

How alternative capital is shaping the global reinsurance industry

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Over the past 20 years, investors have pumped billions of dollars, termed as alternative capital, into the catastrophe reinsurance space through a variety of risk-transfer vehicles, transforming the reinsurance market in ways unforeseen and less predictable.

The enormous infusion of alternative capital in tandem with relatively low catastrophe activity of late has depressed prices to historically low levels, forcing reinsurers to look elsewhere for topline growth. Lower reinsurance pricing—a boon to some, a strain to others—is, however, only one consequence of the infusion of alternative capital. Its impact has reshaped the market in other ways, and continues to ripple through the industry as it expands to include new structures and cover new perils.

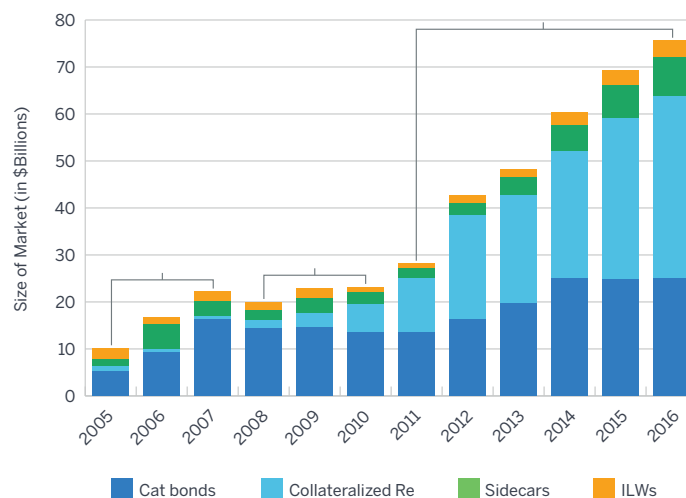
The source of alternative capital stems from financial investors, such as pension funds, sovereign wealth funds and high net-worth individuals, that invest in the reinsurance market, primarily in a variety of financial instruments. The initial instruments were collectively known as insurance-linked securities (ILS)—catastrophe bonds and industry loss warranties (ILW)—but have expanded to include private deals such as collateralized reinsurance and reinsurer sidecars. The entry of all the new participants has indeed come with challenges and opportunities.

No shortage of supply

Like other goods and services, reinsurance follows the age-old economic principle of supply and demand: given a constant demand for a product or service, prices will fall as the supply increases. In the case of reinsurance, supply is represented as capital or the capacity available to absorb risk. What has been increasingly evident over the years is that supply has continued to greatly outstrip demand for coverage, which is the key driver in reshaping the reinsurance market. The consequences are many and far-reaching.

The enormous influx of alternative capital didn't happen overnight but rather took place over a decade.

FIGURE 1: ALTERNATIVE CAPITAL GROWTH



Catastrophe bonds (cat bonds) were initially offered in the mid-1990s, post Hurricane Andrew and the Northridge earthquake, in response to market disruptions stemming from the bankruptcy of some companies and the exit from the marketplace by others. As computing power increased during the 1990s and early 2000s, and catastrophe models became more and more sophisticated, there was greater acceptance and understanding of the risks among the investor community. Demand for reinsurance capacity then surged in 2005, a result of a series of catastrophes (Hurricanes Katrina, Rita, and Wilma). These developments led to the first major growth period in catastrophe bond issuance, the years from 2005 through 2007, shown in the first period in Figure 1.

During the years from 2008 through 2010, the second period shown in Figure 1, investors' interest waned as a result of the fallout from the global financial crisis. During this period Lehmann Brothers defaulted on four bonds on which it served as the counterparty on the bond's collateral, and growth in reinsurance capacity from alternative capital languished as financial investors scrambled to understand their investment portfolios and the inherent risks therein.

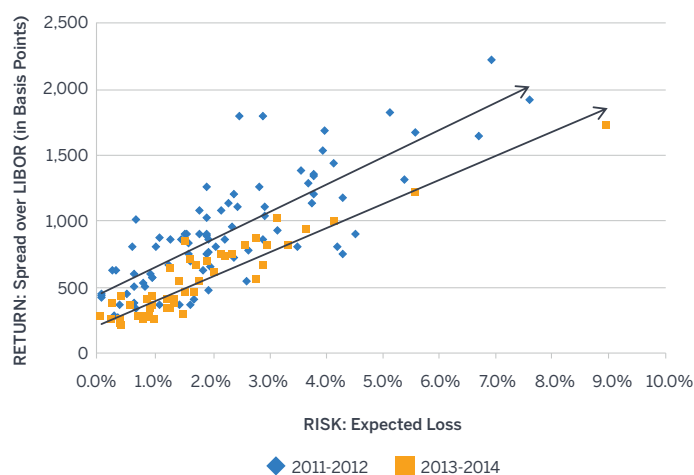
Disenchanted by financial assets that were considered to have relatively low correlations but turned out to be highly correlated in a tail event during the financial crisis, investors began to seek out assets that they considered truly uncorrelated with other financial assets. This led to the explosive growth from 2011 through 2016. During the third period shown in Figure 1, growth in alternative capital regained momentum, increasing approximately 21% annually between 2012 and 2016. At the end of 2016, alternative capital was pegged at around \$76 billion, and was made up of the following components:

