

How Reinsurers Have Learned To Align Third-Party Capital With Their Needs

August 14, 2018

Key Takeaways

- Even after severe natural catastrophe events in 2017 caused \$138 billion in insured losses globally, there was more than enough inflow of alternative capital to renew coverage for cedants on Jan. 1, 2018. This had the effect of limiting the extreme price hikes that would traditionally have followed such severe losses. ILS funds now manage just under \$100 billion of capital.
- Alternative capital continues to erode traditional reinsurers' margins. Nevertheless, reinsurers have embraced third-party capital through instruments like sidecars, collateralized reinsurance, and catastrophe bonds. Increasingly, the retrocession market depends on this convergence capital.
- Overall, the use of collateralized reinsurance, sidecars, and catastrophe bonds has helped the reinsurance industry to increase its premiums while maintaining its net exposures. Collateralized reinsurance will continue to represent the majority of convergence capital. Reinsurers managed to expand the use of their sidecars or set up new ones. The downward pricing trend for catastrophe bonds seems to have stabilized, and amounts outstanding reached a new high of \$35 billion in July 2018.
- Having conquered property catastrophe business, we continue to see alternative capital testing products in new areas, such as casualty or life reinsurance. The increased complexity and longer tail of products in these sectors have yet to strike a chord with investors, however.

PRIMARY CREDIT ANALYST

Maren Josefs
London
(44) 20-7176-7050
maren.josefs
@spglobal.com

SECONDARY CONTACTS

David J Masters
London
(44) 20-7176-7047
david.masters
@spglobal.com

Taoufik Gharib
New York
(1) 212-438-7253
taoufik.gharib
@spglobal.com

Johannes Bender
Frankfurt
(49) 69-33-999-196
johannes.bender
@spglobal.com

ADDITIONAL CONTACT

Insurance Ratings Europe
insurance_interactive_europe
@spglobal.com

Insurance-linked securitization (ILS), which brings third-party capital into the reinsurance sector, has transformed the market, especially in the property catastrophe space. Even the natural catastrophe losses of 2017 have not dented investors' enthusiasm for the various instruments that come under the banner of alternative or convergence capital. What effect will the continued growth of ILS have on reinsurers' competitive positions?

The latest figures by Artemis, a news provider specializing in alternative capital, show that ILS funds had combined assets under management of nearly \$100 billion by July 2018. Even as the reinsurance industry digested the effects of 2017's three major hurricanes--Harvey, Irma, and Maria, which affected the Caribbean Islands, Texas, and Florida--alternative capital continued to

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grow, contrary to the expectations of some market observers. Investors, scenting the chance of increased returns, replaced capital that had been put aside as collateral to cover insured losses, enabling them to participate in the Jan. 1, 2018, round of renewals. As a result, the price hikes the industry has typically seen after previous catastrophe events were limited.

