Insurance-Linked Securities (ILS)
Market Review 2012 and
Outlook 2013

Munich RE

Market Review 2012

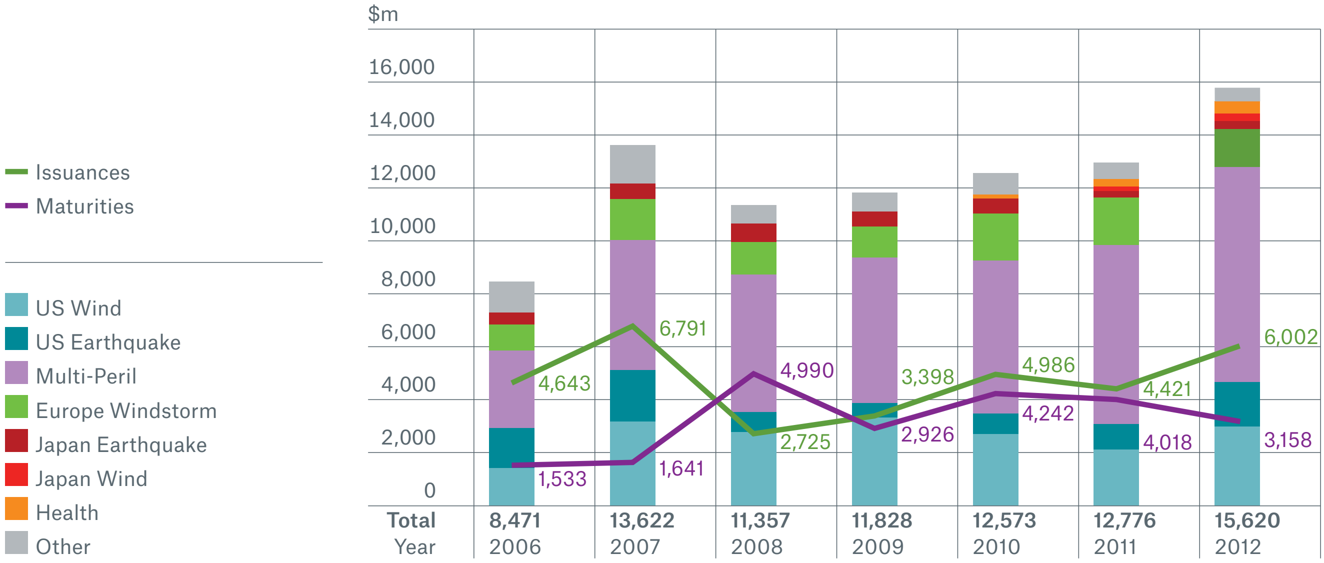
Relative value of cat bonds drives investor demand and pushes the market to record size

With $15.6bn of outstanding capacity, the cat bond market has reached a record size at year-end 2012. Total issuance amounted to $6bn, the second highest issuance volume in the history of the market, and exceeded maturities by almost $2.9bn, leading to significant growth in overall outstanding capacity.

Several sponsors – established market players and new sponsors – capitalized on the strong liquidity among investors. Several cat bond placements were upsized from their initial volume guidance, allowing sponsors to lock in extensive multi-year capacity at attractive terms. Overall cat bond upsizing in 2012 amounted to 57% (cf. graph on page 9), a sign of persistent excess liquidity among investors.

The majority of cat bonds once again came from US strategic sponsors. In addition, Country Mutual, the North Carolina Farm Bureau, and Florida Citizens Property Insurance were three new sponsors with successful cat bond transactions in 2012. Non-US exposure in 2012 came mainly from Japanese insurers and from reinsurers seeking protection for European windstorm via multi-peril bonds.

Outstanding and Issued Cat Bond Volume ($m, excl. Mortality Bonds)*



* Cat bonds with €-denomination were converted into $-amounts using the exchange rate on the respective day of issuance

Market Review 2012

The fourth quarter saw $1.9bn of cat bonds placed from an array of perils, including US wind and earthquake, Europe windstorm, and Mexican earthquake and hurricane. Munich Re contributed strongly to this outcome, with transactions for our own book and for our clients, too:

