What's Behind The Cat Bond Craze?

How the deluge of private capital is transforming the reinsurance industry.

by Angelo John Lewis

When the $1.5-billion Everglades Re catastrophe bond transaction was completed earlier this year, it was the biggest such transaction in the history of the insurance-linked securities market.

Three aspects of the bond, which provides reinsurance coverage for Florida's state-created property insurer, Citizens Property Insurance Corp., provide a window into recent developments in the multibillion-dollar market for catastrophe bonds, the risk-linked securities that transfer a specified set of risks from a sponsor to capital market investors. Cat bonds are a major segment of the ILS market.

First, the bond was priced at a rate on line of 7.5%, which was less than half the 17.75% charged for the previous Everglades bonds issued in 2012. Overall, cat bond spreads have declined across the board, as have corresponding costs of traditional reinsurance coverage. According to an April report by Willis Re, reinsurance pricing rates as observed by the January renewals had softened by as much as 20% across the board on almost all lines.

Second, Citizens' involvement heralded the recent emergence of quasi-governmental or state-sponsored entities, an arena historically dominated by large insurers and reinsurers. Although the latter group still initiates the majority of transactions, each year the number of the emergent group grows. Examples include last year's Bosphorus 1 Re Ltd. $400-million catastrophe bond for transferring earthquake risks in Turkey on behalf of the Turkish Insurance Catastrophe Insurance Pool; and this year's Hannover Rück SE $300-million instrument to cover Texas named storms on behalf of the reinsured Texas Windstorm Insurance Association.

Third, the Citizens deal used an indemnity trigger, or one which would pay out on the cedent's actual loss. By June of this year, about 75% of triggers or attachment points used this form of attachment point. In the early days of the market, many of the deal structures were index-based, and sponsors were left with basis risk and with a mismatch between their actual losses and an index.

"The use of indemnity triggers negates any calculation of basis risk, although certain companies still use purely non-indemnity triggers," said A.M. Best Senior Financial Analyst Asha Attoh-Okine. "I wouldn't be surprised if indemnity triggers remain the dominant form."

The increased use of indemnity triggers is significant because they mirror the trigger types of reinsurance coverage and thus remove what ceding insurers might view as an obstacle to considering the issue of cat bonds as a risk transfer mechanism.

The expansion of the catastrophe bond industry, marked by record new issuances in the first half of this year (see chart), is one

Key Points

- **The Trend:** New sponsors and investors are expanding the cat bond market.
- **Behind the Trend:** Improvements in climate modeling have boosted investor confidence.
- **The Future:** Because ILS is non-correlated, it's an asset class that's likely to remain in hedge fund and pension portfolios.

Catastrophe Bond Issuance P/C Related Risks

Year	Amount ($ millions)	% Change From Prior Year
2014	5,436.4*	
2013	7,313.8	24.42%
2012	5,878.1	37.36%
2011	4,279.4	-0.45%
2010	4,298.8	26.50%
2009	3,398.4	24.54%
2008	2,728.7	-63.27%
2007	7,429.6	58.30%
2006	4,693.4	135.72%
2005	1,991.1	74.23%
2004	1,142.8	-33.93%
2003	1,729.8	41.85%
2002	1,219.5	23.83%
2001	984.8	-13.54%
2000	1,139.0	17.80%
1999	966.9	14.28%
1998	846.1	33.67%
1997	633.0	n.a.

*midyear
Source: A.M. Best Company

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—Shinji Ueda, Holborn

manifestation of the influx of capital from third-party investors, such as hedge funds and pension funds, into the reinsurance space.

Coming Through Many Doors

Investors have entered into reinsurance in multiple ways. These include buying shares of reinsurance companies, starting up new ones, hiring ILS-oriented management teams or participating in cat bond or other ILS transactions.

"The reinsurance space as an asset class is becoming more and more acceptable to more and more people," said Chris Dittman, a partner with Stamford, Conn.-based TigerRisk reinsurance brokerage.

"There's a multitude of reasons for it, not the least of which is the fact that historically there has been little correlation to other asset classes. Hurricane events and earthquake events don't correlate to stock market changes, so the uncorrelated risk helps with the diversification of some of these larger investment portfolios."