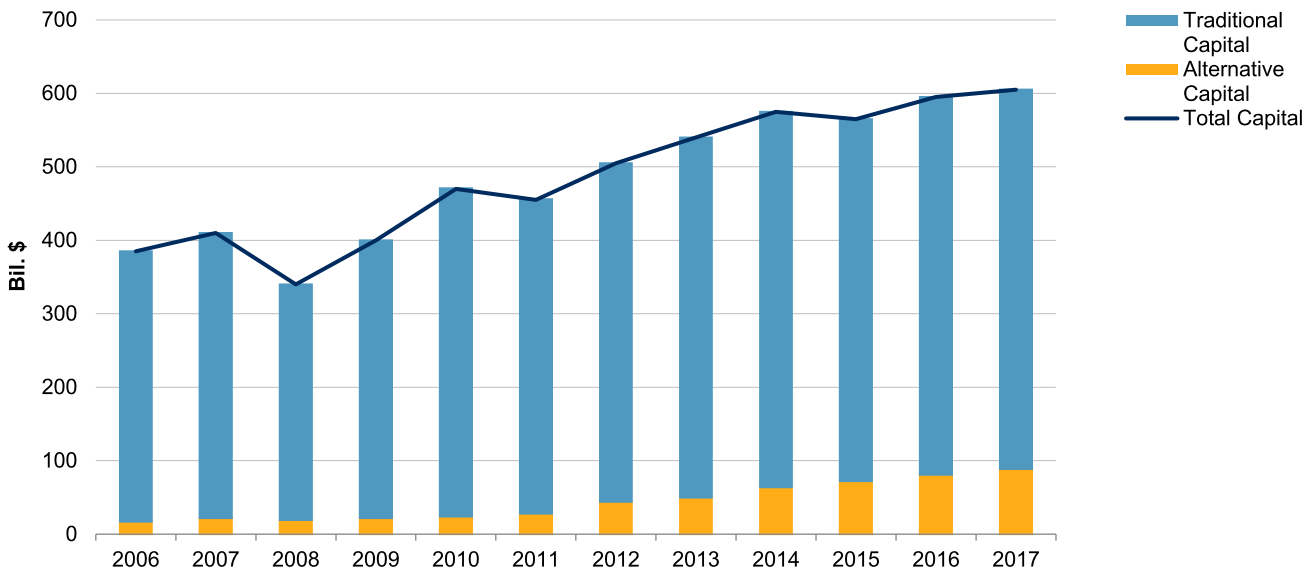
Many observers had assumed that investors who entered the ILS market during the recent string of benign catastrophe years might take fright when investment returns turned negative. However, we saw no capital flight following the negative investment returns that followed the 2017 hurricanes as losses were within investors' expectations. Indeed, the market was able to more than restore the collateral trapped following the 2017 events. Before the events of 2017 unfolded, the top 10 ILS funds had \$56.5 billion of assets under management (source: Trading Risk, a news provider specializing in ILS); this had risen to \$68 billion by July 2018 according to Artemis.

Third-Party Capital Has Much To Offer Traditional Reinsurers

Although this influx of third-party capital (see chart 1) raises further questions about reinsurers' competitive positions, the industry has had time to adapt (see "Third-Party Capital: A Disruptor Or A Catalyst In The U.S. Property Catastrophe Reinsurance Market," published on Nov. 7, 2016).

Chart 1

Global Reinsurance Capital



Source: Aon Securities Inc.

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Traditional reinsurers' margins certainly suffer from increased competition and the limited price increases following major events. That said, reinsurers have also harnessed the new capital inflows to channel this capacity and optimize their in-house portfolios. The various options, such as sidecars, catastrophe bonds, and collateralized reinsurance, allow reinsurers to create

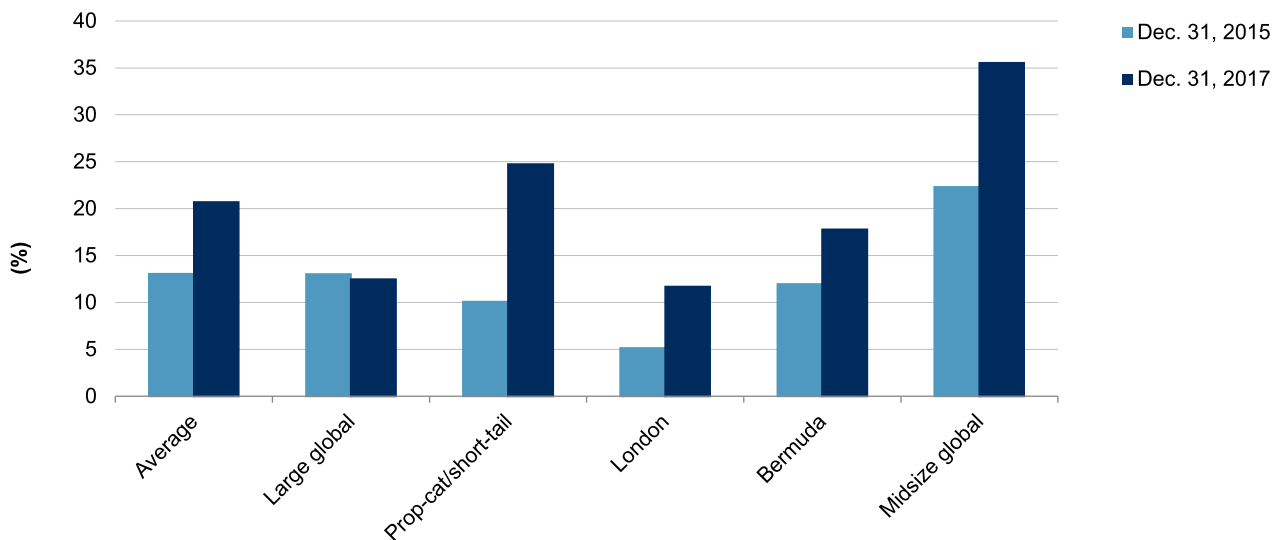
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more-comprehensive offerings--more coverage or different products--to their clients.