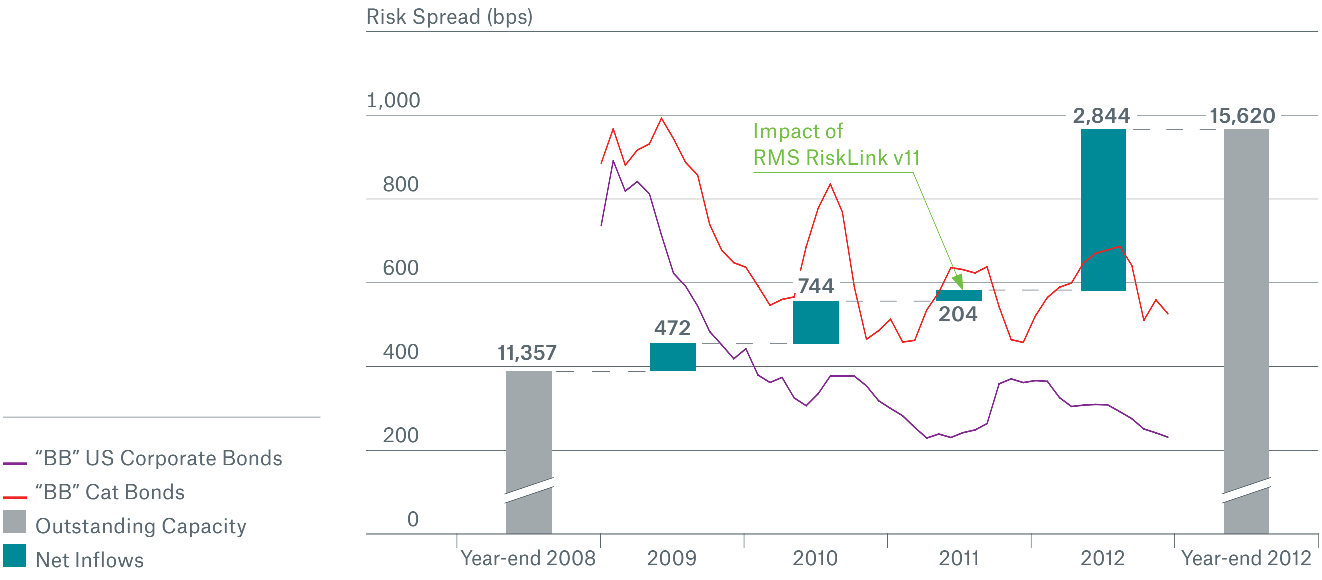
- Lakeside Re III Ltd.: $270m issuance from Zurich's "Lakeside Re" cat bond program covering US and Canada earthquake on an aggregate indemnity basis. Munich Re acted as joint lead structurer and co-placement agent in the EU and Switzerland. Placement among a broad group of investors allowed an upsize in the bond's volume and a price at the low end of initial guidance. In addition, Munich Re's money-saving in-house US T-Bill fund was implemented as collateral solution

- MultiCat Mexico 2012 Ltd.: $315m placement provided the Mexican Government with hurricane and earthquake protection on a parametric basis. Munich Re acted as co-lead structurer, providing significant input for the trigger and coverage mechanism. A highly oversubscribed book led to a risk spread significantly below initial price guidance

- Queen Street VII Re Ltd.: Munich Re's seventh transaction from its "Queen Street Re" program provided coverage to Munich Re for US hurricane and Europe windstorm using industry loss triggers. Munich Re kept the volume small at $75m to apply pressure on pricing and lock in an attractive rate for a multi-peril bond

General demand for new issuances was mainly driven by dedicated cat funds, which have seen continuous cash inflows from end investors as a result of the low yield environment in corporate debt markets. The graph below illustrates a continuing yield advantage of "BB"-rated cat bonds relative to "BB"-rated US corporate bonds; this has contributed to an increasing net capital inflow into the market, with the exception of 2011, where the RMS model update led to uncertainty in the market and a downturn in issuance. For 2012, however, total capital allocated to cat bonds by investors exceeded the reinvestment need from maturing cat bonds by almost $2.9bn, with dedicated cat funds seeking to deploy significant cash inflows from investors, allowing sponsors to reduce risk spreads and increase placed volumes.

Relative Investment Value of ILS* vs. Market Inflows ($m, excl. Mortality Bonds)**



* Source for "BB" US Corporate Bonds: Bloomberg
** Cat bonds with €-denomination were converted into $-amounts using the exchange rate on the respective day of issuance

