

## Will “Harvey” Draw Investors to Reinsurance?

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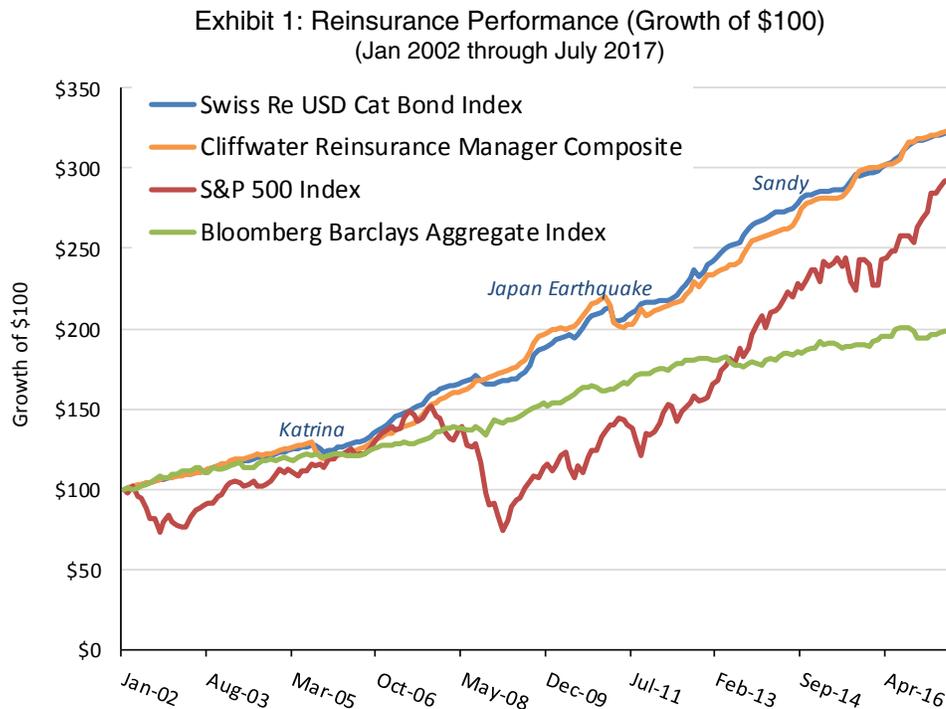
*Hurricane Harvey is the most powerful hurricane to strike Texas in 50 years, causing extensive property damage and loss of life. This will likely lead to renewed investor interest in the reinsurance sector in the hopes that cyclically low yields (premiums) might rise, offering more attractive returns.*

*Reinsurance spreads have compressed over the past several years given the lack of catastrophe events, and it remains to be seen how the damages from Hurricane Harvey will affect future reinsurance pricing. However, we believe this is a suitable time to re-evaluate the strategy and to be positioned to deploy capital should yields rise.*

### The Reinsurance Sector

The reinsurance sector offers investors compensation for assuming risks associated primarily with weather and other natural disasters. Reinsurance funds enter into contracts that pay for losses from uncertain catastrophe events in exchange for known insurance premiums. Catastrophe risk (the risk of very large losses) tends to be very capital intensive for insurers and with no natural counterparty, so a healthy risk premium is required to attract capital from the reinsurance marketplace.

The long-term attractiveness of reinsurance investments is illustrated in Exhibit 1 below:



There is no single performance benchmark covering the entire reinsurance market. However, the Swiss Re USD Cat Bond Index – an index comprised of USD-denominated catastrophe bonds – is frequently used as a reinsurance proxy. We created another measure of reinsurance returns by equal weighting the

returns for the five reinsurance funds that we rate as being of institutional quality, which we call the Cliffwater Reinsurance Manager Composite.

Exhibit 1 plots the cumulative return for our two reinsurance benchmarks together with the S&P 500 and Bloomberg Barclays Aggregate Bond Indices. Notably, our reinsurance benchmarks display similar performance, which has produced equity-like returns with markedly lower risk, and bond-like risk but with a much higher return. Secondly, our reinsurance benchmarks experienced only modest pullbacks following major catastrophes (Hurricanes Katrina and Sandy and the Japan earthquake) and during the 2008 Financial Crisis.

### *Reinsurance Investment Vehicles*

Reinsurance contracts are generally underwritten and transacted in either January or July but segments of the market are traded actively throughout the year. Reinsurance managers create diversification within their portfolios by assuming risk across geographic regions (US, Japan, Europe) and within a geographic region (Florida, Texas, New York), as well as by type of event (wind, earthquake, terrorism, etc.). The majority of the \$350 billion in total outstanding reinsurance contracts is in the syndicated market, which generally includes the most liquid and commoditized sectors but the least attractive premiums. Some reinsurance funds attempt to generate higher returns through private, illiquid transactions or in the “unmet demand” sector, which represents risk that resides on state government balance sheets but has not been transferred to the reinsurance market.

Within the reinsurance syndicated market, there are several types of investments:

- Catastrophe Bonds are the most liquid and commonly traded reinsurance investment, with Swiss Re as the dominant seller. Underwriters package catastrophe risk into a bond and then sell those bonds directly into the capital markets. Three-quarters of the catastrophe bond universe is U.S. hurricane exposed, resulting in a concentrated risk profile for the market overall. Catastrophe bonds are generally short duration, floating rate instruments that are actively traded with reasonably tight bid-ask spreads.
- Industry Loss Warranties (ILWs) are option-like contracts with loss triggers based on industry-wide claims instead of an individual company claims. The contracts are typically 6 to 12 months in duration and have limited diversification benefits.
- Traditional Reinsurance is directly sourced insurance for insurance companies (i.e. Swiss Re reinsures AIG) which requires significant analytical capabilities and access to a credit rating.
- Quota Share/Sidecars represents the proportional sharing of a reinsurer’s portfolio and investors may pay a reinsurer to access their platform.