As a result, the retrocession market is increasingly dependent on third-party capital. We are also seeing regulatory changes, such as the introduction of new ILS legislation in the U.K. this year, that will support further growth in the sector. As chart 2 shows, at the 1-in-250 year return period, the top 20-reinsurers' expected recoveries from the collateralized retrocession market on its in-force book of business as of Dec. 31, 2017 rose to 21%, up from 14% as of Dec. 31, 2015.

Chart 2

Average Collateralized Tail Protection Purchased By Top-20 Global Reinsurers Percentage of collateralized recoveries at 1-in-250 year return period



Source: S&P Global Ratings.

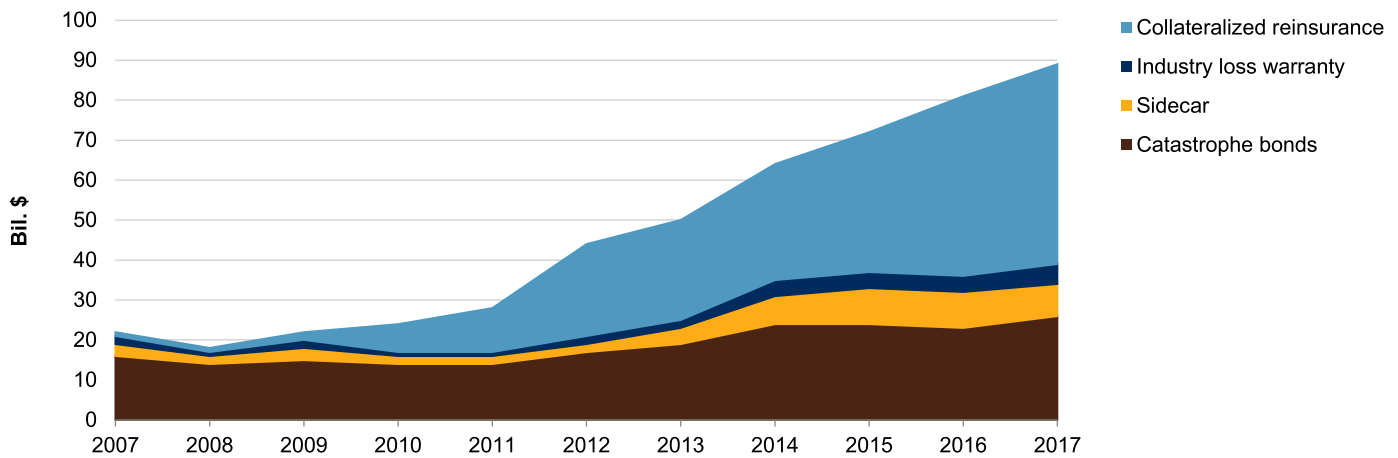
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No Signs Of A Slowdown In The Collateralized Reinsurance Market

This form of third-party capital has continued to show exceptional growth (see chart 3). It is popular among ceding companies because collateralized reinsurance contracts operate similarly to traditional reinsurance contracts. Instead of cedants buying protection from rated counterparties, they buy from ILS funds, which do not typically offer an independent assessment of their ability to pay claims. ILS funds therefore pledge cash-equivalent collateral, or pay a rated reinsurer a fee to front the business for them. Collateralized reinsurance now represents about 60% of all convergence capital (over \$50 billion in 2017, according to Aon Securities Inc.)