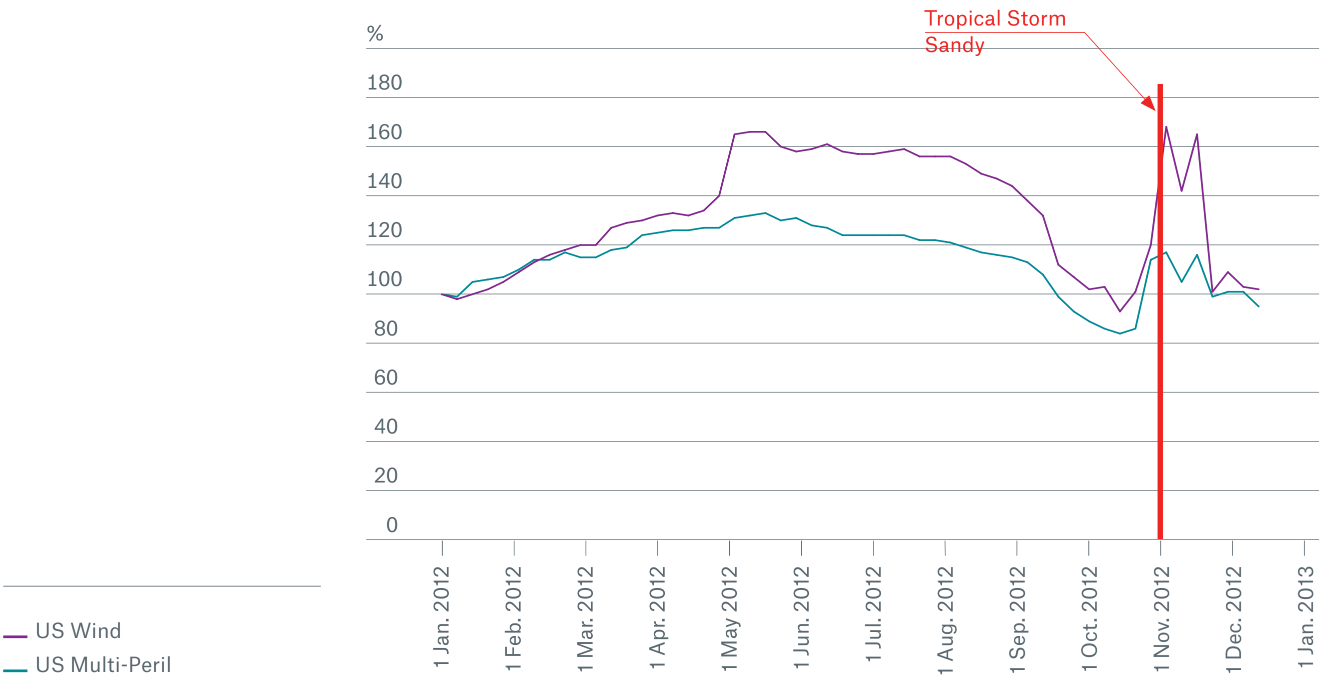
Market Review 2012

Cat bond market shrugs off Tropical Storm Sandy, with no lasting repercussions for pricing and volume

Tropical Storm Sandy, which made landfall near Atlantic City, New Jersey on October 29th, caused temporary uncertainty in both the traditional markets as well as the cat bond market. Several cat bonds with Northeast wind exposure traded at a substantial discount in the secondary market, leading to a peak in risk spreads for US wind and US multi-peril bonds. Yet, as industry loss estimates came out lower than initially expected, pricing quickly bounced back to the levels seen before Sandy.

The primary cat bond market experienced no negative impact from Sandy in the pricing of new issuances. Those transactions with US wind exposure that were placed after Sandy – USAA's Residential Re Ltd. Series 2012-II and Chartis' Compass Re Ltd. Series 2012-1 – were successfully placed at pre-Sandy rate levels. Moreover, Residential Re Series 2012-II was upsized by 60% across all tranches and placed at the lower end of initial price guidance.

Cat Bond Risk Spreads (Indexed)*



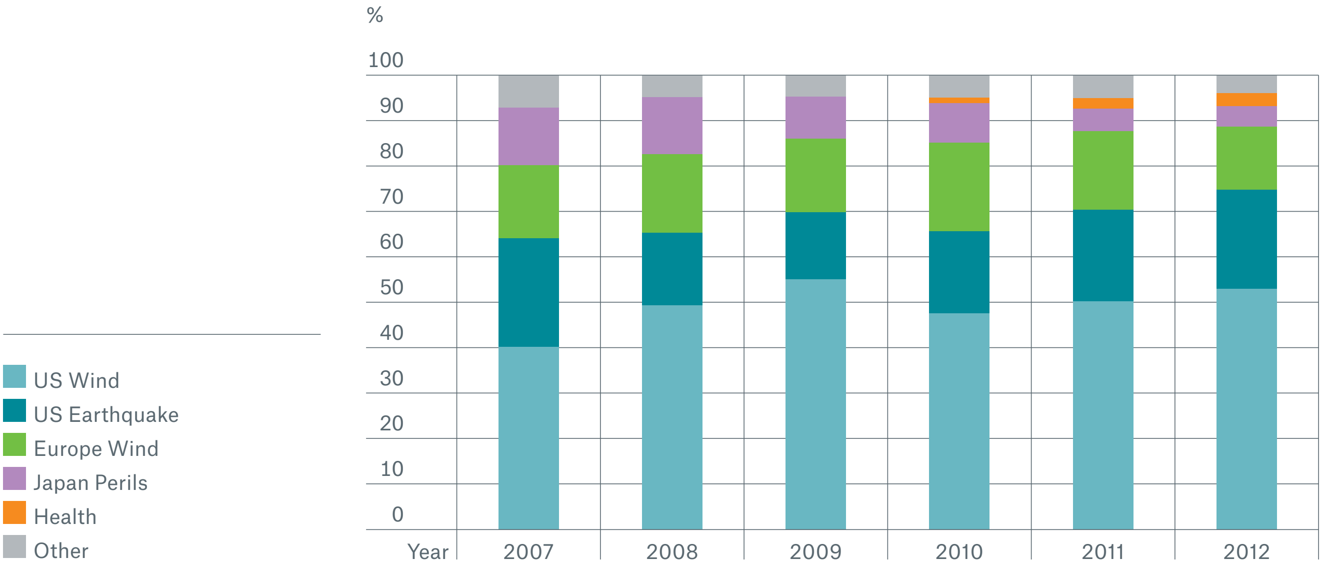
* Based on spreads derived from secondary market trades

