile Association	Residential Reinsurance 2010 Limited	Series 2010-II	Class 2	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$50,000			
Dec-10	United Services Automobile Association	Residential Reinsurance 2010 Limited	Series 2010-II	Class 3	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$40,000			
Dec-10	SCOR Global P&C SE	Atlas VI Capital Limited	Series 2010-1	Class A	EU Wind, JP EQ	Parametric index	TPR	€75,000		B-	
Dec-10	Swiss Reinsurance Company Ltd.	Vega Capital Ltd.	Series 2010-I	Class C	US/EU/JP Wind, US/JP EQ	Multiple	MTN	\$63,900	Ba3		
Dec-10	Swiss Reinsurance Company Ltd.	Vega Capital Ltd.	Series 2010-I	Class D	US/EU/JP Wind, US/JP EQ	Multiple	MTN	\$42,600			

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Dec-10	American Family Mutual Insurance Company	Mariah Re Ltd.	Series 2010-2		US ST	Industry index	MMF	\$100,000			
Dec-10	National Union Fire Insurance Company of Pittsburgh	Lodestone Re Ltd.	Series 2010-2	Class A-1	US HU, EQ	Industry index	MMF	\$125,000		BB+	
Dec-10	National Union Fire Insurance Company of Pittsburgh	Lodestone Re Ltd.	Series 2010-2	Class A-2	US HU, EQ	Industry index	MMF	\$325,000		BB	
Dec-10	Flagstone Reassurance Suisse SA	Montana Re Ltd.	Series 2010-1	Class C	US HU, EQ	Multiple	TPR	\$70,000		B	
Dec-10	Flagstone Reassurance Suisse SA	Montana Re Ltd.	Series 2010-1	Class D	US HU, EQ	Multiple	TPR	\$80,000			
Dec-10	Flagstone Reassurance Suisse SA	Montana Re Ltd.	Series 2010-1	Class E	US HU, EQ, EU Wind, JP TY, EQ	Multiple	TPR	\$60,000		B-	
Dec-10	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2011-1	Class III-R3	US HU, EQ, AUS EQ	Modeled loss, parametric index	MTN	\$65,000		B-	
Dec-10	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2011-1	Class III-S3	US HU, EQ, AUS EQ	Modeled loss, parametric index	MTN	\$50,000		B-	
Dec-10	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2011-1	Class III-T3	US HU, EQ, AUS EQ	Modeled loss, parametric index	MTN	\$55,000			
Dec-10	Groupama S.A.	Green Fields Capital Limited	Series 2011-1	Class A	EU Wind	Industry index	MTN	€75,000		BB+	
Feb-11	Hartford Fire Insurance Company	Foundation Re III Ltd.	Series 2011-1	Class A	US HU	Industry index	MMF	\$135,000		BB+	
Feb-11	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2011-2	Class IV-E3	US HU, EQ	Industry index	MTN	\$160,000		B	
Feb-11	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2011-2	Class IV-AL3	US HU, EQ	Industry index	MTN	\$145,000			
Mar-11	Chubb Group	East Lane Re IV Ltd.	Series 2011-I	Class A	US HU, EQ, ST, WS	Indemnity	MMF	\$225,000		BB+	
Mar-11	Chubb Group	East Lane Re IV Ltd.	Series 2011-I	Class B	US HU, EQ, ST, WS	Indemnity	MMF	\$250,000		BB	
Mar-11	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street II Capital Limited			US HU, EU Wind	Industry index	MMF	\$100,000		BB-	
Apr-11	Allianz Argos 14 GmbH	Blue Fin Ltd.	Series 4	Class B	US HU, EQ	Modeled loss	MMF	\$40,000			
May-11	North Carolina JUA/IUA	Johnston Re Ltd.	Series 2011-1	Class A	US HU	Indemnity	MMF	\$70,000		BB-	
May-11	North Carolina JUA/IUA	Johnston Re Ltd.	Series 2011-1	Class B	US HU	Indemnity	MMF	\$131,835		BB-	
May-11	United Services Automobile Association	Residential Reinsurance 2011 Limited	Series 2011-I	Class 1	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$57,000		B+	
May-11	United Services Automobile Association	Residential Reinsurance 2011 Limited	Series 2011-I	Class 2	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$33,000		B-	
May-11	United Services Automobile Association	Residential Reinsurance 2011 Limited	Series 2011-I	Class 5	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$160,000		B+	
Jun-11	Argo Re, Ltd.	Loma Reinsurance Ltd.	Series 2011-1	Class A	US HU, EQ, EU Wind, JP EQ	Industry index	TPR	\$100,000		BB-	
Jul-11	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street III Capital Limited			EU Wind	Industry index	MMF	\$150,000		B+	
Aug-11	California Earthquake Authority	Embarcadero Reinsurance Ltd.	Series 2011-I	Class A	CAL EQ	Indemnity	MMF	\$150,000		BB-	

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Aug-11	Electricité Réseau Distribution France	Pylon II Capital Limited		Class A	FR Wind	Parametric index	TPR	€65,000		B+	
Aug-11	Electricité Réseau Distribution France	Pylon II Capital Limited		Class B	FR Wind	Parametric index	TPR	€85,000		B-	
Aug-11	Tokio Marine & Nichido Fire Insurance Co., Ltd.	Kizuna Re Ltd.	Series 2011-1		JP TY	Indemnity	MTN	\$160,000			
Oct-11	AXA Global P&C	Calypso Capital Limited	Series 2011-1	Class A	EU Wind	Industry index	MTN	€180,000		BB-	
Oct-11	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street IV Capital Limited			US HU, EU Wind	Industry index	MMF	\$100,000		BB-	
Nov-11	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2011-3	Class V-F4	US HU	Industry index	MMF	\$80,000			
Nov-11	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2011-3	Class V-X4	US HU, EU W	Industry index	MMF	\$50,000		B-	
Nov-11	United Services Automobile Association	Residential Reinsurance 2011 Limited	Series 2011-II	Class 1	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$100,000			
Nov-11	United Services Automobile Association	Residential Reinsurance 2011 Limited	Series 2011-II	Class 2	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$50,000			
Dec-11	National Union Fire Insurance Company of Pittsburgh	Compass Re Ltd.	Series 2011-1	Class 1	US HU, EQ	Industry index	MMF	\$75,000		BB-	
Dec-11	National Union Fire Insurance Company of Pittsburgh	Compass Re Ltd.	Series 2011-1	Class 2	US HU, EQ	Industry index	MMF	\$250,000		BB-	
Dec-11	National Union Fire Insurance Company of Pittsburgh	Compass Re Ltd.	Series 2011-1	Class 3	US HU, EQ	Industry index	MMF	\$250,000		B+	
Dec-11	State Compensation Insurance Fund	Golden State Re Ltd.	Series 2011-1		US EQ	Modeled loss	MMF	\$200,000		BB+	
Dec-11	SCOR Global P&C SE	Atlas VI Capital Limited	Series 2011-1	Class A	US HU, EQ	Industry index	MTN	\$125,000		B	
Dec-11	SCOR Global P&C SE	Atlas VI Capital Limited	Series 2011-1	Class B	US HU, EQ	Industry index	MTN	\$145,000		B+	
Dec-11	SCOR Global P&C SE	Atlas VI Capital Limited	Series 2011-2	Class A	EU Wind	Industry index	MTN	€50,000		B	
Dec-11	Amlin AG	Tramline Re Ltd.	Series 2011-1	Class A	US HU, EQ, EU Wind	Industry index	MMF	\$150,000		B-	
Dec-11	Argo Re, Ltd.	Loma Reinsurance Ltd.	Series 2011-2	Class A	US HU, EQ	Industry index	MMF	\$100,000			
Jan-12	Assurant, Inc.	Ibis Re II Ltd.	Series 2012-1	Class A	US HU	Industry index	MMF	\$100,000		BB-	
Jan-12	Assurant, Inc.	Ibis Re II Ltd.	Series 2012-1	Class B	US HU	Industry index	MMF	\$30,000		B-	
Feb-12	California Earthquake Authority	Embarcadero Reinsurance Ltd.	Series 2012-1	Class A	CAL EQ	Indemnity	MMF	\$150,000		BB-	
Feb-12	Zenkyoren	Kibou Ltd.	Series 2012-1	Class A	JP EQ	Parametric index	MMF	\$300,000		BB+	
Feb-12	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2012-1	Class V-AA3	US HU, EU Wind	Industry index	MMF	\$23,000			
Feb-12	Swiss Reinsurance Company Ltd.	Successor X Ltd.	Series 2012-1	Class V-D3	US HU	Industry index	MMF	\$40,000	B2		
Feb-12	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street V Re Limited			US HU, EU Wind	Industry index	MMF	\$75,000			
Mar-12	Liberty Mutual Insurance Company	Mystic Re III Ltd.	Series 2012-1	Class A	US HU, EQ (ex CAL)	Indemnity	MMF	\$100,000		BB	