Factors that drive increased cat bond investment include advances in climate modeling, higher rates of return versus other asset classes, and the relatively low level of insured catastrophe-related losses in recent years.

"I think there's a certain amount of complacency out there right now," said Shinji Ueda, vice president of Holborn, a New York-based reinsurance brokerage firm. "There have been a few losses in the cat-bond space, but there haven't been any significant events in highly cat-bond exposed areas, like a Florida cat event. And, when you haven't had a loss and you're in cat bonds, you feel like you're investing safely as a result."

Cat-bond investors haven't experienced major bond losses since March 2011, when the Tohoku earthquake in Japan caused $300 million in losses for securities issued by Muteki Ltd. that helped cover earthquake risks taken on by German reinsurer Munich Re.

To date, there have been no reported cat bond triggers for Hurricane Sandy, which struck the East

Catastrophe Bonds Transactions Closed by Mid-Year, 2014 - Property and Casualty Related Risks

Vehicle	Sponsor	Capital Amount (US$ millions)[1]	Peril Type	Modeler	Trigger
Residential Re 2014 Ltd.	USAA	130.00	U.S. tropical cyclones, earthquakes, severe thunderstorms, winter storms, wildfire, meteorite impact, volcanic eruption	AIR	Indemnity
Sanders Re Ltd. - 2	Allstate	200.00	Florida named storms, earthquakes, severe thunderstorms	AIR	Indemnity
Nakama Re Ltd.	Zenkyoren	300.00	Japan earthquake	AIR	Indemnity
Aozora Re Ltd.	Sompo Japan & Nipponkoa Ins. Co.	98.78[2]	Japan typhoon	AIR	Indemnity
Sanders Re Ltd.	Allstate	750.00	U.S. named storms (excluding Florida) and earthquakes	AIR	Non-indemnity
Armor Re Ltd.	American Coastal Insurance Co.	200.00	Florida hurricane (named storms)	AIR	Indemnity
Everglades Re Ltd.	Florida Citizens Property	1,500.00	Florida hurricane	AIR	Indemnity
Market Re Ltd.	Unknown Florida-domiciled Insurer	10.00	Florida named storms		Indemnity
Kilimanjaro Re Ltd.	Everest Re	450.00	U.S. named storms and U.S. earthquakes	AIR	Non-indemnity
Lion I Re Ltd.	Assicurazioni Generali	262.62[3]	European windstorms	RMS	Indemnity
Citrus Re 2014-2	Heritage Property & Casualty Ins. Co.	50.00	U.S. named storms (Florida)	AIR	Indemnity
Citrus Re Ltd.	Heritage Property & Casualty Ins. Co.	150.00	U.S. named storms (Florida)	AIR	Indemnity
Riverfront Re Ltd.	Great American Ins. Co.	95.00	Named storms, earthquake, severe thunderstorms, U.S. and Canada winter storms	RMS	Indemnity
Merna Re V Ltd.	State Farm	300.00	U.S. earthquake (affecting designated states)	RMS	Indemnity
Kizuna II Re Ltd.	Tokio Marine & Nichido Fire Ins. Co.	245.00	Japan earthquake	AIR	Indemnity
Gator Re Ltd.	American Strategic Ins. Group	200.00	U.S. named storms and severe thunderstorm	AIR	Indemnity
East Lane Re VI Ltd.	Chubb	270.00	U.S. named storms, earthquakes, severe thunderstorm and winter storms	RMS	Indemnity
Queen Street IX Re Ltd.	Munich Re	100.00	U.S. hurricane and Australian cyclones	AIR	Non-indemnity
Skyline Re Ltd.	Cincinnati Insurance Co.	100.00	U.S. earthquake and severe storms		Indemnity
Shima Re - Omamori	Tokio Millennium Re AG	25.00	U.S. earthquakes and U.S. named storms (Second Event)		Non-indemnity
Total		**5,436.40**			

Notes:
[1] Capital amount includes both rated and unrated debt.
[2] U.S. dollar equivalent of ¥10.125 billion debt at closing date.
[3] U.S. dollar equivalent of €190 million debt at closing date.
Source: A.M. Best Company research

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AIR Worldwide

Coast as a post-tropical storm in 2012. Sandy caused $18.75 billion in insured property losses, excluding claims covered by the federal flood insurance program, according to the Insurance Information Institute.