Market Outlook 2013

Market remains biased towards US perils, with implications on pricing

With issuance in 2012 once again dominated by US sponsors seeking protection for US hurricane and earthquake, investor portfolios remain strongly skewed towards US peak perils. While market conditions remain attractive for diversifying perils such as Europe windstorm and Japanese earthquake, only a minority of non-US insurers have so far utilized capital markets to acquire reinsurance protection. The graph below illustrates that the contribution of US perils to the total capacity outstanding in the market and hence to investor portfolios has even increased over the last six years.

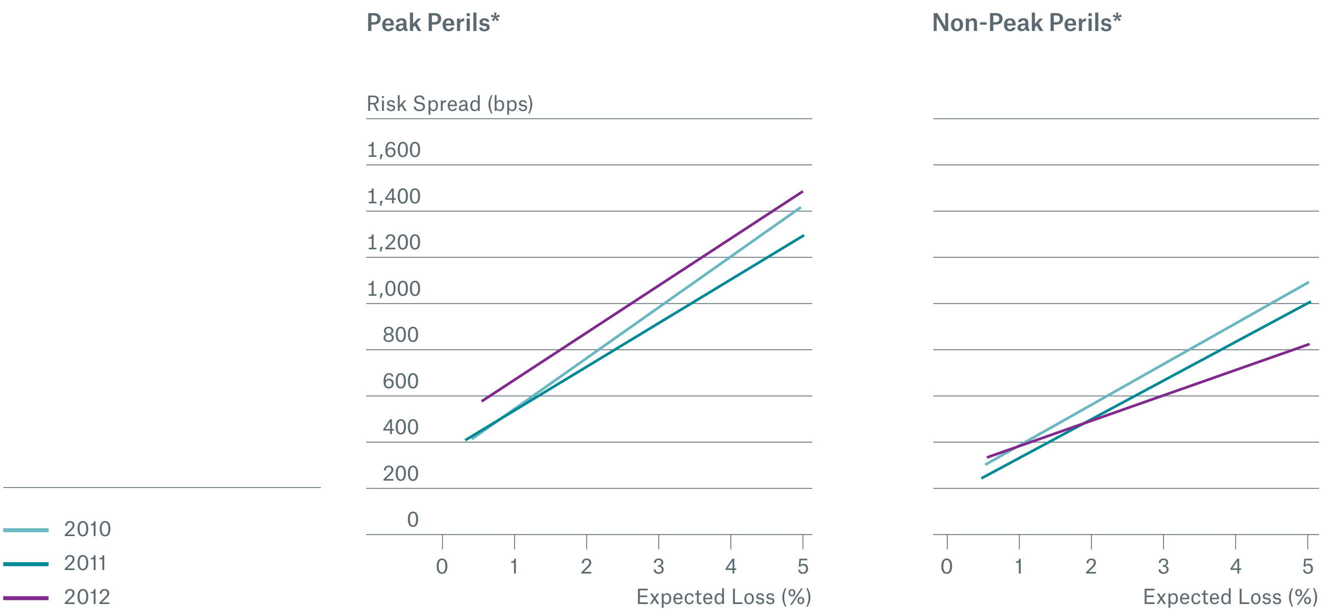
Outstanding Cat Bond Capacity Split into Perils



This exposure distribution has strong implications for pricing: while capacity is widely available owing to the substantial cash positions among dedicated cat funds, a look at primary market pricing over the last three years reveals that return requirements for US issuances among investors have slightly risen over the last three years. Non-peak perils on the other hand, have seen a decrease in pricing as investors are willing to accept lower risk spreads for these risks in order to diversify their portfolios.