- \$39 billion in collateralized reinsurance, which represents over 50% of the overall capacity provided by alternative markets
- \$25 billion in cat bonds, which is equal to year-end 2014
- \$8 billion in sidecars, a segment used by reinsurers to set up their own ILS vehicles that has represented some of the largest growth since year-end 2014
- \$4 billion in ILWs

As a point of reference, global reinsurance capital is estimated at \$595 billion at year-end 2016, which is a 5% increase from year-end 2015, and it has achieved around a 4% annual growth since 2007. Thus, ILS currently represents approximately 13% of available capital. However, it should be noted that there are some studies that put alternative capital much higher, at around 17%. This is due to adjusting reinsurer capital for capital that is deployed to non-reinsurance activities (such as primary insurance).

An oversupply of capacity, coupled with an increased acceptance of the risk models used to price the business has resulted in a drop in prices, which can be tracked by looking at the expected returns available on cat bonds (a useful surrogate for the cost of reinsurance) at a range of risk levels.

FIGURE 2: SPREADS ON NEWLY ISSUED CATASTROPHE BONDS, 2011-2014



Source: Artemis.bm

Figure 2 shows the return for each publicly traded cat bond from the years 2011/12 and the years 2013/14 (one of the largest periods of growth for the market) plotted against expected loss for each cat bond. Trend lines for each period reveal a significant decrease in spreads available on cat bonds at comparable expected loss levels across the entire spectrum of risk.

A similar trend is reflected in the overall property catastrophe renewals over the past several years. The downward pressure on rates is evident as the amount of alternative capital increases.

However, while one consequence of the influx of alternative capital has been a soft market in property catastrophe reinsurance, it is not the only one.

The game plan

To maintain profitability and market share during persistently low property catastrophe pricing, reinsurers have embarked on a number of strategies that have focused on enhancing or lowering a company's cost of capital, improving its underwriting efficiency or gaining market advantage.

For some, gaining market share advantage has involved expanding into new lines of business. As the rates and value proposition have deteriorated in property catastrophe, reinsurers have started to deploy capital away from property catastrophe and into other lines of business as a way of maintaining topline growth. However, as increasingly more companies turn to this strategy, the movement of capital has merely shifted some of the capital oversupply into other lines of business, the effects of which can be seen in price reductions across most major reinsurance lines (with the possible exception of commercial auto liability).

As soft markets typically progress, underwriters, at some point, become less and less willing to move lower on prices. They may make decisions that they may not otherwise consider in a hard market, favoring the cedents:

- Lengthening contract duration, often to multiyear contracts
- Including difficult-to-model perils that were once excluded, such as cyber
- Easing reinstatement terms
- Bundling of risks within one cover, either by including more than one line of business and/or expanding coverage into new regions/geographies
- Lengthening hours clauses (i.e., the number of hours for an event in which losses can be aggregated under one occurrence)

Each extension of coverage loosens or broadens a contract's terms and conditions. Unlike rate declines, extending a contract's terms and conditions can be an even more risky strategy because the revisions typically cannot be adequately reflected in risk models. Therefore, companies have a difficult time assessing their exposure that is due to loosening terms, and regulators and analysts are unable to adequately determine the impact of shocks to the company's capital position.

No immunity

Like traditional reinsurance policies, cat bonds have seen a similar erosion in terms, as cedents have gained the upper hand in structuring arrangements over the past few years. One way to look at the shift is through the more prevalent use of indemnity triggers on cat bonds (see the sidebar “Cat Bond Triggers”). There has been a marked increase in the use of indemnity triggers from 2010. The indemnity trigger is preferred among cedents from their desire to avoid basis risk—the mismatch between a bond’s recoveries and actual catastrophe losses—which tends to be smaller on bonds with indemnity triggers. Other triggers, such as indexed or parametric triggers, are preferred by investors because the objectivity of the payout circumvents payments delays arising from a potentially lengthy claims adjusting process. These triggers (index or parametric) tie bond payouts to a specific threshold, say a \$30 billion industry loss, or certain circumstances of the covered peril, an 8.3 earthquake for example.