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Mar-12	Liberty Mutual Insurance Company	Mystic Re III Ltd.	Series 2012-1	Class B	US HU, EQ	Indemnity	MMF	\$175,000		B	
Mar-12	Chubb Group	East Lane Re V Ltd.	Series 2012	Class A	Southeast HU, ST	Indemnity	MMF	\$75,000		BB	
Mar-12	Chubb Group	East Lane Re V Ltd.	Series 2012	Class B	Southeast HU, ST	Indemnity	MMF	\$75,000		BB-	
Mar-12	COUNTRY Mutual & North Carolina Farm Bureau Mutual	Combine Re Ltd.		Class A	US HU, EQ, ST, WS	Indemnity	MMF	\$100,000	Baa1		
Mar-12	COUNTRY Mutual & North Carolina Farm Bureau Mutual	Combine Re Ltd.		Class B	US HU, EQ, ST, WS	Indemnity	MMF	\$50,000	Ba3		
Mar-12	COUNTRY Mutual & North Carolina Farm Bureau Mutual	Combine Re Ltd.		Class C	US HU, EQ, ST, WS	Indemnity	MMF	\$50,000			
Apr-12	Allianz Argos 14 GmbH	Blue Danube Ltd.	Series 2012-1	Class A	US, CB, MX HU, US, CAN EQ	Industry index	MTN	\$120,000		BB+	
Apr-12	Allianz Argos 14 GmbH	Blue Danube Ltd.	Series 2012-1	Class B	US, CB, MX HU, NA EQ	Industry index	MTN	\$120,000		BB-	
Apr-12	Louisiana Citizens Property Insurance Corporation	Pelican Re Ltd.	Series 2012-1	Class A	LA HU	Indemnity	MMF	\$125,000			
Apr-12	Mitsui Sumitomo Insurance Co., Ltd	Akibare II Ltd.	Series 2012-1	Class A	JP TY	Modeled loss	MMF	\$130,000		BB	
Apr-12	Citizens Property Insurance Corporation	Everglades Re Ltd.	Series 2012-1	Class A	FL HU	Indemnity	MMF	\$750,000		B+	
May-12	Swiss Reinsurance Company Ltd.	Mythen Ltd.	Series 2012-1	Class A	US HU	Industry index	MTN	\$50,000	Ba3		
May-12	Swiss Reinsurance Company Ltd.	Mythen Ltd.	Series 2012-1	Class E	US HU	Industry index	MTN	\$100,000	Ba3		
May-12	Swiss Reinsurance Company Ltd.	Mythen Ltd.	Series 2012-1	Class H	US HU, EU Wind	Industry index	MTN	\$250,000	B2		
May-12	United Services Automobile Association	Residential Reinsurance 2012 Limited	Series 2012-1	Class 3	US HU, EQ, ST, WS, CAL WF	Indemnity	MMF	\$50,000		BB-	
May-12	United Services Automobile Association	Residential Reinsurance 2012 Limited	Series 2012-1	Class 5	US HU, EQ, ST, WS, CAL WF	Indemnity	MMF	\$110,000		BB	
May-12	United Services Automobile Association	Residential Reinsurance 2012 Limited	Series 2012-1	Class 7	US HU, EQ, ST, WS, CAL WF	Indemnity	MMF	\$40,000			
Jun-12	The Travelers Indemnity Company	Long Point Re III Ltd.	Series 2012-1	Class A	Northeast HU	Indemnity	MMF	\$250,000		BB+	
Jul-12	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street VI Re Limited			US HU, EU Wind	Industry index	MMF	\$100,000		B	
Jul-12	California Earthquake Authority	Embarcadero Reinsurance Ltd.	Series 2012-II	Class A	CAL EQ	Indemnity	MMF	\$300,000		BB+	
Sep-12	Hannover Rück SE	Eurus III Ltd.	Series 2012-1	Class A	EU Wind	Industry index	MTN	€100,000		BB-	
Oct-12	Fund for Natural Disasters	MultiCat Mexico Limited	Series 2012-1	Class A	Mex EQ	Parametric	MMF	\$140,000		B	
Oct-12	Fund for Natural Disasters	MultiCat Mexico Limited	Series 2012-1	Class B	Mex HU Atlantic	Parametric	MMF	\$75,000		B+	
Oct-12	Fund for Natural Disasters	MultiCat Mexico Limited	Series 2012-1	Class C	Mex HU Pacific	Parametric	MMF	\$100,000		B-	
Oct-12	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street VII Re Limited			US HU, EU Wind	Industry index	MMF	\$75,000		B	
Nov-12	SCOR Global P&C SE	Atlas Reinsurance VII Limited		Class A	US HU, EQ	Industry index	MTN	\$60,000		BB-	

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Nov-12	SCOR Global P&C SE	Atlas Reinsurance VII Limited		Class B	EU Wind	Industry index	MTN	€130,000		BB	
Nov-12	Swiss Reinsurance Company Ltd.	Mythen Re Ltd.	Series 2012-2	Class A	US HU, UK Mortality	Industry index	MTN	\$120,000		B+	
Nov-12	Swiss Reinsurance Company Ltd.	Mythen Re Ltd.	Series 2012-2	Class C	US HU	Industry index	MTN	\$80,000		B-	
Nov-12	United Services Automobile Association	Residential Reinsurance 2012 Limited	Series 2012-II	Class 1	US HU, EQ, ST, WS, CAL WF	Indemnity	MMF	\$155,000		BB+	
Nov-12	United Services Automobile Association	Residential Reinsurance 2012 Limited	Series 2012-II	Class 2	US HU, EQ, ST, WS, CAL WF	Indemnity	MMF	\$70,000		BB	
Nov-12	United Services Automobile Association	Residential Reinsurance 2012 Limited	Series 2012-II	Class 3	US HU, EQ, ST, WS, CAL WF	Indemnity	MMF	\$95,000			
Nov-12	United Services Automobile Association	Residential Reinsurance 2012 Limited	Series 2012-II	Class 4	US HU, EQ, ST, WS, CAL WF	Indemnity	MMF	\$80,000			
Dec-12	National Union Fire Insurance Company of Pittsburgh	Compass Re Ltd.	Series 2012-1	Class 1	US HU, EQ	Industry index	MMF	\$400,000			
Dec-12	Zurich American Insurance Company, Zurich Insurance Company, Ltd.	Lakeside Re III Ltd.			US, CAN EQ	Indemnity	MMF	\$270,000		B+	
Mar-13	Nationwide Mutual Insurance Company	Caelus Re 2013 Limited	Series 2013-1	Class A	US HU, EQ	Indemnity	MMF	\$270,000		BB-	
Mar-13	Citizens Property Insurance Company	Everglades Re Ltd.	Series 2013-1	Class A	FL HU	Indemnity	MMF	\$250,000		B	
Apr-13	State Farm Fire and Casualty Company	Merna Re IV Ltd.			New Madrid EQ	Indemnity	MMF	\$300,000			
Apr-13	Nationwide Mutual Insurance Company	Caelus Re 2013 Limited	Series 2013-2	Class A	US HU, EQ	Indemnity	MMF	\$320,000			
Apr-13	North Carolina JUA/IUA	Tar Heel Re Ltd.	Series 2013-1	Class A	NC Hurricane	Parametric index	MMF	\$500,000		B+	
Apr-13	Turkish Catastrophe Insurance Pool	Bosphorus 1 Re Ltd.	Series 2013-1	Class A	Turkey EQ	Industry index	MMF	\$400,000		BB+	
May-13	Allstate Insurance Company	Sanders Re Ltd.	Series 2013-1	Class A	US HU, EQ	Industry index	MMF	\$200,000		BB+	
May-13	Allstate Insurance Company	Sanders Re Ltd.	Series 2013-1	Class B	US HU, EQ	Indemnity	MMF	\$150,000		BB	
May-13	Louisiana Citizens Property Insurance Company	Pelican Re Ltd.	Series 2013-1	Class A	LA HU	Indemnity	MMF	\$140,000			
May-13	American Coastal Insurance Company	Armor Re Ltd.	Series 2013-1	Class A	Florida HU	Indemnity	MMF	\$183,000		BB+	
May-13	Travelers Indemnity Company	Long Point Re III Ltd.	Series 2013-1	Class A	Northeast HU	Indemnity	MMF	\$300,000		BB	
May-13	Allianz Argos 14 GmbH	Blue Danube II Ltd.	Series 2013-1	Class A	US/CB/MX HU & NA EQ	Industry index	MTN	\$175,000		BB+	
May-13	United Services Automobile Association	Residential Reinsurance 2013 Limited	Series 2013-I	Class 11	US HU, EQ, ST, WS, CAL WF	Indemnity	MMF	\$205,000			
May-13	United Services Automobile Association	Residential Reinsurance 2013 Limited	Series 2013-I	Class 3	US HU, EQ, ST, WS, CAL WF	Indemnity	MMF	\$95,000		B-	
Jun-13	Assurant, Inc.	Ibis Re II Ltd.	Series 2013-1	Class A	US HU	Industry index	MMF	\$110,000		BB+	
Jun-13	Assurant, Inc.	Ibis Re II Ltd.	Series 2013-1	Class B	US HU	Industry index	MMF	\$35,000		BB-	