Market Outlook 2013

Cat Bond Pricing (at issuance)

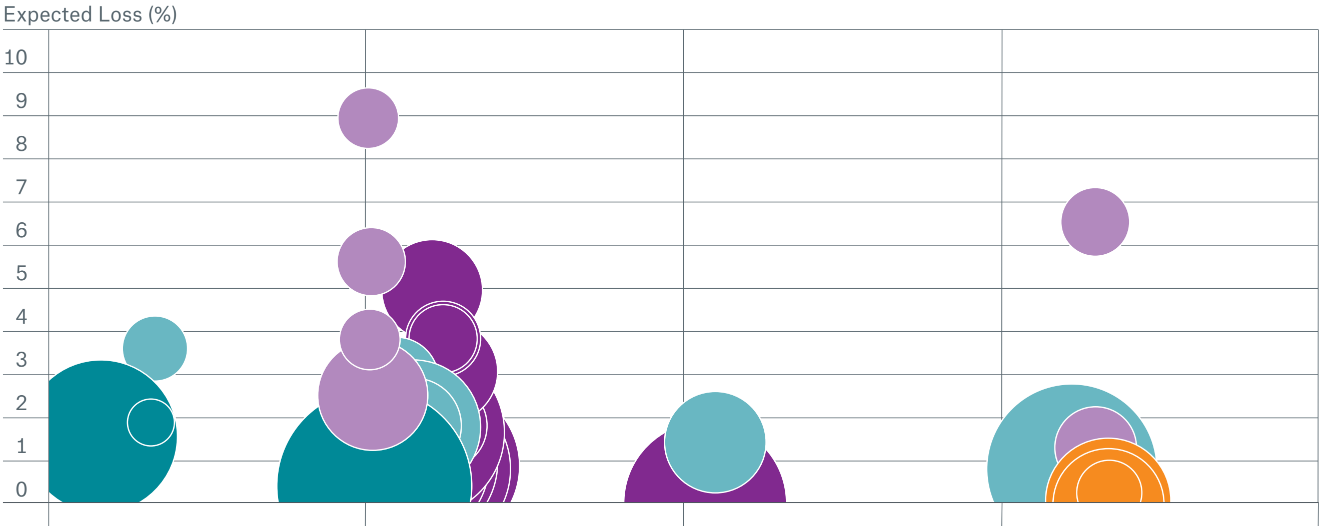


* Peak perils are US hurricane and US earthquake, non-peak perils are Pacific hurricane in Mexico, European and Japanese windstorm, and Japanese and Mexican earthquake

Therefore, we expect excellent placement conditions for diversifying perils throughout 2013, including US issuances with a limited geographic coverage area. As to US nationwide issuances, timing will be crucial for large-scale covers. $2.5bn of cat bonds – primarily US risks – mature at the beginning of the second quarter of 2013, which will lead to substantial reinvestment need for investors. Insurers targeting cat bond placements at this point of the year should encounter attractive conditions in the market. Munich Re estimates overall issuance volume in 2013 to be comparable to 2012, so that issuances are again expected to exceed maturities and the volume of outstanding bonds should increase.

Market Outlook 2013

Upcoming Maturities ($m)



Q1 2013		Q2 2013		Q3 2013		Q4 2013	
US Wind	40	US Wind	455	US Wind	96	US Wind	250
US Earthquake	245	US Multi-Peril	1,505	US Multi-Peril	250	Multi-Peril Multi-Region	106.5
		US Earthquake	350			Health	300
		Multi-Peril Multi-Region	230				
Total	**285**	**Total**	**2,540**	**Total**	**346**	**Total**	**656.5**

US Multi-Peril
Multi-Peril Multi-Region
US Earthquake
US Wind
Health

Increased investment pressure and reinsurance know-how among investors will continue to enable efficient placement of non-standard structures

The shift of the ILS investor base from hedge funds and other opportunistic investors towards specialized cat funds has led to higher receptivity in the market for instruments with non-standard features. Most fund managers in the market have reinsurance backgrounds and are familiar with various coverage structures used in the traditional reinsurance market. The current investor base is therefore well-equipped to assess insurance portfolios and exposure characteristics of cat bond sponsors.