Despite the tightening of spreads—for example, U.S. wind cat bonds with a 2% expected loss were trading at roughly 600 basis points at year-end 2013, as compared to 850 basis points 12 months earlier, according to Munich Re—investors keep pouring money into the cat bond space.

"From the investor's point of view, it's probably not as great of an investment as it was a few years ago, but at the same time, it's yield and it's non-correlated, and that's an attractive thing right now in a low interest rate environment," Ueda said.

The growth of the cat bond space is also evidenced by its increased geographic reach and range of perils covered.

Although the vast majority of 2013-14 issuances have been in the United States, the period also saw new cat bonds for European windstorms, Japanese earthquakes and Australian cyclones.

The same period saw a small number of new perils, beyond the usual hurricane and earthquake risks: these included MetroCat Re Ltd. (Series 2013-1), which provides the New York Metropolitan Transportation Authority with $200 million of coverage for storm surge risks, and Residential Reinsurance 2014 Ltd. (Series 2014-1), a $130 million bond sponsored by USAA.

The latter includes coverage for U.S. losses from meteorite impacts and for volcanic eruptions.

"I think it's going to be an expansion of perils, beyond just the peak perils," said Chi Hum, global head of ILS distribution for GC Securities. "It's going to be expansion of risk beyond just property cats, and it's going to be expansion of ceding companies beyond just reinsurance and insurance clients."

Expansion Plans

Another factor that drives the evolution of the ILS and cat bond industry is advancements in catastrophe modeling, which has led to increased investor comfort in participating in indemnity trigger deals. "Over the past three to five years, detailed modeling to support indemnity trigger transactions has become more increasingly adopted across all areas of the insurance value chain," said John McIlwaine, vice president of AIR Worldwide, a catastrophe modeling firm.

AIR Worldwide's senior vice president John Newbold believes continued developments in the industry will likely lead to new types of catastrophe bond transactions, possibly involving perils such as India tropical cyclone and Australian bush fire.

"The market is still dominated by U.S. hurricane risk, but people are seeing the availability of capacity in these other perils. It's not just that the models have evolved, as much as the market is evolving to get comfortable with the models," he said. (For more on modeling, see "The Rise of the Supermodels" on page 16 of this issue.)

"At this point, there are investors who have been investing since 1995 and 1996," Hum added. "And they have enough years' experience so that they're going beyond property cat and looking at other lines of business and other risk. It's really our challenge as dealers to find a way to match up the interests that are expanding beyond peak perils."

Despite the growth of the catastrophe bond and ILS industries, that growth is greatly exceeded by the market capacity of the traditional reinsurance industry.

Amount of Catastrophe Bonds Issued by Quarter

US$ millions

Quarter/Year	2014	2013	2012	2011	2010	2009	2008	2007
1st Q	1,335.00	581.20	1,343.00	1,015.00	300.00	575.00	614.66	482.50
2nd Q	4,101.40	3,353.49	2,117.78	592.00	2,050.00	810.60	1,794.00	3,545.20
3rd Q		1,505.00	529.14	685.59	232.12	411.80	320.00	1,355.85
4th Q		1,874.09	1,888.19	1,986.81	1,716.67	1,600.98	0.00	2,046.00
Total	**5,436.40**	**7,313.78**	**5,878.11**	**4,279.40**	**4,298.79**	**3,398.38**	**2,728.66**	**7,429.55**

Source: A.M. Best Company research

Percentage of Catastrophe Bonds Issued by Quarter

Quarter/Year	2013	2012	2011	2010	2009	2008	2007
1st Q	8.8%	30.8%	18.2%	9.5%	16.7%	23.1%	9.4%
2nd Q	44.1%	30.8%	18.2%	38.1%	33.3%	61.5%	53.1%
3rd Q	23.5%	11.5%	22.7%	9.5%	11.1%	15.4%	9.4%
4th Q	23.5%	26.9%	40.9%	42.9%	38.9%	0.0%	28.1%
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: A.M. Best Company research Note: Numbers may not add to 100 due to rounding.