Since 2011, the start of the most recent influx of alternative capital, the percentage of bonds with indemnity triggers (preferred by cedents) has increased from approximately 30% to approximately 70% in 2016 as the percentage of bonds with indexed or parametric triggers (preferred by investors) has fallen. As the market has softened, cedents have been able to negotiate deals that predominantly rely on indemnity triggers.

Cedents and sponsors have also been able to negotiate longer bond terms, which range between three and five years. This trend has also forced reinsurers to offer more multiyear deals on collateralized reinsurance deals.

Another example of the softening cat bond market can be seen in Figure 3, which shows the difference between the terms of a 2013 bond and its 2014 renewal. This is an example of bundled risk by combining existing modeled perils into a single deal,

FIGURE 3: BUNDLING AND UNMODELED RISK

	RESIDENTIAL RE 2013	RESIDENTIAL RE 2014
SETTLEMENT DATE:	MAY 2013	MAY 2014
TERM:	3 YEARS	3 YEARS
NOTIONAL SIZE:	\$300 MILLION	\$130 MILLION
COMPOSITE EL:	2.47%	5.18%
COMP. COUPON:	8.40% (3.4X EL)	101.60% (2.0X EL)
PERILS COVERED:	<ul style="list-style-type: none"> ▪ US HURRICANE ▪ US EARTHQUAKE ▪ US T'STORM/ WINTER STORM ▪ CA WILDFIRE 	<ul style="list-style-type: none"> ▪ US HURRICANE ▪ US EARTHQUAKE ▪ US T'STORM/ WINTER STORM ▪ CA WILDFIRE ▪ METEORITE IMPACT ▪ VOLCANIC ERUPTION

Source: Artemis.bm

thus streamlining the reinsurance programs. It also shows the addition of unmodeled risks for meteor and volcano. In structuring the deal in this way, the cedents or sponsors have additional cover (often at no cost to low cost), but the pricing and riskiness of the deal are difficult to assess.

Mergers and acquisitions

As the industry has become awash with capital, driving down rates and suppressing topline growth, it would be expected that company returns on equity (ROEs) would follow suit. These conditions—excess capital, low investment returns, and faltering ROEs—typically create an environment ripe for mergers and acquisitions (M&A) activity.

The ROEs reported by the industry in 2014 and 2015, however, have been between a strong 11% and 14% range, which would indicate the industry is relatively profitable. But looking deeper into these returns reveals that company ROEs have been propped up by two factors: low catastrophe losses and ongoing reserve releases, which cannot continue on a long-term basis. According to Willis Towers Watson, if you restate the returns with an average level of cat losses and factoring out reserve releases, it suggests that “revised” company ROEs could be as low as 5%. At this level, many reinsurance companies would not meet the hurdle rates of their shareholders.

The combination of increased competition from alternative capital contributing to a soft market in reinsurance, along with persistent low investment returns and tough market conditions with which to meet future ROE targets, has created an environment that provides companies with a number of strong incentives to consider M&A activity. The pressure is particularly strong for property specialist reinsurers, which are feeling the greatest pressure from alternative capital and do not have as easy a route to diversify. Some have already taken the step.

From midyear 2014 until midyear 2015, four M&A deals have been completed between Bermuda market participants (see the sidebar “Bermuda M&A Deals”). While a slightly different rationale was given for each deal, achieving scale and diversification are common themes in the deals. There have also been major M&A deals beyond the reinsurance market. These deals included Ace/Chubb and Tokio Marine/HCC Insurance. In the latter half of 2016, there were three major deals: Sampo Holding’s purchase of Bermuda-based Endurance Specialty Holdings, Arch Capital Group’s purchase of AIG’s mortgage insurance arm, and United Guaranty Corporation and Liberty Mutual’s acquisition of Ironshore.

These deals have reshaped the Bermuda market, but are they the end of the road or a precursor to more activity? The market consensus seems to lean toward more activity. Indeed, no company likes to be the last one left on the shelf.

New structures, new perils

While the ILS market has shown spectacular growth over the last five years or so, the growth in the property catastrophe market can only be sustained for so long. ILS market participants are continually looking for further areas of growth to quench the thirst of investors looking to enter this space or increase their participation. We have seen over the last year interest in cyber risk, operational risk, and automobile liability; the latter two have had successful market placements within the last year or so. The Holy Grail for the ILS market is to expand into liability, but the long-tailed nature of the losses is a huge roadblock. The auto liability bond issued in 2017 is maybe a first step in overcoming that problem.