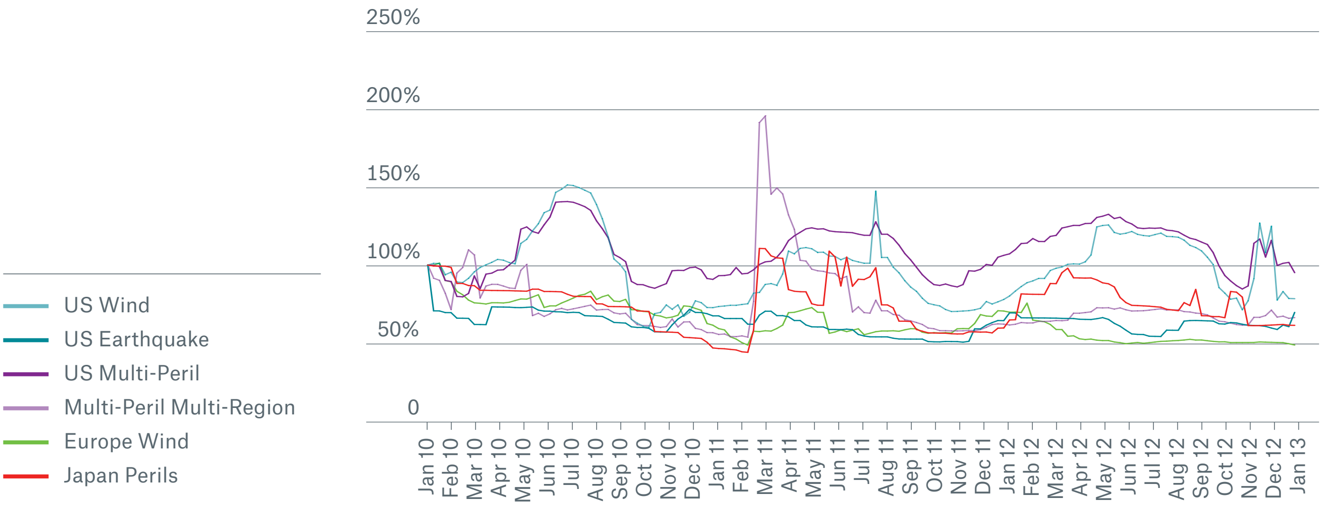
Market Outlook 2013

Issuance Split into Trigger Types

Hence, the scope of cat bond offerings has changed somewhat from straightforward, transparent structures with synthetic, non-indemnity triggers to a wider array of customized payout mechanisms primarily using indemnity triggers. The graph above illustrates the increasing acceptance of cat bonds placed with indemnity triggers over the last four years; such bonds are no longer priced with a significant markup to non-indemnity-based cat bonds. During that time, the market has also seen a growing number of cat bonds with aggregate payout mechanisms, second event covers and drop-down features. High cash positions coupled with an increased reinsurance background among funds should therefore continue to enable sponsors to place more complex structures with indemnity triggers in 2013.