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Jun-13	Assurant, Inc.	Ibis Re II Ltd.	Series 2013-1	Class C	US HU	Industry index	MMF	\$40,000		B	
Jun-13	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street VIII Re Limited			US HU, AUS CY	Industry index, modeled loss	MMF	\$75,000			
Jun-13	Amlin AG	Tramline Re II Ltd.	Series 2013-1	Class A	NA EQ	Industry index	MMF	\$75,000			
Jul-13	Groupama S.A.	Green Fields II Capital Limited	Series 2013-1	Class A	FR Wind	Industry index	MTN	€280,000		BB	
Jul-13	Swiss Reinsurance Company Ltd.	Mythen Re Ltd.	Series 2013-1	Class B-1	US HU	Industry index	MMF	\$100,000			
Jul-13	Renaissance Reinsurance Ltd.	Mona Lisa Re Ltd.	Series 2013-2	Class A	US HU, EQ	Industry index	MMF	\$150,000		BB-	
Jul-13	American International Group	Tradewynd Re Ltd.	Series 2013-1	Class 1	US, CB HU, NA EQ	Indemnity	MMF	\$125,000		B+	
Jul-13	Metropolitan Transportation Authority	MetroCat Re Ltd.	Series 2013-1	Class A	Northeast Storm Surge	Parametric index	MMF	\$200,000		BB-	
Aug-13	AXIS Specialty Limited	Northshore Re Limited	Series 2013-1	Class A	US HU, EQ	Industry index	MMF	\$200,000		BB-	
Sep-13	National Mutual Insurance Federation of Agricultural Cooperatives	Nakama Re Ltd.	Series 2013-1	Class 1	JP EQ	Indemnity	MMF	\$300,000		BB+	
Oct-13	AXA Global P&C	Calypso Capital II Limited		Class A	EU Wind	Industry index	MTN	€185,000		BB-	
Oct-13	AXA Global P&C	Calypso Capital II Limited		Class B	EU Wind	Industry index	MTN	€165,000		B+	
Oct-13	Catlin Insurance Company Ltd.	Galileo Re Ltd.	Series 2013-1	Class A	US HU, EQ, EU Wind	Industry index	MMF	\$300,000			
Dec-13	United Services Automobile Association	Residential Reinsurance 2013 Limited	Series 2013-II	Class 1	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$80,000			
Dec-13	United Services Automobile Association	Residential Reinsurance 2013 Limited	Series 2013-II	Class 4	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$70,000		BB-	
Dec-13	American International Group	Tradewynd Re Ltd.	Series 2013-2	Class 1-A	US/CB HU, NA EQ	Indemnity	MMF	\$100,000			
Dec-13	American International Group	Tradewynd Re Ltd.	Series 2013-2	Class 3-A	US/CB HU, NA EQ	Indemnity	MMF	\$160,000			
Dec-13	American International Group	Tradewynd Re Ltd.	Series 2013-2	Class 3-B	US/CB HU, NA EQ	Indemnity	MMF	\$140,000			
Dec-13	Achmea Reinsurance Company N.V.	Windmill I Re Ltd.	Series 2013-1	Class A	EU Wind	Indemnity	MMF	€40,000			
Dec-13	American Modern Insurance Group, Inc.	Queen City Re Ltd.	Series 2013-1	Class A	US HU	Indemnity	MMF	\$75,000			
Dec-13	Argo Re, Ltd.	Loma Reinsurance (Bermuda) Ltd.	Series 2013-1	Class A	US/CB HU, US ST, NA/CB EQ	Indemnity, industry index	MMF	\$32,000			
Dec-13	Argo Re, Ltd.	Loma Reinsurance (Bermuda) Ltd.	Series 2013-1	Class B	US/CB HU, US ST, NA/CB EQ	Indemnity, industry index	MMF	\$75,000			
Dec-13	Argo Re, Ltd.	Loma Reinsurance (Bermuda) Ltd.	Series 2013-1	Class C	US/CB HU, US ST, NA/CB EQ	Indemnity, industry index	MMF	\$65,000			
Dec-13	QBE Insurance Group Limited	VenTerra Re Ltd.	Series 2013-1	Class A	US EQ, AUS CY, EQ	Indemnity	MMF	\$250,000		BB	
Feb-14	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street IX Re Limited			US HU, AUS CY	Multiple	MMF	\$100,000			

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Mar-14	Chubb Group	East Lane Re VI Ltd.	Series 2014-1	Class A	Northeast US HU, EQ, ST, WS	Indemnity	MMF	\$270,000		BB+	
Mar-14	American Strategic Insurance Group	Gator Re Ltd.	Series 2014-1	Class A	US HU, ST	Indemnity	MMF	\$200,000			
Mar-14	Tokio Marine & Nichido Fire Insurance Co., Ltd.	Kizuna Re II Ltd.	Series 2014-1	Class A	JP EQ	Indemnity	MMF	\$200,000			
Mar-14	Tokio Marine & Nichido Fire Insurance Co., Ltd.	Kizuna Re II Ltd.	Series 2014-1	Class B	JP EQ	Indemnity	MMF	\$45,000			
Mar-14	Great American Insurance Company	Riverfront Re Ltd.			NA HU, EQ, ST & WS	Indemnity	MMF	\$95,000		BB-	
Mar-14	State Farm Fire and Casualty Company	Merna Re V Ltd.			New Madrid EQ	Indemnity	MMF	\$300,000			
Apr-14	Heritage Property & Casualty Insurance Company	Citrus Re Ltd.	Series 2014-1	Class A	FL HU	Indemnity	MMF	\$150,000			
Apr-14	Heritage Property & Casualty Insurance Company	Citrus Re Ltd.	Series 2014-2	Class 1	FL HU	Indemnity	MMF	\$50,000			
Apr-14	Assicurazioni Generali S.p.A.	Lion I Re Limited			EU Wind	Indemnity	MTN	€190,000			B+
Apr-14	Everest Reinsurance Company	Kilimanjaro Re Limited	Series 2014-1	Class A	SE HU	Industry index	MMF	\$250,000		BB-	
Apr-14	Everest Reinsurance Company	Kilimanjaro Re Limited	Series 2014-1	Class B	NA HU, EQ	Industry index	MMF	\$200,000		BB-	
May-14	American Coastal Insurance Company	Armor Re Ltd.	Series 2014-1	Class A	FL HU	Indemnity	MMF	\$200,000			
May-14	Citizens Property Insurance Corporation	Everglades Re Ltd.	Series 2014-1	Class A	FL HU	Indemnity	MMF	\$1,500,000		B	
May-14	Allstate Insurance Company	Sanders Re Ltd.	Series 2014-1	Class B	US HU, EQ	Industry index	MMF	\$330,000		BB+	
May-14	Allstate Insurance Company	Sanders Re Ltd.	Series 2014-1	Class C	US HU, EQ	Industry index	MMF	\$115,000		BB	
May-14	Allstate Insurance Company	Sanders Re Ltd.	Series 2014-1	Class D	US HU, EQ	Industry index	MMF	\$305,000		BB	
May-14	Castle Key Insurance Company and Castle Key Indemnity Company	Sanders Re Ltd.	Series 2014-2	Class A	FL HU, EQ, ST	Indemnity	MMF	\$200,000			
May-14	National Mutual Insurance Federation of Agricultural Cooperatives	Nakama Re Ltd.	Series 2014-1	Class 1	JP EQ	Indemnity	MMF	\$150,000			
May-14	National Mutual Insurance Federation of Agricultural Cooperatives	Nakama Re Ltd.	Series 2014-1	Class 2	JP EQ	Indemnity	MMF	\$150,000			
May-14	United Services Automobile Association	Residential Reinsurance 2014 Limited	Series 2014-1	Class 10	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$80,000			
May-14	United Services Automobile Association	Residential Reinsurance 2014 Limited	Series 2014-1	Class 13	US HU, EQ, ST, WS, WF	Indemnity	MMF	\$50,000			
May-14	Sompo Japan and Nipponkoa Insurance Company	Aozora Re Ltd.	Series 2014-1	Class B	JP TY	Indemnity	MMF	¥10,125,000		BB	
Jun-14	Texas Windstorm Insurance Association	Alamo Re Ltd.	Series 2014-1	Class A	TX HU	Indemnity	MMF	\$400,000			B
Sept-14	State Compensation Insurance Fund	Golden State Re II Ltd.	Series 2014-1	Class A	US EQ	Modeled loss	MMF	\$250,000		BB+	
Nov-14	Everest Reinsurance Company	Kilimanjaro Re Limited	Series 2014-2	Class C	NA EQ	Industry index	MMF	\$500,000		BB-	