“We estimate alternative capacity to be approximately 16% of the overall market capacity, which means that traditional reinsurance is 84% of the overall market,” said Cory Anger, global head of ILS structuring for GC Securities, in an interview with *Best’s Review* last year.

But the encroachment of alternative capacity into traditional reinsurance turf is dramatically changing the dynamics of the reinsurance industry.

“This external threat of vast capital is concerning and could be a game changer,” was the verdict rendered by the November 2013 A.M. Best Special Report, *Stuck in the Middle: Reinsurers Face Converging Capital, Rising Retentions*. “The heightened interest and the pace of entry with regard to third-party capital have gained momentum, especially given the low yield environment that currently plagues investors. This external capital is vast and becoming more comfortable with (re)insurance risks. It is very likely to continue to increase its presence.”

Traditional reinsurers have responded in a number of ways. They’ve lowered prices, offered cat-bond-like features and expanded their own footprint in the ILS space.

“I think they’ve reacted in an aggressive fashion,” Dittman said. “We saw last year a lot of reinsurers trying to offer cat-bond-like products, where they would offer up multiple-year solutions, one limit over multiple years and more flexible terms.”

“I think a lot of the traditional markets have come to the realization that if you can’t beat them, you should join them,” Ueda added.

“And I think, with the exception of one or two publicly traded reinsurers out there right now, they all have some sort of vehicle for accessing capital in the form of cat bonds, sidecars or direct investments. Some actually invest in cat bonds, while others sponsor their own cat bonds. I’m seeing a transition where reinsurers are trying to use their rated capital as efficiently as possible.”

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At the same time, traditional reinsurers have the advantage of long-time relationships with their clients, and the concurrent perception that because they value these relationships they’ll cover any gray or vague areas of coverage that might arise after loss.

“If you look at a traditional reinsurance contract, it’s relatively short. It might be as short as 10 pages. Whereas when you look at catastrophe bonds containing thousands of pages of documentation, you realize the difference in perspective between a reinsurer and an investor in a cat bond,” Ueda continued.

“With traditional reinsurance, there is the underlying principle of utmost good faith. But with the cat bond market, there’s the sense that it’s more transactional in nature. What happens if there’s something as simple as a typo? Can the investor get out of paying a loss? With a reinsurance transaction, that’s less of an issue.”

Ueda added, “There’s a general understanding of what you’re insuring or reinsuring and what you’ll be paying out for. If there’s a mistake in the contract, the reinsurer and cedant should be able to resolve the issue in light of the ongoing relationship.”

Hum looks at this issue a bit differently.

“There’s this perception that even if it’s not covered, we’ll pay you because of our relationships. Well, the bond markets used to act that way years ago; in fact, the expression, ‘my word is my bond,’ came from the bond market. They would just shake hands and not have documents,” Hum said.

“That existed for a while until it got to the scale that the parties no longer knew each other that well anymore. And I think that we’re getting to that point in the reinsurance world where it’s outgrown that phase.”

The issue of where alternative capital best fits within reinsurance is far from settled.

Where it will eventually sort out, Hum believes, is the recognition that alternative capital instruments are better equipped than traditional reinsurance to deal with tail risk.

“It’s a different stage of the reinsurance market. And just looking at this business, it’s been profitable and great for reinsurers; but there has to be a market element in terms of coming up to global standards. We’re not going to replace the reinsurers, because the reinsurers have incredible knowledge about risks and the behavior of reinsurance markets that they can capture in their pricing.”

Hum continued: “But there’s a huge part of that risk tower that they’re not efficient at writing, and that’s the remote stuff, the more capital-intensive stuff. And that works really well in the context of a much larger capital market pool. If you’re writing a remote layer—a one in 100-year event—that’s where the big one hits. That’s where counterparty risk matters, where collateral matters, that’s when size matters.” BR