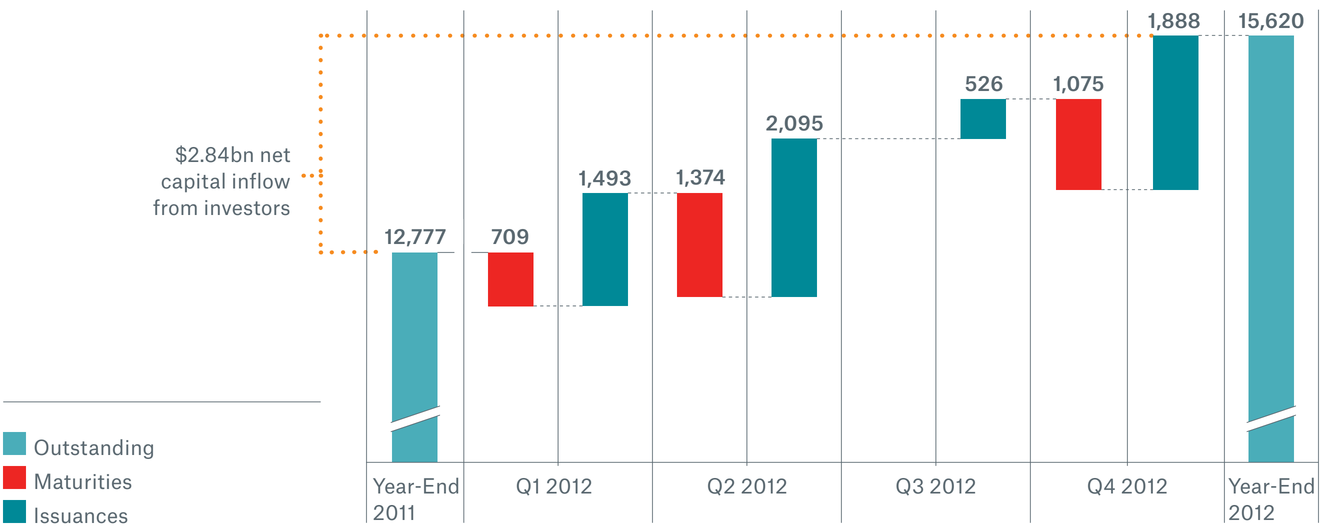
Market Factsheet

Cat Bond Risk Spreads (Indexed)*



* Based on spreads derived from secondary market trades

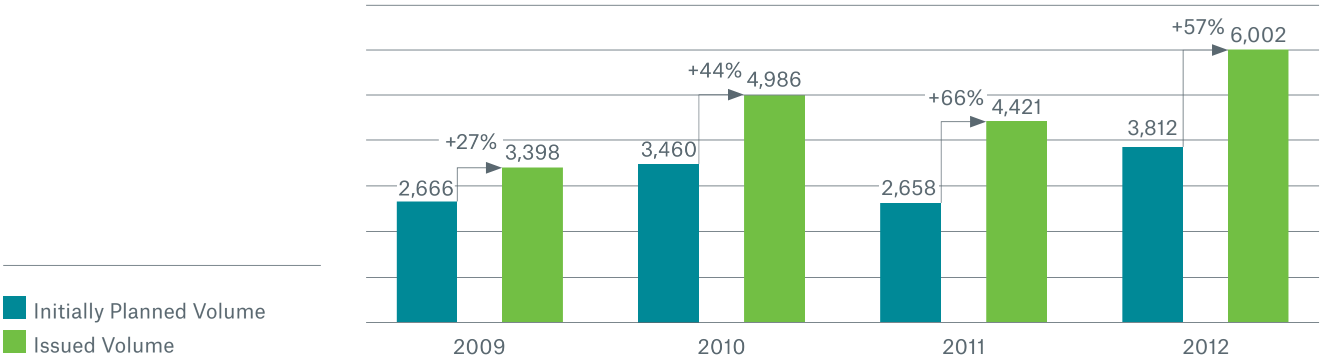
ILS Market In-/Outflows ($m, excl. Mortality Bonds)*



* Cat bonds with €-denomination were converted into $-amounts using the exchange rate on the respective day of issuance

Market Factsheet

Planned vs Issued Volumes ($m, excl. Mortality Bonds)*



* Cat bonds with €-denomination were converted into $-amounts using the exchange rate on the respective day of issuance

Market Factsheet

ILS Issuances 2012 (I/II)