Chart 3

Alternative Capital Is Increasingly Dominated By Collateralized Reinsurance



Source: Aon Securities Inc.

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For internal risk management purposes, ceding companies typically limit how much protection they can purchase from one counterparty. Because this can limit the underwriting opportunities for third-party capital, we have started to see ILS funds such as Credit Suisse Asset Management or LGT setting up their own rated reinsurers so they can offer more capacity. This puts further pressure on traditional reinsurers' competitive position, especially given that the vehicles usually have a lower expense ratio than the traditional players as the latter provide various ancillary services to their clients.

We assume collateralized reinsurance will remain the dominant means of incorporating third-party capital into the reinsurance market, despite being the source of a significant proportion of the 2017 investment losses. It is an effective means of connecting cedants' counterparty credit risk considerations with the investors' appetite for insurance risks.

Sidecars Enable Reinsurers To Manage Their Net Exposures More Tightly

Sidecars are a form of reinsurance/retrocession cover managed by the sponsor, but largely funded by outside investors. By sponsoring sidecars, reinsurers try to cede some of their assumed tail risk into the broader capital markets, thus creating further diversification for the industry and reducing their reliance on the industry's own capital. Taking equity in a sidecar vehicle allows an investor to directly take on reinsurance risk underwritten by the sponsor for a limited time period.

Initially, reinsurers used them to support capital recovery after large loss events; they have since become an ongoing part of reinsurers' retrocession strategy. Despite the 2017 losses, in aggregate, the top-20 reinsurers successfully expanded the use of sidecars or formed new vehicles, enabling them to expand their business while managing their net exposures. Some individual players decided to increase their exposure (see "Are Global Reinsurers Ready For Another Year Of Active Natural Catastrophes?" published on July 25, 2018).

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Investors in sidecars may include pension funds, endowment funds, hedge funds, private equity, and family offices; investors that generally have little or no exposure to catastrophe risk. As a result, investors' risk/return thresholds typically differ from those of sponsors. Sidecars enable reinsurers that already have catastrophe exposure to take advantage of third-party capital to underwrite more risk at the front end. They can allocate capital according to the differing risk preferences while earning a fee income and receiving capital benefits for the retrocession purchased.

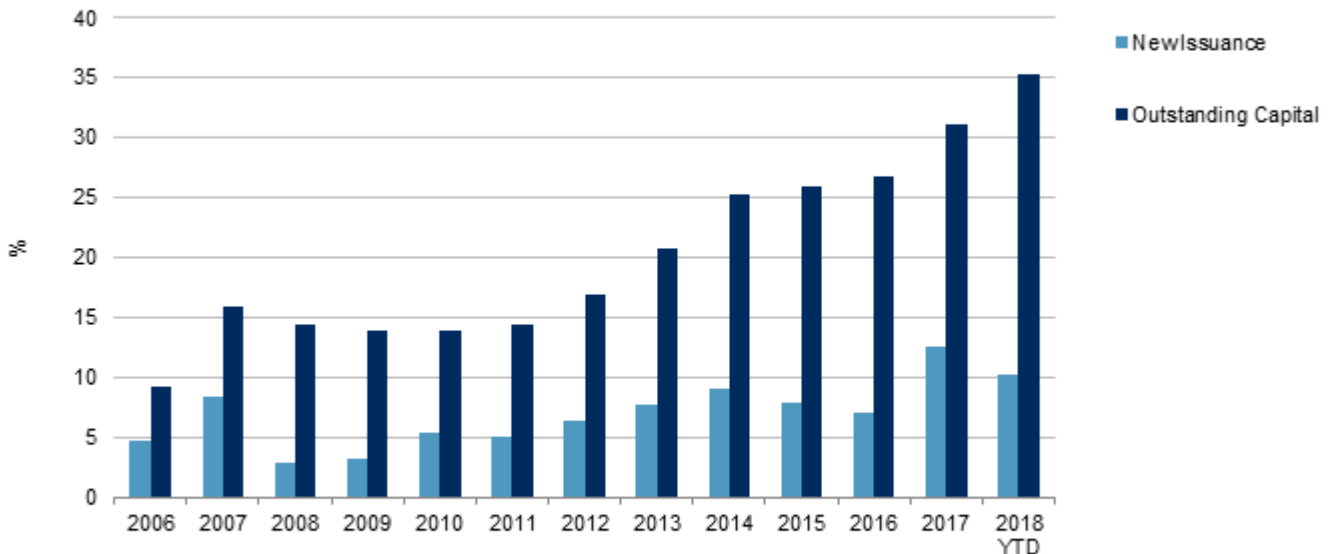
Sidecars are mostly used to cover high-severity, low-frequency loss events. These catastrophe layers have a small chance of losses. They may also be used to cover frequency exposures (the risk of accumulating losses from multiple events over a certain time period). Given the hurricanes and wildfires of 2017, sidecar investors also experienced losses from their investments.