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Dec-14	California Earthquake Authority	Ursa Re Ltd.	Series 2014-1	Class A	CAL EQ	Indemnity	MMF	\$200,000			
Dec-14	California Earthquake Authority	Ursa Re Ltd.	Series 2014-1	Class B	CAL EQ	Indemnity	MMF	\$200,000			
Dec-14	United Services Automobile Association	Residential Reinsurance 2014 Limited	Series 2014-II	Class 4	US HU, EQ, ST, WS, WF, VE, MI	Indemnity	MMF	\$100,000			
Dec-14	Amlin AG	Tramline Re II Ltd.	Series 2014-1	Class A	US HU, EQ & EU Wind	Industry index	MMF	\$200,000			
Dec-14	American International Group, Inc.	Tradewynd Re Ltd.	Series 2014-1	Class 1-B	NA/MEX/CB/ Gulf HU & NA/ MEX/CB EQ	Indemnity	MMF	\$100,000			B
Dec-14	American International Group, Inc.	Tradewynd Re Ltd.	Series 2014-1	Class 3-A	NA/MEX/CB/ Gulf HU & NA/ MEX/CB EQ	Indemnity	MMF	\$100,000			BB-
Dec-14	American International Group, Inc.	Tradewynd Re Ltd.	Series 2014-1	Class 3-B	NA/MEX/CB/ Gulf HU & NA/ MEX/CB EQ	Indemnity	MMF	\$300,000			B
Dec-14	National Mutual Insurance Federation of Agricultural Cooperatives	Nakama Re Ltd.	Series 2014-2	Class 1	JP EQ	Indemnity	MMF	\$175,000			
Dec-14	National Mutual Insurance Federation of Agricultural Cooperatives	Nakama Re Ltd.	Series 2014-2	Class 2	JP EQ	Indemnity	MMF	\$200,000			
Feb-15	Catlin Insurance Company Ltd.	Galileo Re Ltd.	Series 2015-1	Class A	US HU, NA EQ, EU Wind	Industry index	MMF	\$300,000			
Feb-15	SCOR Global P&C SE	Atlas IX Capital Limited	Series 2015-1	Class A	US HU, NA EQ	Industry index	MMF	\$150,000			
Mar-15	Chubb Group of Insurance Companies	East Lane Re VI Ltd.	Series 2015-1	Class A	Northeast HU, EQ, ST, WS, WF, VE, MI	Indemnity	MMF	\$250,000		BB	
Mar-15	Tokio Marine & Nichido Fire Insurance Co., Ltd.	Kizuna Re II Ltd.	Series 2015-1	Class A	JP EQ	Indemnity	MMF	¥35,000,000		BBB-	
Mar-15	Safepoint Insurance Company	Manatee Re Ltd.	Series 2015-1	Class A	FL HU	Indemnity	MMF	\$100,000			
Mar-15	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street X Re Limited			US HU, AUS CY	Industry index and modeled loss	MMF	\$100,000			
Mar-15	State Farm Fire and Casualty Company	Merna Re Ltd.	Series 2015-1	Class A	New Madrid EQ	Indemnity	MMF	\$300,000			
Apr-15	Heritage Property & Casualty Insurance Company	Citrus Re Ltd.	Series 2015-1	Class A	FL HU	Indemnity	MMF	\$150,000			
Apr-15	Heritage Property & Casualty Insurance Company	Citrus Re Ltd.	Series 2015-1	Class B	FL HU	Indemnity	MMF	\$97,500			
Apr-15	Heritage Property & Casualty Insurance Company	Citrus Re Ltd.	Series 2015-1	Class C	FL HU	Indemnity	MMF	\$30,000			
Apr-15	Louisiana Citizens Property Insurance Corporation	Pelican III Re Ltd.	Series 2015-1	Class A	LA HU	Indemnity	MMF	\$100,000			
Apr-15	Massachusetts Property Insurance Underwriting Association	Cranberry Re Ltd.	Series 2015-1	Class A	MA HU, ST, WS	Indemnity	MMF	\$300,000			B
May-15	Citizens Property Insurance Corporation	Everglades Re Ltd.	Series 2015-1	Class A	FL HU	Indemnity	MMF	\$300,000		BB	
Apr-15	Texas Windstorm Insurance Association	Alamo Re Ltd.	Series 2015-1	Class A	TX HU	Indemnity	MMF	\$300,000			B+
Apr-15	Texas Windstorm Insurance Association	Alamo Re Ltd.	Series 2015-1	Class B	TX HU	Indemnity	MMF	\$400,000			BB-

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
May-15	The Travelers Indemnity Company	Long Point Re III Ltd.	Series 2015-1	Class A	Northeast HU, EQ, ST, WS	Indemnity	MMF	\$300,000			BB-
May-15	United Services Automobile Association	Residential Reinsurance 2015 Limited	Series 2015-I	Class 10	US HU, EQ, ST, WS, WF, VE, MI	Indemnity	MMF	\$50,000			
May-15	United Services Automobile Association	Residential Reinsurance 2015 Limited	Series 2015-I	Class 11	US HU, EQ, ST, WS, WF, VE, MI	Indemnity	MMF	\$100,000			
Jun-15	American International Group, Inc.	Compass Re II Ltd.	Series 2015-1	Class 1	US HU	Parametric index	MMF	\$300,000			B+
Jun-15	UnipolSai Assicurazioni S.p.A	Azzurro Re I Limited		Class A	EU EQ	Indemnity	EBRD Notes	€ 200,000			BB+
Jul-15	Hannover Rück SE	Acorn Re Ltd.	Series 2015-1	Class A	West coast NA EQ	Parametric	IBRD Notes	\$300,000			BB
Aug-15	Turkish Catastrophe Insurance Pool	Bosphorus Ltd.	Series 2015-1		Turkey EQ	Parametric index	IBRD Notes	\$100,000			
Sep-15	California Earthquake Authority	Ursa Re Ltd.	Series 2015-1	Class B	CAL EQ	Indemnity	MMF	\$250,000			
Oct-15	National Railroad Passenger Corporation	PennUnion Re Ltd.	Series 2015-1	Class A	US HU (surge and wind) and EQ	Parametric	MMF	\$275,000			BB-
Dec-15	Everest Reinsurance Company	Kilimanjaro Re Limited	Series 2015-1	Class D	US, CAN, PR HU and EQ	Industry index	MMF	\$300,000			
Dec-15	Everest Reinsurance Company	Kilimanjaro Re Limited	Series 2015-1	Class E	US, CAN, PR HU and EQ	Industry index	MMF	\$325,000			
Dec-15	United Services Automobile Association	Residential Reinsurance 2015 Limited	Series 2015-II	Class 3	US HU, EQ, ST, WS, WF, VE, MI	Indemnity	MMF	\$125,000		B-	
Dec-15	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street XI Re dac			US HU and AUS CY	Industry index, modeled loss	MMF	\$100,000			
Dec-15	National Mutual Insurance Federation of Agricultural Cooperatives	Nakama Re Ltd.	Series 2015-1	Class 1	JP EQ	Indemnity	MMF	\$100,000			
Dec-15	National Mutual Insurance Federation of Agricultural Cooperatives	Nakama Re Ltd.	Series 2015-1	Class 2	JP EQ	Indemnity	MMF	\$200,000			
Jan-16	SCOR Global P&C SE	Atlas IX Capital DAC	Series 2016-1	Class A	US, PR HU and US, PR, CAN EQ	Industry index	EBRD Notes	\$300,000			
Jan-16	XL Insurance (Bermuda) Ltd	Galileo Re Ltd.	Series 2016-1	Class A	US HU, EU wind and US, CAN EQ	Industry index	MMF	\$100,000			
Jan-16	XL Insurance (Bermuda) Ltd	Galileo Re Ltd.	Series 2016-1	Class B	US HU, EU wind and US, CAN EQ	Industry index	MMF	\$100,000			
Jan-16	XL Insurance (Bermuda) Ltd	Galileo Re Ltd.	Series 2016-1	Class C	US HU, EU wind and US, CAN EQ	Industry index	MMF	\$100,000			
Feb-16	Heritage Property & Casualty Insurance Company and Zephyr Insurance Company, Inc.	Citrus Re Ltd.	Series 2016-1	Class D-50	FL, HI HU	Indemnity	MMF	\$150,000			
Feb-16	Heritage Property & Casualty Insurance Company and Zephyr Insurance Company, Inc.	Citrus Re Ltd.	Series 2016-1	Class E-50	FL, HI HU	Indemnity	MMF	\$100,000			
Feb-16	Nationwide Mutual Insurance Company	Caelus Re IV Limited	Series 2016-1	Class A	US HU, EQ, ST, WS, WF, VE, MI	Indemnity	MMF	\$300,000			
Mar-16	United Services Automobile Association	Espada Reinsurance Limited	Series 2016-I	Class 20	US HU, EQ, ST, WS, WF, VE, MI, OP	Indemnity	MMF	\$50,000			
Mar-16	Safepoint Insurance Company	Manatee Re Ltd.	Series 2016-1	Class A	FL, LA HU	Indemnity	MMF	\$75,000			