	Transaction		Cedent	Size ($m)	Covered perils	Expected loss (%)	Trigger	Pricing (bps)	Maturity	Collateral solutions
Q1 2012	Vitality Re III Ltd.	Series 2012-1 Class A	Aetna	105	Health	0.01	Medical Benefit Ratio	MMF + 420	January 2015	US MMF
		Series 2012-1 Class B		45		0.23		MMF + 620		
	Successor X Ltd.	Series 2012-1 Class V-D3	Swiss Re	40	US Hurricane	2.91	PCS	MMF + 1,100	January 2015	US MMF
		Series 2012-1 Class V-AA3		23	US Hurricane/ Europe Windstorm	5.59	PCS/Perils	MMF + 1,650		
	Ibis Re II Ltd.	Series 2012-1 Class A	Assurant	100	US Hurricane	2.33	PCS	MMF + 835	February 2015	US MMF
		Series 2012-1 Class B		30		4.95		MMF + 1,350		
	Kibou Re Ltd.		Zenkyoren	300	Japan Earthquake	0.79	Parametric	MMF + 525	February 2015	US MMF
	Embarcadero Re III Ltd.	Series 2012-I Class A	CEA	150	US Earthquake	2.25	Indemnity	MMF + 725	February 2015	US MMF
	Mystic Re III Ltd.	Series 2012-1 Class A	Liberty Mutual	100	US Hurricane/ US Earthquake	1.49	Indemnity	MMF + 900	March 2015	US MMF
		Series 2012-1 Class B		175		2.37		MMF + 1,200		
	Queen Street V Re Ltd.		Munich Re	75	US Hurricane/ Europe Windstorm	1.95	PCS/ PERILS	MMF + 850	March 2015	US MMF
	East Lane Re V Ltd.	Series 2012 Class A	Chubb	75	US Hurricane/ Severe Thunderstorm	1.54	Indemnity	MMF + 900	March 2016	US MMF
		Series 2012 Class B		50		2.13		MMF + 1,075		
	Combine Re Ltd.	Class A	Country Mutual & North Carolina Farm Bureau	100	US Hurricane/ US Earthquake/ Thunderstorm/ Winterstorm	0.01	Indemnity	MMF + 450	January 2015	US MMF
		Class B		50		0.62		MMF + 1,000		
		Class C		50		2.45		MMF + 1,775		
Q2 2012	Blue Danube Ltd.	Class A	Allianz	120	US Hurricane/ US Earthquake/ Caribbean/ Mexican Hurricane	0.59	PCS	MMF + 600	April 2015	US MMF
		Class B		120		1.77		MMF + 1,075		
	Akibare II Ltd.	Series 2012-1 Class A	MSI	130	Japan Typhoon	1.04	Modeled Loss	MMF + 375	March 2016	US MMF
	Pelican Re Ltd.	Series 2012-1	Louisiana Citizens Prop. Ins.	125	US Hurricane	3.54	Indemnity	MMF + 1,375	April 2015	US MMF
	Everglades Re Ltd.	Series 2012-1	Citizens	750	US Hurricane	2.53	Indemnity	MMF + 1,775	April 2015	US MMF
	Mythen Ltd.	Series 2012-1 Class A	Swiss Re	50	US Hurricane	1.23	PCS	LIBOR + 850	May 2015	IBRD Puttable Notes
		Series 2012-1 Class E		100		0.9		LIBOR + 800		
		Series 2012-1 Class H		250	US Hurricane/ Europe Windstorm	2.44		LIBOR + 1,100		
	Residential Re 2012 Ltd.	Series 2012-I Class 7	USAA	40	US Hurricane/US Earthquake/ Thunderstorm/ Winterstorm/Wildfire	6.94	Indemnity	MMF + 2,200	June 2016	US MMF
		Series 2012-I Class 5		110		0.58		MMF + 800		
		Series 2012-I Class 3		50		1.82		MMF + 1,000		
	Long Point Re III Ltd.	Series 2012-1 Class A	Travelers	250	US Hurricane	0.88	Indemnity	MMF + 600	June 2015	US MMF
Q3 2012	Queen Street VI Re Ltd.		Munich Re	100	US Hurricane/ Europe Windstorm	2.92	PCS/ PERILS	MMF + 1,035	March 2015	US MMF
	Embarcadero Re Ltd.	Series 2012-II Class A	CEA	300	US Earthquake	0.78	Indemnity	MMF + 500	August 2015	MMF
	Eurus III Ltd.	Series 2012-1 Class A	Hannover Re	126*	Europe Wind	1.59	PERILS	EURIBOR + 375	April 2016	EBRD Puttable Notes

Market Factsheet

ILS Issuances 2012 (II/II)

	Transaction		Cedent	Size ($m)	Covered perils	Expected loss (%)	Trigger	Pricing (bps)	Maturity	Collateral solutions
Q4 2012	**MultiCat Mexico 2012 Ltd.**	**Class A**	FONDEN	140	Mexico Earthquake	4.40	Parametric	MMF + 800	December 2015	US MMF
		Class B		75	Atlantic Hurricane	2.73		MMF + 775		
		Class C		100	Pacific Hurricane	4.36		MMF + 750		
	Queen Street VI Re Ltd.		Munich Re	75	US Hurricane/Europe Windstorm	2.92	PCS/ PERILS	MMF + 860	March 2016	US MMF
	Mythen Re Ltd.	**Series 2012-2 Class A**	Swiss Re	120	US Hurricane/Mortality	2.20	PCS/ Mortality Index<	LIBOR + 850	January 2017	IBRD Puttable Notes
		Series 2012-2 Class B		80	US Hurricane	4.28	PCS	LIBOR + 1,175	November 2016	
	Atlas Re VII Ltd.	**Class A**	SCOR	60	US Hurricane/ US Earthquake	1.73	PCS	LIBOR + 800	January 2016	EBRD Puttable Notes
		Class B		168**	Europe Windstorm	1.4	PERILS	EURIBOR + 365		
	Residential Re 2012 Ltd.	**Series 2012-II Class 1**	USAA	155	US Hurricane/ US Earthquake/ Thunderstorm/ Winterstorm/Wildfire	0.48	Indemnity	MMF + 450	December 2016	US MMF
		Series 2012-II Class 2		70		0.91		MMF + 575		
		Series 2012-II Class 3		95		3.67		MMF + 1,275		
		Series 2012-II Class 4		80		7.61		MMF + 1,900		
	Lakeside Re III Ltd.		Zurich	270	US & Canada Earthquake	2.04	Indemnity	MMF + 800	January 2016	US MMF
	Compass Re Ltd.	**Series 2012-I**	Chartis	400	US Hurricane/ US Earthquake	4.14	PCS	MMF + 1,425	January 2015	US MMF

* €100m
** €130m

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