Catastrophe Bonds Set New Records

Catastrophe bonds (cat bonds) are the most visible part of the convergence market and are valued by both cedants and investors as a more-liquid option than sidecars and collateral reinsurance. Issuance in the first half of 2018 has been so high that in just six months, it has already outpaced annual issuance for every previous year except 2017. As of July 30, 2018, new issuance stood at \$10.3 billion, according to Artemis. Given that new issuance far exceeds maturing amounts, the outstanding issuance in the market also reached a new high, at \$35 billion in July 2018 (see chart 4).

Chart 4

Catastrophe Bond Market Developments New issuance and total outstanding by year



Source: www.artemis.bm. YTD—Year to date.

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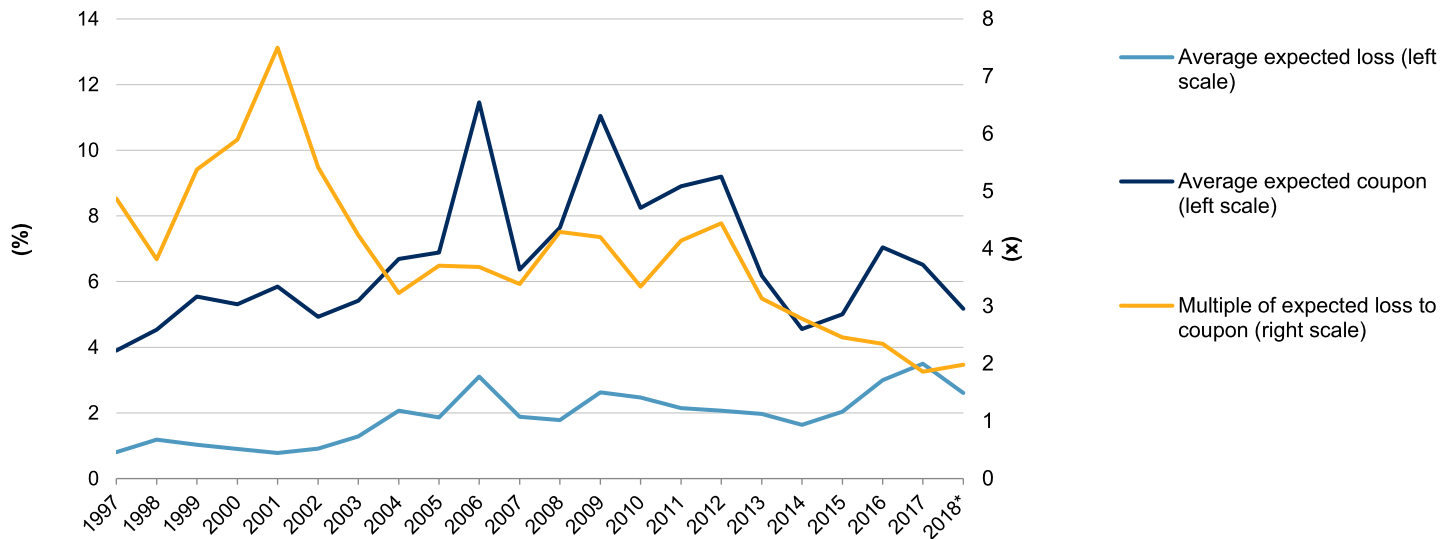
According to the Artemis Catastrophe Bond Default Directory, 18 cat bonds are at risk of default after the 2017 events, of which at least five are expected to incur a 100% loss of principal for investors. None of the bonds at risk were issued by any of the top-20 reinsurers. We downgraded one of Everest Re Group Ltd.'s cat bonds, before upgrading it again a few months later (see "Kilimanjaro Re Ltd. Series 2014-B Notes Downgraded To 'B-(sf)', Placed On CreditWatch Developing," published on Sept. 29, 2017 and "Kilimanjaro Re Ltd. Series 2014-B Notes Upgraded To 'BB-(sf)'," published on Feb. 14, 2018). The cat bond did not incur a loss in the event, and has since matured at par.