Summary

What began as an innovative way to infuse capital into a cash-strapped reinsurance market has had an impact that extends beyond the reinsurance market. The influx of alternative capital (along with relatively low catastrophe activity) has driven down catastrophe reinsurance prices to historically low levels, which has caused reinsurers to try to diversify into other lines of business. Their move into other lines has led to lower prices overall, prompted underwriters to modify terms and conditions in order to compete, and finally incentivized reinsurers to pursue M&A activity to achieve scale and diversification. As the effects of alternative capital continue to ripple through the industry, these changes are unlikely to be the end of the road.

BERMUDA M&A DEALS

Endurance/Montpelier

- The deal was originally announced in March 2015 and completed at the end of July 2015.
- Endurance acquired Montpelier.
- The stated rationale was to increase scale, broaden distribution, gain scalability to Lloyd's platform, and have access to a third-party capital insurance and reinsurance platform.¹

XL/Catlin

- The deal was originally announced in January 2015 and completed in May 2015.
- XL acquired Catlin.
- The stated rationale was to increase scale and capacity and gain an extended platform of products and services and stronger client relationships.²

RenaissanceRe/Platinum

- The deal was originally announced in November 2014 and completed in March 2015.
- RenaissanceRe acquired Platinum.
- The stated rationale was diversification across product lines, an increased U.S. presence, and an expanded client base.³

Exor/Partner Re

- The deal was originally announced in August 2015, after a failed attempt by Partner Re to merge with Axis.
- The deal between Partner and Exor was completed in March 2016.
- Exor acquired Partner Re.
- Exor, in its early approach, stated that its goal was an 8% hurdle rate, even though the rule of thumb has traditionally pegged cost of capital targets around 15%. In the global environment of persistent low interest rates, the question is: is Exor's lower hurdle rate (around 6% over the risk-free rate) the new norm?
- The deal is also an example of a merger initiated by knowledgeable investors that had identified the reinsurance market returns as an attractive opportunity relative to the yields available elsewhere.⁴

1 Endurance Completes Montpelier Re Acquisition, (August 2, 2015). Royal Gazette. Neil, Scott. Retrieved August 30, 2017, from <http://www.royalgazette.com/article/20150802/BUSINESS04/150809973>.

2 XL Group plc Announces Completion of Catlin Group Limited Acquisition, (May 1, 2015). XL Catlin. Retrieved August 29, 2017, from <http://xlcatalin.com/insurance/news/xl-group-plc-announces-completion-of-catlin-group-limited-acquisition>.

3 RenaissanceRe Completes Acquisition of Platinum Underwriters, (March 2, 2015). Insurance Journal. Retrieved August 29, 2017, from <http://www.insurancejournal.com/news/international/2015/03/02/358977.htm>.

4 Exor, PartnerRe Settle on \$6.9 Billion Deal. (August 3, 2015). Wall Street Journal. Ball, Deborah; Stynes, Tess. Retrieved August 30, 2017, from <https://www.wsj.com/articles/exor-partnerre-settle-on-deal-1438601497>.

CAT BOND TRIGGERS

- **Indemnity:** Payment is triggered by the issuer's actual losses. If the layer specified in the cat bond is \$100 million excess of \$500 million, for example, and the total claims are more than \$500 million, the bond is triggered. In this case, the sponsor is indemnified as if it had purchased traditional catastrophe reinsurance.
- **Modeled loss:** Instead of using the reinsurance company's actual claims, an exposure portfolio is constructed with catastrophe modeling software. When a large event occurs, the event parameters are run against the exposure database in the cat model. If the modeled losses are above a specified threshold, the bond is triggered.
- **Industry index:** Rather than adding up the insurer's claims, the cat bond is triggered when the insurance industry loss from a certain peril reaches a specified threshold, say \$30 billion, which is determined by a third party such as PCS. A "modified index"-linked security customizes the index to a company's own book of business by weighting the index results for various territories and lines of business.
- **Parametric:** Instead of using an insurer's or the industry's actual claims, the trigger is based on certain characteristics of the covered peril. For example, the parameter may be wind speed for a hurricane bond or ground acceleration for an earthquake bond. Data for the parameter is typically collected at multiple reporting stations and then entered into a specified formula.
- **Parametric index:** Bonds with pure parametric bonds can deviate greatly from actual loss. For instance, a hurricane bond may pay out based on the wind speed at 50 of the 150 stations mentioned above, but an insurer's losses may be small because a majority of its exposure is concentrated at other locations. Some bonds have turned to the use of models that can give an approximation of loss as a function of the speed at differing locations. This information is then used to develop a payout function for the bond, known as hybrid parametric/modeled loss bonds that have lowered basis risk and provide more transparency.



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