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Mar-16	Safepoint Insurance Company	Manatee Re Ltd.	Series 2016-1	Class C	FL, LA HU	Indemnity	MMF	\$20,000			
Mar-16	Mitsui Sumitomo Insurance Co., Ltd	Akibare Re Ltd.	Series 2016-1	Class A	JP TY	Indemnity	IBRD Notes	\$200,000			
Mar-16	Sompo Japan Nipponkoa Insurance Inc.	Aozora Re Ltd.	Series 2016-1	Class A	JP TY	Indemnity	IBRD Notes	\$220,000		BB-	
Mar-16	State Farm Fire and Casualty Company	Merna Re Ltd.	Series 2016-1	Class A	New Madrid EQ	Indemnity	MMF	\$300,000			
May-16	United Services Automobile Association	Residential Reinsurance 2016 Limited	Series 2016-I	Class 10	US HU, EQ, ST, WS, WF, VE, MI, OP	Indemnity	MMF	\$65,000			
May-16	United Services Automobile Association	Residential Reinsurance 2016 Limited	Series 2016-I	Class 11	US HU, EQ, ST, WS, WF, VE, MI, OP	Indemnity	MMF	\$75,000			
May-16	United Services Automobile Association	Residential Reinsurance 2016 Limited	Series 2016-I	Class 13	US HU, EQ, ST, WS, WF, VE, MI, OP	Indemnity	MMF	\$110,000		BB-	
May-16	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Queen Street XII Re dac			US HU and EU wind	Industry index	IBRD Notes	\$190,000			
May-16	Security First Insurance Company	First Coast Re Ltd	Series 2016-1	Class A	FL HU, ST	Indemnity	MMF	\$75,000			
May-16	United Property & Casualty Insurance Co., Family Security Insurance Co., Interboro Insurance Co.	Laetere Re Ltd.	Series 2016-1	Class A	US HU and EQ	Indemnity	MMF	\$30,000			
May-16	United Property & Casualty Insurance Co., Family Security Insurance Co., Interboro Insurance Co.	Laetere Re Ltd.	Series 2016-1	Class B	US HU and EQ	Indemnity	MMF	\$40,000			
May-16	United Property & Casualty Insurance Co., Family Security Insurance Co., Interboro Insurance Co.	Laetere Re Ltd.	Series 2016-1	Class C	US HU and EQ	Indemnity	MMF	\$30,000			
Jun-16	Allianz Risk Transfer (Bermuda) Limited	Blue Halo Re Ltd.	Series 2016-1	Class A	US HU and EQ	Industry index	MMF	\$130,000			
Jun-16	Allianz Risk Transfer (Bermuda) Limited	Blue Halo Re Ltd.	Series 2016-1	Class B	US HU and EQ	Industry index	MMF	\$55,000			
Jul-16	Allianz Risk Transfer (Bermuda) Limited	Blue Halo Re Ltd.	Series 2016-2	Class C	US HU, EQ	Industry Index	MMF	\$225,000			
Sep-16	National Mutual Insurance Federation of Agricultural Cooperatives	Nakama Re Ltd.	Series 2016-1	Class 1	JP EQ	Indemnity	MTN	\$550,000			
Sep-16	National Mutual Insurance Federation of Agricultural Cooperatives	Nakama Re Ltd.	Series 2016-1	Class 2	JP EQ	Indemnity	MTN	\$150,000			
Nov-16	United Services Automobile Association	Residential Reinsurance 2016 Limited	Series 2016-II	Class 2	US HU, EQ, WS, ST, WF, VE, MI, OP	Indemnity	MMF	\$80,000			
Nov-16	United Services Automobile Association	Residential Reinsurance 2016 Limited	Series 2016-II	Class 3	US HU, EQ, WS, ST, WF, VE, MI, OP	Indemnity	MMF	\$150,000	B-		
Nov-16	United Services Automobile Association	Residential Reinsurance 2016 Limited	Series 2016-II	Class 4	US HU, EQ, WS, ST, WF, VE, MI, OP	Indemnity	MMF	\$170,000	B		
Nov-16	California Earthquake Authority	Ursa Re Ltd.	Series 2016-1	Class A	CAL EQ	Indemnity	MMF	\$500,000			
Dec-16	American Strategic Insurance Group	Bonanza Reinsurance 2016 Ltd.	Series 2016-1	Class A	US HU, ST	Indemnity	MTN	\$150,000			

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Dec-16	American Strategic Insurance Group	Bonanza Reinsurance 2016 Ltd.	Series 2016-1	Class B	US HU	Indemnity	MTN	\$50,000			
Dec-16	XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2016-1	Class A-1	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	MTN	\$75,000			
Dec-16	XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2016-1	Class B-1	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	MTN	\$125,000			
Dec-16	XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2016-1	Class C-1	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	MTN	\$175,000			
Dec-16	XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2016-1	Class D-1	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	MTN	\$175,000			
Dec-16	XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2016-1	Class E-1	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	MTN	\$200,000			
Jan-17	XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2017-1	Class A-2	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	MTN	\$50,000			
Jan-17	XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2017-1	Class B-2	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	MTN	\$50,000			
Jan-17	XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2017-1	Class C-2	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	MTN	\$150,000			
Jan-17	XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2017-1	Class D-2	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	MTN	\$150,000			
Jan-17	XL Insurance (Bermuda) Ltd	Galilei Re Ltd.	Series 2017-1	Class E-2	US HU, EQ, CAN EQ, EU WS and AU TC, EQ	Industry index	MTN	\$125,000			
Mar-17	ICAT Syndicate 4242	Buffalo Re Ltd.	Series 2017-1	Class A	US HU, EQ	Indemnity	MTN	\$105,000			
Mar-17	ICAT Syndicate 4242	Buffalo Re Ltd.	Series 2017-1	Class B	US HU, EQ	Indemnity	MTN	\$59,500			
Mar-17	Heritage Property & Casualty Insurance Company and Zephyr Insurance Company, Inc.	Citrus Re Ltd.	Series 2017-1	Class A	FL/GA/NC/SC HU	Indemnity	MTN	\$125,000			
Mar-17	Sompo Japan and Nipponkoa Insurance Inc.	Aozora Re Ltd.	Series 2017-1	Class A	JP TY	Indemnity	MTN	\$480,000			
Mar-17	Allstate Insurance Company	Sanders Re Ltd.	Series 2017-1	Class A	US HU, EQ, WS, ST, VE, MI	Indemnity	MTN	\$375,000			
Mar-17	State Farm Fire and Casualty Company	Merna Re Ltd.	Series 2017-1	Class A	New Madrid EQ	Indemnity	MMF	\$300,000			
Apr-17	Everest Reinsurance Company	Kilimanjaro II Re Limited	Series 2017-1	Class A-1	US/CAN/PR HU and EQ	Industry index	MTN	\$225,000			
Apr-17	Everest Reinsurance Company	Kilimanjaro II Re Limited	Series 2017-1	Class B-1	US/CAN/PR HU and EQ	Industry index	MTN	\$400,000			
Apr-17	Everest Reinsurance Company	Kilimanjaro II Re Limited	Series 2017-1	Class C-1	US/CAN/PR HU and EQ	Industry index	MTN	\$325,000			
Apr-17	Everest Reinsurance Company	Kilimanjaro II Re Limited	Series 2017-2	Class A-2	US/CAN/PR HU and EQ	Industry index	MTN	\$50,000			
Apr-17	Everest Reinsurance Company	Kilimanjaro II Re Limited	Series 2017-2	Class B-2	US/CAN/PR HU and EQ	Industry index	MTN	\$75,000			
Apr-17	Everest Reinsurance Company	Kilimanjaro II Re Limited	Series 2017-2	Class C-2	US/CAN/PR HU and EQ	Industry index	MTN	\$175,000			
Apr-17	Louisiana Citizens Property Insurance Corporation	Pelican IV Re Ltd.	Series 2017-1	Class A	LA HU	Indemnity	MTN	\$100,000			