Reinsurance funds may add value by adjusting portfolio allocations among the sectors listed above as market pricing evolves. For example, as market spreads have compressed over the past few years, reinsurance funds have reduced their exposure to the more competitive catastrophe bond and ILW sectors.

### *Reinsurance Portfolio Considerations*

The oft-mentioned benefit of a reinsurance allocation is that it is uncorrelated to both traditional and alternative asset classes. Natural disasters are events that occur with varying levels of frequency and severity and are independent of underlying macroeconomic factors. This lack of correlation is demonstrated in Exhibit 2 by the very low or negative correlations between our two reinsurance benchmarks and the S&P 500 Index in the right-most column.

While the reinsurance market has generated strong risk-adjusted returns over the last 15 years, catastrophe bond spreads have compressed from 8% following Hurricane Sandy in 2012 to around 4% at the beginning of 2017. Coincident with this spread compression is an increase in modeled expected loss rates, which were approximately 2% per annum prior to Hurricane Harvey.<sup>1</sup> These trends have reduced

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<sup>1</sup> Source: PartnerRe

returns when measured over the last three years. As a result, we have cautioned clients that over the last few years, reinsurance spreads might not have provided adequate compensation for the risk of sizeable losses following a future catastrophe event.

#### Exhibit 2: Reinsurance Returns and Correlations

	Inception Return*	Inception Risk**	Return (Last 3 Years)	Inception Correlation to S&P 500
Swiss Re USD Cat Bond Index	7.9%	2.7%	5.8%	0.17
CW Reinsurance Manager Composite	7.9%	3.3%	7.2%	-0.01
S&P 500 Index	7.2%	14.1%	10.8%	1.00
Bloomberg Barclays Aggregate Index	4.6%	3.4%	2.7%	-0.07

\* Annualized from Jan 1, 2002

\*\* Annualized standard deviation

Exhibit 3 shows performance during drawdown periods, including three major catastrophe events and the 2008 Financial Crisis.

#### Exhibit 3: Reinsurance Performance During Drawdown Periods<sup>2</sup>

	Japanese Earthquake (2011)	Hurricane Katrina (2005)	Hurricane Sandy (2012)	Financial Crisis (2008)
Swiss Re USD Cat Bond Index	-4%	-4%	-2%	-3%
CW Reinsurance Manager Composite	-8%	-8%	-1%	0%
S&P 500 Index	0%	-2%	-2%	-51%
Bloomberg Barclays Aggregate Index	0%	-2%	0%	-4%

Historically, when a material catastrophe event occurs, reinsurance spreads have widened significantly. For example, after Hurricane Katrina in 2005, spreads for industry-loss warranties (ILWs) with allowable losses of \$50 billion expanded from 4.5% to 11%.<sup>3</sup> It is important to note that most reinsurance managers believe any spread widening post-event today will be less severe and more short-lived than previous market dislocations, primarily because the reinsurance market is more competitive and post-event capital is more fluid than it has been in the past.

Cliffwater believes that contingent capital vehicles offer a compelling way for institutional investors to access the reinsurance space. Specifically, investors only commit capital to underwrite deals with spreads that are wide enough to compensate them for future risks. For example, capital may be drawn following a material catastrophe where the reinsurance manager believes that it can earn a *no-loss* net return of +10% or greater.

#### *The Potential Impact of Hurricane Harvey on the Reinsurance Market*

Hurricane Harvey is the most powerful storm to hit the continental United States since the 2005 landfall of Hurricane Katrina and it is currently impossible to know the ultimate damages from Hurricane Harvey with any degree of specificity. Many of the most adversely impacted areas of Houston are still underwater and inaccessible to assessors. However, there are some characteristics of the storm that may help mitigate reinsurance losses, notably the fact that most of the property damage appears to have been caused by flooding and not wind. Flood damage is generally not covered under residential homeowner's insurance

<sup>2</sup> Exhibit 3 shows maximum drawdowns during three catastrophe events: the Japanese earthquake (March 2011), Hurricane Katrina (September-October 2005) and Hurricane Sandy (October 2012), as well as the 2008 Financial Crisis (November 2007-February 2009).

<sup>3</sup> Source: Nephila Capital Ltd.

policies but is instead the responsibility of the federally-funded National Flood Insurance Program. Furthermore, most reinsurance funds have a minority of their geographic exposure in the state of Texas.

Cliffwater has spoken with several institutional-quality reinsurance funds following the initial landfall of Hurricane Harvey and they are reporting early loss estimates of between -1% and -3%. Interestingly, given the historically tight overall market pricing, some reinsurance funds implemented ILW hedges prior to Hurricane Harvey, which might substantially mitigate losses if overall reinsurance industry losses exceed \$20 billion.<sup>4</sup>

### *Conclusion*

The reinsurance sector has historically offered investors an uncorrelated return stream that has earned equity-like returns at bond-like risk. Cliffwater has cautioned investors that the reinsurance market is cyclical and that market pricing has been relatively unattractive over the last few years. Fortunately, there have been limited catastrophe events in recent years and reinsurance managers have continued to generate strong returns.

Hurricane Harvey is a powerful storm that has caused widespread damage throughout Texas. Nevertheless, it remains to be seen how this catastrophe will impact the return and risk profile for reinsurance strategies going forward. We will update you as the pricing picture becomes clearer.

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Managing Director

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<sup>4</sup> While some total damage estimates for Hurricane Harvey are in excess of \$100 billion, reinsurance losses are far less and currently in the \$10 to \$20 billion range, but are clearly subject to change over the next several weeks. For historical context, Hurricane Katrina caused an overall reinsurance industry loss of \$42 billion in 2005.