Cat Bonds Are Evolving

We are seeing a trend toward using cat bonds for higher layers, as demonstrated by a fall in the average expected loss for cat bonds issued in 2018 compared with those issued in 2017 (see chart 5). Average expected loss indicates the average loss that investors can expect to incur and is an indication of the level of risk which is being transferred. Before 2017, the level of risk assumed by investors was increasing while the average coupon was decreasing. For the first time in six years (see chart 5), in 2018 the coupon over expected loss, known as the multiple, has started slowly trending up again. We expect the multiple to stabilize just below the 2x mark. However, it is not anywhere as near the 4x mark, where it was before.

Chart 5

Average Expected Loss, Coupon, And Multiple For Catastrophe Bonds And Insurance-Linked Securities



*As of July 18. Source: Artemis' deal directory.

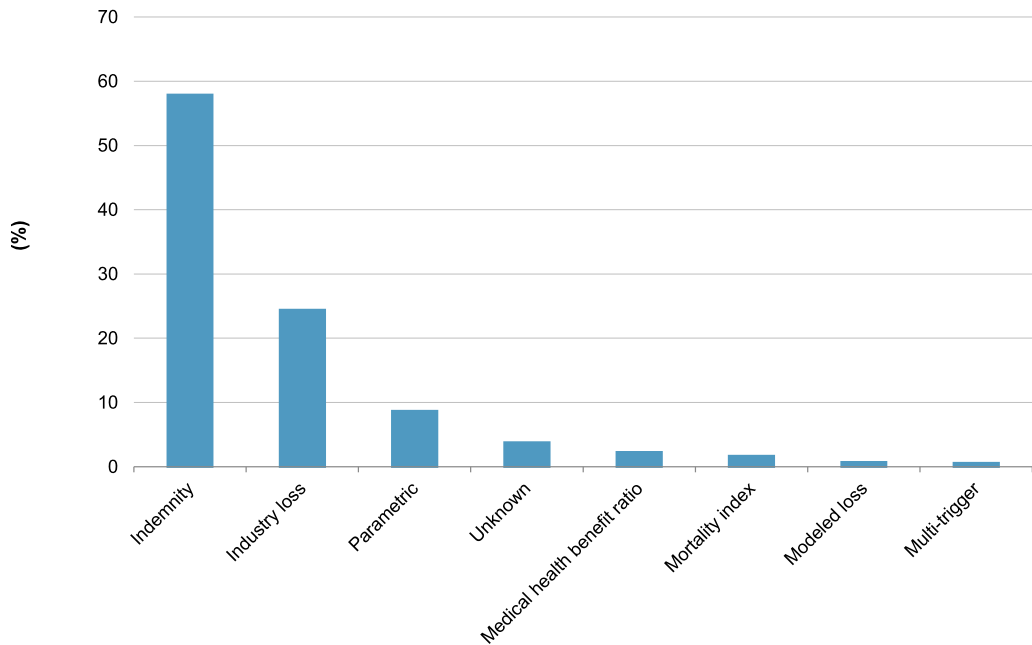
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Both primary insurers and reinsurers issue cat bonds. While ceding companies increasingly prefer an indemnity trigger that covers their exact losses, reinsurers that use cat bonds to transfer risk to the capital market typically use weighted industry loss indices (see chart 6). By applying weighted

factors to various regions of the covered area, a reinsurer can obtain protection that aligns better with its own portfolio of risks, thus reducing basis risk without disclosing proprietary information to competitors. Using weighted industry loss indices also makes the deal more transparent to investors, who may have concerns about adverse selection, potential moral hazards, or exposure to unsound underwriting practices.