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Apr-17	Security First Insurance Company	First Coast Re Ltd.	Series 2017-1	Class A	FL HU, ST	Indemnity	MMF	\$175,000			
May-17	American Integrity Insurance Company of Florida	Integrity Re Ltd.	Series 2017-1	Class A	FL HU	Indemnity	MTN	\$72,000			
May-17	American Integrity Insurance Company of Florida	Integrity Re Ltd.	Series 2017-1	Class B	FL HU	Indemnity	MTN	\$3,000			
May-17	American Integrity Insurance Company of Florida	Integrity Re Ltd.	Series 2017-1	Class C	FL HU	Indemnity	MTN	\$100,000			
May-17	American Integrity Insurance Company of Florida	Integrity Re Ltd.	Series 2017-1	Class D	FL HU, ST	Indemnity	MTN	\$35,000			
May-17	United Services Automobile Association	Residential Reinsurance 2017 Limited	Series 2017-1	Class 10	US HU, EQ, WS, ST, WF, VE, MI, OP	Indemnity	MMF	\$50,000			
May-17	United Services Automobile Association	Residential Reinsurance 2017 Limited	Series 2017-1	Class 11	US HU, EQ, WS, ST, WF, VE, MI, OP	Indemnity	MMF	\$225,000			
May-17	United Services Automobile Association	Residential Reinsurance 2017 Limited	Series 2017-1	Class 13	US HU, EQ, WS, ST, WF, VE, MI, OP	Indemnity	MMF	\$150,000	BB-		
May-17	Nationwide Mutual Insurance Company	Caelus Re V Limited	Series 2017-1	Class A	US HU, EQ, ST, WS, WF, VE, MI, OP	Indemnity	MMF	\$75,000			
May-17	Nationwide Mutual Insurance Company	Caelus Re V Limited	Series 2017-1	Class B	US HU, EQ, ST, WS, WF, VE, MI, OP	Indemnity	MMF	\$150,000			
May-17	Nationwide Mutual Insurance Company	Caelus Re V Limited	Series 2017-1	Class C	US HU, EQ, ST, WS, WF, VE, MI, OP	Indemnity	MMF	\$75,000			
May-17	Nationwide Mutual Insurance Company	Caelus Re V Limited	Series 2017-1	Class D	US HU, EQ, ST, WS, WF, VE, MI, OP	Indemnity	MMF	\$75,000			
May-17	Palomar Specialty Insurance Company	Torrey Pines Re Ltd.	Series 2017-1	Class A	US EQ	Indemnity	MTN	\$45,000			
May-17	Palomar Specialty Insurance Company	Torrey Pines Re Ltd.	Series 2017-1	Class B	US EQ	Indemnity	MTN	\$66,000			
May-17	Palomar Specialty Insurance Company	Torrey Pines Re Ltd.	Series 2017-1	Class C	US HU, ST, EQ	Indemnity	MTN	\$55,000			
May-17	Citizens Property Insurance Corporation	Everglades Re II Ltd.	Series 2017-1	Class A	FL HU	Indemnity	MMF	\$300,000			
May-17	Heritage Property & Casualty Insurance Company	Citrus Re Ltd.	Series 2017-2	Class B	FL, GA, NC, SC HU	Indemnity	MTN	\$35,000			
May-17	California Earthquake Authority	Ursa Re Ltd.	Series 2017-1	Class B	CAL EQ	Indemnity	MMF	\$425,000			
May-17	California Earthquake Authority	Ursa Re Ltd.	Series 2017-1	Class E	CAL EQ	Indemnity	MMF	\$500,000			
May-17	Metropolitan Transportation Authority	MetroCat Re Ltd.	Series 2017-1	Class A	NY HU, SS, EQ	Parametric index	MMF	\$125,000			
May-17	Texas Windstorm Insurance Association	Alamo Re Ltd.	Series 2017-1	Class A	TX HU, ST	Indemnity	MMF	\$400,000			
May-17	Great American Insurance Company and its affiliates	Riverfront Re Ltd.		Class A	US/CAN HU, EQ, ST, WS, WF, VE, MI	Indemnity	MMF	\$142,500			
May-17	Great American Insurance Company and its affiliates	Riverfront Re Ltd.		Class B	US/CAN HU, EQ, ST, WS, WF, VE, MI	Indemnity	MMF	\$47,500			
May-17	Castle Key Insurance Company and Castle Key Indemnity Company	Sanders Re Ltd.	Series 2017-2	Class A	FL HU, ST, VE, MI, WF	Indemnity	MTN	\$200,000			

Issuance Date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Collateral	Size (thousands)	Moody's	S&P	Fitch
Jun-17	Avatar Property and Casualty Insurance Company	Casablanca Re Ltd.	Series 2017-1	Class A	FL HU	Indemnity	MTN	\$66,950			
Jun-17	Avatar Property and Casualty Insurance Company	Casablanca Re Ltd.	Series 2017-1	Class B	FL HU	Indemnity	MTN	\$26,300			
Jun-17	Avatar Property and Casualty Insurance Company	Casablanca Re Ltd.	Series 2017-1	Class C	FL HU	Indemnity	MTN	\$6,750			
Jun-17	Massachusetts Property Insurance Underwriting Association	Cranberry Re Ltd.	Series 2017-1	Class A	MA HU, ST, WS	Indemnity	MTN	\$350,000			
Jun-17	Tokio Millennium Re AG	Spectrum Capital Ltd.	Series 2017-1	Class A	US/CAN EQ and US HU, ST, WS, WF	Industry index	MTN	\$160,000			
Jun-17	Tokio Millennium Re AG	Spectrum Capital Ltd.	Series 2017-1	Class B	US/CAN EQ and US HU, ST, WS, WF	Industry index	MTN	\$270,000			
Jun-17	Assicurazioni Generali S.p.A	Lion II Re DAC			EU WS, FL and IT EQ	Indemnity	MTN	€ 200,000			
Jun-17	AXIS Specialty Limited	Northshore Re II Limited	Series 2017-1	Class A	US HU and US/CAN EQ	Industry index	MMF	\$350,000			
Jun-17	Achmea Reinsurance Company N.V.	Windmill I Re Ltd.	Series 2017-1	Class A	EU Wind	Indemnity	MTN	€ 40,000			

Appendix II

Life and Health Catastrophe Bonds— Transaction Summary

As of June 30, 2017

Source: Aon Securities Inc.