Chart 6

Catastrophe Bonds And Insurance-Linked Securitization By Trigger Type
% of outstanding catastrophe bonds' principal amounts



Source: www.artemis.bm.
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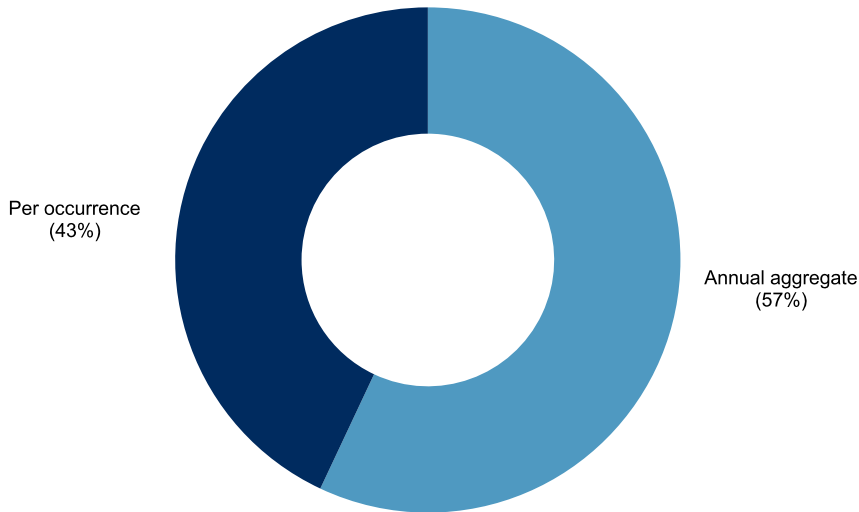
In addition, time to payment should be slightly quicker using the industry index approach. An independent party, such as Property Claims Services or PERILS, reports the industry loss figures used to determine any loss payments. Although these figures are not available immediately, as it takes time for the industry loss numbers to develop, the loss calculation can be performed more-quickly because an indemnity trigger also requires an independent loss reserve and claims analysis.

The majority of the cat bonds outstanding which were issued by the top-20 reinsurers provide protection against annual aggregate losses (see chart 7). This means the ceding companies were able to obtain protection against a frequency of events occurring during a certain time period, usually one year.

Chart 7

Catastrophe Bonds And Insurance-Linked Securitization By Type Of Coverage

% of outstanding catastrophe bonds' principal amounts



Source: www.artemis.bm.

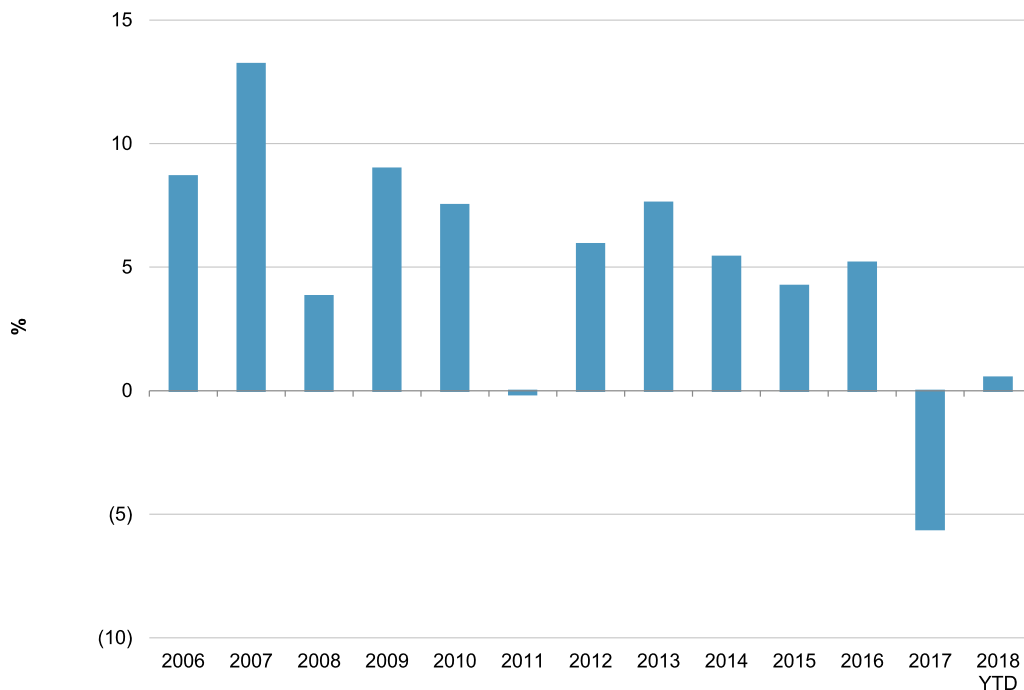
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Third-Party Capital Has Passed The First Test

The convergence markets' response to the 2017 events should dispel existing concerns over the permanence of its capital. There have been numerous defaults (see "Catastrophe Bonds Have A Short, But Strong Track Record On Claims Payments," published on Aug. 31, 2016) during the market's relatively short existence. However, some had argued that because investors had yet to see losses from their investments (see chart 8), investors' reaction to a loss from a peak peril which affected numerous investments simultaneously could be more pronounced and lead to unexpected high volatility. After the 2017 hurricanes, we have finally seen how investors reacted to the reported negative investment returns for 2017, and they have stood firm.

Chart 8

Eurekahedge ILS Advisers Index Annual Performance



Source: Eurekahedge. YTD--Year to date.

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That said, there has only been one year of events leading to considerable investment losses. We still don't know if convergence capital will stay the course if severe losses like those seen in 2017 are repeated and investors accumulate losses over a number of years. For now, we are assuming that the alternative market has proven its resilience and we won't see a major capital flight out of convergence capital unless investors react to unattractive reinsurance returns, large unexpected losses relative to modeled losses, or a significant change in interest rates, which could make other investments more attractive.

What's Next For Convergence Capital?

The convergence market has had a significant impact on the property catastrophe market, especially in the U.S. ILS funds, which manage the majority of the third-party capital, are aiming to diversify away from natural catastrophe risk and into new regions or perils. The maturity and sophistication of the approach used to analyze the risk being transferred to investors will play a crucial part in this development. The benefits and limits of models for peak perils such as U.S. hurricane or earthquake, or pandemic risk in developed countries, are well understood.

As we see catastrophe models develop further (for example, flood models) and a growth in demand for insurance globally, we expect the ILS market to continue to provide protection against losses from natural catastrophes and pandemics.

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Modeling long-tail liability or cyber risks is more challenging and thus it is more difficult to transfer the risk into the capital markets. Recently, a bond was issued to protect against a significant deterioration in the third-party liability loss ratios from a book of motor policies over a three-year period.

On the life side, Langhorne Re LLC entered the market earlier this year. This vehicle is sponsored by two major reinsurers--Reinsurance Group of America Inc. (RGA) and RenaissanceRe Holdings Ltd. (RenRe). It has about \$780 million of equity capital commitments, including investments from RGA, RenRe, and third-party capital. Langhorne Re will be targeting large in-force life and annuity blocks, allowing cedants to reduce risk and optimize their capital management. At present, we do not consider that Langhorne Re's entry will change the competitive landscape of the life reinsurance sector. Underwriting capabilities remain key to success in the life reinsurance sector, making pure pricing and capacity less important.

Regulatory changes may also affect the growth potential of the market. After years of hard work, the industry welcomed the introduction of new ILS legislation in the U.K. this year. The country's first sidecar and first cat bond have been successfully placed.

Although convergence capital is testing the waters in new areas such as casualty or life reinsurance, it has yet to find a winning formula like the one that propelled its expansion in property catastrophe business. Success will depend on investor demand for longer-tail and more-complex products. Nevertheless, as reinsurers embrace third-party capital and work in partnership with ILS funds, we expect to see more innovation in the space, and the development of new products and new markets.

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