Summary of life and health catastrophe bonds—December 1996 through June 2017

Issuance date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Size (thousands)	S&P
Dec-03	Swiss Reinsurance Company Ltd.	Vita Capital Ltd.	Series 1		Extreme mortality	Index	\$400,000	A+
Apr-05	Swiss Reinsurance Company Ltd.	Vita Capital II Ltd.	Series 1	Class B	Extreme mortality	Index	\$62,000	A-
Apr-05	Swiss Reinsurance Company Ltd.	Vita Capital II Ltd.	Series 1	Class C	Extreme mortality	Index	\$200,000	BBB+
Apr-05	Swiss Reinsurance Company Ltd.	Vita Capital II Ltd.	Series 1	Class D	Extreme mortality	Index	\$100,000	BBB-
Apr-06	Scottish Annuity & Life Insurance Company (Cayman) Ltd.	Tartan Capital Limited	Series 1	Class A	Extreme mortality	Index	\$75,000	AAA
Apr-06	Scottish Annuity & Life Insurance Company (Cayman) Ltd.	Tartan Capital Limited	Series 1	Class B	Extreme mortality	Index	\$80,000	A-
Nov-06	AXA Cessions	OSIRIS Capital plc	Series 1	Class B	Extreme mortality	Index	€100,000	BBB
Nov-06	AXA Cessions	OSIRIS Capital plc	Series 2	Class B	Extreme mortality	Index	€50,000	BB+
Nov-06	AXA Cessions	OSIRIS Capital plc	Series 3	Class C	Extreme mortality	Index	\$150,000	A
Nov-06	AXA Cessions	OSIRIS Capital plc	Series 3	Class D	Extreme mortality	Index	\$100,000	A
Dec-06	Swiss Reinsurance Company Ltd.	Vita Capital III Ltd.	Series 1	Class B	Extreme mortality	Index	\$90,000	A
Dec-06	Swiss Reinsurance Company Ltd.	Vita Capital III Ltd.	Series 2	Class B	Extreme mortality	Index	\$50,000	AAA
Dec-06	Swiss Reinsurance Company Ltd.	Vita Capital III Ltd.	Series 3	Class B	Extreme mortality	Index	€30,000	AAA
Jan-07	Swiss Reinsurance Company Ltd.	Vita Capital III Ltd.	Series 4	Class A	Extreme mortality	Index	\$100,000	AAA
Jan-07	Swiss Reinsurance Company Ltd.	Vita Capital III Ltd.	Series 5	Class A	Extreme mortality	Index	\$100,000	AAA
Jan-07	Swiss Reinsurance Company Ltd.	Vita Capital III Ltd.	Series 5	Class B	Extreme mortality	Index	\$50,000	AAA
Jan-07	Swiss Reinsurance Company Ltd.	Vita Capital III Ltd.	Series 6	Class A	Extreme mortality	Index	€55,000	AAA
Jan-07	Swiss Reinsurance Company Ltd.	Vita Capital III Ltd.	Series 6	Class B	Extreme mortality	Index	€55,000	AAA
Jan-07	Swiss Reinsurance Company Ltd.	Vita Capital III Ltd.	Series 7	Class A	Extreme mortality	Index	€100,000	AA-
Feb-08	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Nathan Ltd.	Series 1	Class A	Extreme mortality	Index	\$100,000	A-
Jan-09	Swiss Reinsurance Company Ltd.	Vita Capital IV Ltd.	Series 1	Class E	Extreme mortality	Index	\$75,000	BB+
May-10	Swiss Reinsurance Company Ltd.	Vita Capital IV Ltd.	Series III	Class E	Extreme mortality	Index	\$50,000	BB+
Oct-10	Swiss Reinsurance Company Ltd.	Vita Capital IV Ltd.	Series III	Class E	Extreme mortality	Index	\$100,000	BB+
Oct-10	Swiss Reinsurance Company Ltd.	Vita Capital IV Ltd.	Series IV	Class E	Extreme mortality	Index	\$75,000	BB+

Issuance date	Beneficiary	Issuer	Series	Class	Perils	Trigger	Size (thousands)	S&P
Dec-10	Aetna Life Insurance Company	Vitality Re Limited	Series 2010-1	Class A	Health	Indemnity - MBR	\$150,000	BBB-
Dec-10	Swiss Reinsurance Company Ltd.	Kortis Capital Ltd.	Series 2010-1	Class E	Longevity	Index	\$50,000	BB+
Apr-11	Aetna Life Insurance Company	Vitality Re II Limited	Series 2011-1	Class A	Health	Indemnity - MBR	\$110,000	BBB
Apr-11	Aetna Life Insurance Company	Vitality Re II Limited	Series 2011-1	Class B	Health	Indemnity - MBR	\$40,000	BB+
Aug-11	Swiss Reinsurance Company Ltd.	Vita Capital IV Ltd.	Series V	Class D	Extreme mortality	Index	\$100,000	BBB-
Aug-11	Swiss Reinsurance Company Ltd.	Vita Capital IV Ltd.	Series VI	Class E	Extreme mortality	Index	\$80,000	BB+
Jan-12	Aetna Life Insurance Company	Vitality Re III Limited	Series 2012-1	Class A	Health	Indemnity - MBR	\$105,000	BBB+
Jan-12	Aetna Life Insurance Company	Vitality Re III Limited	Series 2012-1	Class B	Health	Indemnity - MBR	\$45,000	BB+
Jul-12	Swiss Reinsurance Company Ltd.	Vita Capital V Ltd.	Series 2012-I	Class D-1	Extreme mortality	Index	\$125,000	BBB-
Jul-12	Swiss Reinsurance Company Ltd.	Vita Capital V Ltd.	Series 2012-I	Class E-1	Extreme mortality	Index	\$150,000	BB+
Jan-13	Aetna Life Insurance Company	Vitality Re IV Limited	Series 2013-1	Class A	Health	Indemnity - MBR	\$105,000	BBB+
Jan-13	Aetna Life Insurance Company	Vitality Re IV Limited	Series 2013-1	Class B	Health	Indemnity - MBR	\$45,000	BB+
Sep-13	SCOR Global Life SE	Atlas IX Capital Limited	Series 2013-1	Class B	Extreme mortality	Index	\$180,000	BB
Jan-14	Aetna Life Insurance Company	Vitality Re V Limited	Series 2014-1	Class A	Health	Indemnity - MBR	\$140,000	BBB+
Jan-14	Aetna Life Insurance Company	Vitality Re V Limited	Series 2014-1	Class B	Health	Indemnity - MBR	\$60,000	BB+
Jan-14	Aetna Life Insurance Company	Vitality Re V Limited	Series 2014-1	Class A	Health	Indemnity - MBR	\$140,000	BBB+
Jan-14	Aetna Life Insurance Company	Vitality Re V Limited	Series 2014-1	Class B	Health	Indemnity - MBR	\$60,000	BB+
Jan-15	Aetna Life Insurance Company	Vitality Re VI Limited	Series 2015-1	Class A	Health	Indemnity - MBR	\$140,000	BBB+
Jan-15	Aetna Life Insurance Company	Vitality Re VI Limited	Series 2015-1	Class B	Health	Indemnity - MBR	\$60,000	BB+
Apr-15	AXA Global Life	Benu Capital Limited		Class A	Extreme mortality	Index	€ 135,000	BB+
Apr-15	AXA Global Life	Benu Capital Limited		Class B	Extreme mortality	Index	€ 150,000	BB
Dec-16	Swiss Reinsurance Company Ltd.	Vita Capital Limited	Series 2015-1	Class A	Extreme mortality	Index	\$100,000	BB
Jan-16	Aetna Life Insurance Company	Vitality Re VII Limited	Series 2016-1	Class A	Health	Indemnity - MBR	\$140,000	BBB+
Jan-16	Aetna Life Insurance Company	Vitality Re VII Limited	Series 2016-1	Class B	Health	Indemnity - MBR	\$60,000	BB+
Jan-17	Aetna Life Insurance Company	Vitality Re VIII Limited	Series 2017	Class A	Health	Indemnity - MBR	\$140,000	BBB+
Jan-17	Aetna Life Insurance Company	Vitality Re VIII Limited	Series 2017	Class B	Health	Indemnity - MBR	\$60,000	BB+

Appendix III

Summary of Sidecar Issuance

As of June 30, 2017

Source: Aon Securities Inc., various company filings and press releases.

Summary of sidecar issuance

Sidecar	Principal Sponsor	Inception	Lines of business	Size (\$ millions)
Top Layer Re	RenaissanceRe Holdings Ltd., SF	Dec-99	High excess US property cat	100.0
Olympus Re	White Mountains Insurance Group, Ltd.	Dec-01	Property cat, property risk, retro and marine	500.0
DaVinci Re	RenaissanceRe Holdings Ltd., SF	Dec-01	Property cat reinsurance	600.0
Rockridge Re	Montpelier Reinsurance Ltd.	Jun-05	High excess cat retrocessional	90.9
Blue Ocean Re	Montpelier Reinsurance Ltd.	Dec-05	Property cat retrocessional	300.0
Cyrus Re	XL Group Ltd	Dec-05	Property cat reinsurance and retrocessional	525.0
Flatiron Re	Arch Reinsurance Company	Dec-05	Property and marine reinsurance	900.0
Helicon Re	White Mountains Insurance Group, Ltd.	Dec-05	Short-tailed property and marine	146.0
Kaith/K5	Hannover Rück SE	Dec-05	Property cat, property risk, aviation and marine	370.0
Olympus Re II	White Mountains Insurance Group, Ltd.	Jan-06	Property cat, property risk, retro and marine	156.0
Petrel Re	Validus Holdings, Ltd.	May-06	Marine and offshore energy reinsurance contracts	125.0
Starbound Re	RenaissanceRe Holdings Ltd.	May-06	Short-tailed property and marine	310.5
Bay Point Re	Harbor Point Limited	Jun-06	US property, marine, retro and workers' comp	150.0
Sirocco Re	Lancashire Holdings Limited	Jun-06	Marine and offshore energy insurance contracts	75.0
Timicuan Re	RenaissanceRe Holdings Ltd.	Jul-06	Reinstatement premium protection	70.0
Concord Re	Lexington Insurance Company	Aug-06	US commercial property	730.0
Mont Fort Re	Flagstone Reinsurance Holdings, S.A.	Aug-06	Peak zone and ILW	60.0
Cyrus Re	XL Group Ltd	Nov-06	Property cat reinsurance and retrocessional	635.0
Panther Re	Hiscox Inc.	Dec-06	Property cat reinsurance	360.0
Syncro Ltd.	Lloyd's #4242 (Chaucer)	Dec-06	Property cat reinsurance	100.0
Norton Re	Brit plc	Dec-06	Property cat retrocessional	107.7
New Point Re	Harbor Point Limited	Dec-06	Property cat retrocessional	250.0
Triomphe Re	Paris Re	Dec-06	Property cat retrocessional	185.0
Sector Re	Swiss Reinsurance Company Ltd.	Jan-07	Property cat, aviation	220.0
MaRI Ltd.	ACE Tempest Re	Jan-07	Property cat reinsurance	400.0
Syndicate 6105	Ark Underwriting	Jan-07	Property cat reinsurance	40.0
Syndicate 6104	Hiscox Inc.	Jan-07	Property cat reinsurance	69.0
Syndicate 6103	MAP Underwriting	Jan-07	Property cat reinsurance	78.6
Bridge Re	Swiss Reinsurance Company Ltd.	Apr-07	Property cat, aviation	182.5
Starbound Re II	RenaissanceRe Holdings Ltd.	Jun-07	Property cat reinsurance	341.5
Mont Gele Re	Flagstone Reinsurance Holdings, S.A.	Jul-07	Property cat reinsurance	60.0
Norton Re II	Brit plc	Dec-07	Property cat retrocessional	118.2
Sector Re II	Swiss Reinsurance Company Ltd.	Apr-08	Property cat, aviation	150.0
Cyrus Re II	XL Group Ltd	Dec-07	Property cat reinsurance and retrocessional	140.0
New Point Re II	Harbor Point Limited	Dec-07	Property cat retrocessional	100.0
Globe Re	Hannover Rück SE	May-08	Property cat retrocessional	133.0
Kaith/K6	Hannover Rück SE	Mar-09	Property cat, property risk, aviation and marine	180.0
Timicuan Re II	RenaissanceRe Holdings Ltd.	Jun-09	Property cat retrocessional, primarily Florida	60.4

Sidecar	Principal Sponsor	Inception	Lines of business	Size (\$ millions)
Fac Pool Re	Hannover Rück SE	Sep-09	Worldwide facultative	60.0
AlphaCat Re	Validus Holdings, Ltd.	May-11	Property cat reinsurance and retrocessional	180.0
Accordion Re	Lancashire Holdings Limited	Jul-11	Property cat	200.0
New Point Re IV	Alterra Capital Group	Jul-11	Property cat retrocessional	225.0
Upsilon Re	RenaissanceRe Holdings Ltd.	Jan-12	Property cat retrocessional	73.7
SPS 2088 ¹	Catlin Insurance Company Ltd.	Jan-12	Various lines (Syndicate 2003 quota share)	77.5
SPS 6111 ¹	Catlin Insurance Company Ltd.	Jan-12	Various lines (Syndicate 2003 quota share)	93.0
SPS 6112 ¹	Catlin Insurance Company Ltd.	Jan-12	Various lines (Syndicate 2003 quota share)	41.9
PacRe	Validus Holdings, Ltd.	Mar-12	Property cat reinsurance (top layer)	500.0
Timicuan Re III	RenaissanceRe Holdings Ltd.	Jun-12	Property cat retrocessional, primarily Florida	73.7
New Point Re V	Alterra Capital Group	Jun-12	Property cat retrocessional	210.0
AlphaCat Re 2012	Validus Holdings, Ltd.	Jun-12	Property cat reinsurance and retrocessional	70.0
Saltire Re I	Lancashire Holdings Limited	Nov-12	Combined exposure UNL aggregate reinsurance product	250.0
New Point Re V	Alterra Capital Group	Dec-12	Property cat retrocessional	37.0
Upsilon Re II	RenaissanceRe Holdings Ltd.	Jan-13	Worldwide aggregate retrocessional reinsurance	185.0
Harambee Re	Argo Group International Holdings, Ltd.	Jan-13	Portfolio for both insurance and reinsurance	Undisclosed
AlphaCat Re 2013	Validus Holdings, Ltd.	Jan-13	Worldwide property cat reinsurance and retrocession	230.0
Mt. Logan Re	Everest Re Group, Ltd.	Jan-13	Worldwide property cat reinsurance	250.0
K Cession	Hannover Rück SE	Mar-13	Peak property cat and whole account XOL non-marine	328.0
Lorenz Re	Partner Reinsurance Company Ltd.	Mar-13	Worldwide property cat reinsurance for select accounts	75.0
Altair Re	ACE Tempest Re	Apr-13	Worldwide property cat insurance and reinsurance	95.0
Kinesis	Lancashire Holdings Limited	Jul-13	Property, energy, marine, aviation and Lloyd's	270.0
New Ocean Capital Management	XL Group Ltd	Jul-13	Collateralized reinsurance and capital markets	Est. 200
New Point VI	Markel Corporation	Jul-13	Property cat retrocessional	215.0
Blue Capital Re. Holdings	Montpelier Reinsurance Ltd.	Nov-13	Property cat reinsurance	175.0
AlphaCat 2014	Validus Holdings, Ltd.	Dec-13	Worldwide property cat reinsurance	160.0
Atlas Reinsurance X	SCOR Global P&C	Dec-13	Property cat reinsurance	56.0
Silverton Re	Aspen Bermuda Limited	Dec-13	Property cat reinsurance	65.0
Eden Re	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Jan-14	Property cat reinsurance	63.0
Altair Re II	ACE Tempest Re	Jan-14	Worldwide property cat insurance and reinsurance	95.0
Harambee Re	Argo Group International Holdings, Ltd.	Jan-14	Property reinsurance	Undisclosed
Upsilon RFO	RenaissanceRe Holdings Ltd.	Jan-14	Worldwide aggregate cat retrocessional	265.0
Pangaea IX	Transatlantic Reinsurance Company	May-14	Retrocessional	Undisclosed
Silverton Re	Aspen Bermuda Limited	Dec -14	Property cat reinsurance	85.0
Eden Re II	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Dec-14	Property cat reinsurance	75.0
Eden Re I 2015-1	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Dec-14	Property cat reinsurance	Undisclosed
Pangaea Re	Transatlantic Reinsurance Company	Dec-14	Property cat reinsurance	Undisclosed

¹ Converted at £1.00 = \$1.55 as of Jan. 1, 2012. Whole account quota share of the Catlin Syndicate at Lloyd's (Syndicate, 2003).

Sidecar	Principal Sponsor	Inception	Lines of business	Size (\$ millions)
Versutus	Brit plc	Jan-15	Worldwide property cat reinsurance	75.0
AlphaCat 2015	Validus Holdings, Ltd.	Jan-15	Property cat reinsurance	155.0
Sector Re V	Swiss Reinsurance Company Ltd.	Apr-15	Property cat reinsurance	190.7
Lorenz Re	Partner Reinsurance Company Ltd.	Apr-15	Property cat reinsurance	84.0
Silverton Re	Aspen Bermuda Limited	Jan-16	Property cat reinsurance	125.0
Eden Re II	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Jan-16	Property cat reinsurance	360.0
Altair Re IV	ACE Tempest Re	Jan-16	Property cat reinsurance	Undisclosed
K-Cessions	Hannover Ruck SE	Jan-16	Property cat reinsurance	500.0
Versutus	Brit plc	Jan-16	Property cat reinsurance	82.5
Fibonacci Re	Renaissance Re	Dec-16	Property cat reinsurance	140.0
Leo Re	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Dec-16	Property cat reinsurance	200.0
Limestone Re	Liberty Mutual Insurance Company	Dec-16	Property cat insurance and London market specialty lines	160.0
Silverton Re	Aspen Bermuda Limited	Dec-16	Property cat reinsurance	130.0
K-Cessions	Hannover Rück SE	Jan-17	Property cat reinsurance	550.0
Eden Re II	Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft	Jan-17	Property cat reinsurance	258.7
Versutus	Brit plc	Mar-17	Worldwide property cat reinsurance and binder insurance	150.0
Turing Re	Hamilton Re	Jun-17	Property cat reinsurance	65.0

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About Aon Benfield

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Through our professionals' expertise and experience, we advise clients in making optimal capital choices that will empower results and improve operational effectiveness for their business. With more than 80 offices in 50 countries, our worldwide client base has access to the broadest portfolio of integrated capital solutions and services. To learn how Aon Benfield helps empower results, please visit aonbenfield.com.

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