



Q1 2021 Catastrophe Bond & ILS Market Report

Upsizing and price declines
underpin busy start to the year

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INTRO

This report reviews the catastrophe bond and insurance-linked securities (ILS) market at the end of the first-quarter of 2021, looking at new risk capital issued and the composition of transactions completed during the quarter.

As this report highlights, one of the hallmarks of Q1 2021 issuance has been the pricing of 144A catastrophe bond transactions. The Artemis Deal Directory shows that during the quarter, all but one tranche of successful 144A property catastrophe bond notes saw pricing decline to below the mid-point of initial guidance.

Catastrophe bond and related ILS issuance amounted to \$4.63bn as at the end of Q1, making it the third time in the past four years that Q1 issuance has surpassed the \$4bn mark. Although down on the record-breaking \$5bn issued in the opening quarter of last year, issuance still came in almost \$2bn above the ten-year average for the period.

The impressive volume of new risk capital issued in the period came from 27 transactions comprised of 44 tranches of notes. Of this, a significant 22 transactions with a combined value of roughly \$2.8bn covered catastrophe risks, which accounts for over 60% of issuance. Mortgage ILS issuance was also strong in the quarter, while the volume of private deals and non-cat ILS also increased year-on-year.

In 2021, the majority of first-quarter issuance came from repeat sponsors, including a mix of regular market participants and others returning for just their second or third time in the market's history. First time sponsors this year included Universal (UPCIC) and the Danish Red Cross.

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Transaction Recap

Q1 2021 featured \$2.8bn of property catastrophe bonds. Included in this figure are deals from first time sponsors Universal (UPCIC) and the Danish Red Cross. The latter, while only \$3mn in size, is the first pure volcanic risk cat bond and also perhaps the first with a pure humanitarian use-case.

Build America Mutual, Bayview Asset Management and Palomar Specialty each sponsored their second cat bonds in Q1. The former returned with \$150mn of financial guarantee risk, while the latter issued deals that brought a combined \$600mn of U.S. quake risk to market. North Carolina IUA sponsored its third state-specific multi-peril deal in the quarter, as Sompo featured for the first time since 2017.

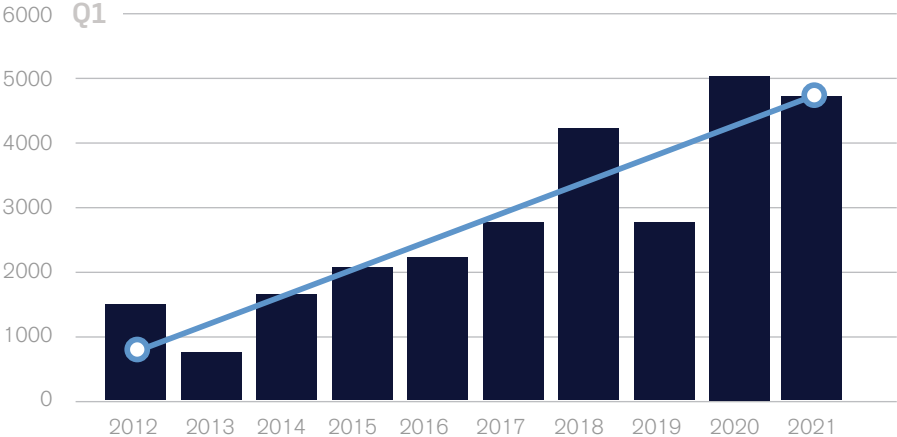
The CEA returned with \$200mn of Cali quake risk, as Tokio Marine provided \$150mn of Japanese quake diversification. Security First returned with \$225mn of Florida multi-peril protection, and FEMA sponsored its fourth and largest U.S. flood risk transaction.

Approximately \$1.5bn of mortgage ILS deals from repeat sponsors Arch Capital, Genworth and MGIC, provided a boost to overall issuance in Q1, as did another healthcare ILS deal from Aetna and numerous private cat bonds from unknown sponsors.

ISSUER / TRANCHE	SPONSOR	PERILS	\$M	DATE
Torrey Pines Re Pte. Ltd. (Series 2021-1)	Palomar Specialty Insurance	U.S. earthquake	400	Mar
Sakura Re Ltd. (Series 2021-1)	Sompo Japan Insurance	International multi-peril	400	Mar
Bellemeade Re 2021-1 Ltd.	Arch Capital Group	Mortgage insurance risk	578.9	Mar
Kizuna Re III Pte. Ltd. (Series 2021-1)	Tokio Marine	Japan earthquake	150	Mar
Cosaint Re Pte. Ltd. (Series 2021-1)	Universal (UPCIC)	U.S. named storm	150	Mar
Asagao III - White Rock Insurance (SAC)	Unknown	Japan earthquake	18.3	Mar
Dunant Re IC Limited (Series 2021-1)	Danish Red Cross	Volcanic eruption	3	Mar
First Coast Re III Pte. Ltd. (Series 2021-1)	Security First Insurance	Florida multi-peril	225	Mar
Cape Lookout Re Ltd. (Series 2021-1)	North Carolina IUA	North Carolina multi-peril	250	Mar
Ursa Re II Ltd. (Series 2021-1)	California Earthquake Authority	California earthquake	215	Mar
Triangle Re 2021-1 Ltd.	Genworth Mortgage Insurance	Mortgage insurance risk	494.9	Mar
FloodSmart Re Ltd. (Series 2021-1)	FEMA / NFIP via Hannover Re	U.S. flood risk (named storms)	575	Feb
Fidus Re Ltd. (Series 2021-1)	Build America Mutual	Financial guarantee risks	150	Feb
Vitality Re XII Ltd (Series 2021)	Aetna	Medical benefit claims levels	200	Feb
Home Re 2021-1 Ltd.	MGIC Investment Corporation	Mortgage insurance risk	398.86	Feb
Sierra Ltd. (Series 2021-1)	Bayview Asset Management	U.S. earthquake	200	Jan
Eclipse Re Ltd. (Series 2021-01A)	Unknown	Unknown property cat risks	80	Jan
Seaside Re (Series 2021)	Unknown	U.S. property cat risks	136.4	Jan

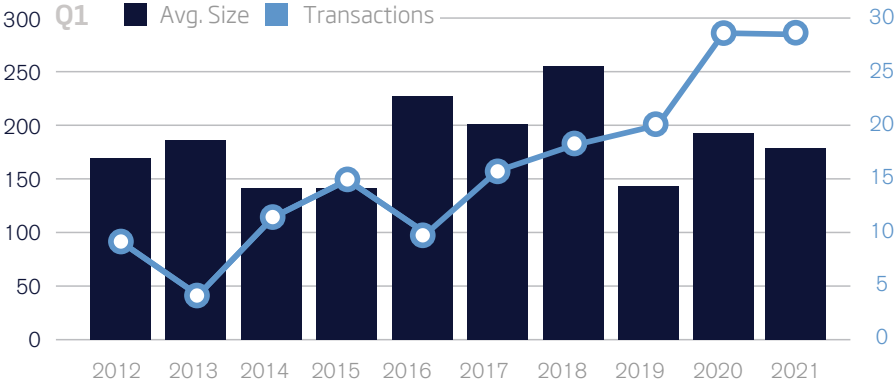
Q1 ILS issuance by year (\$M)

Q1 catastrophe bond and ILS issuance declined by \$424mn year-on-year, but remained 68% higher than the ten-year average, at \$4.63 billion. As shown by the Artemis Deal Directory, this is the second largest first-quarter in the market's history and a sign of strong investor appetite.



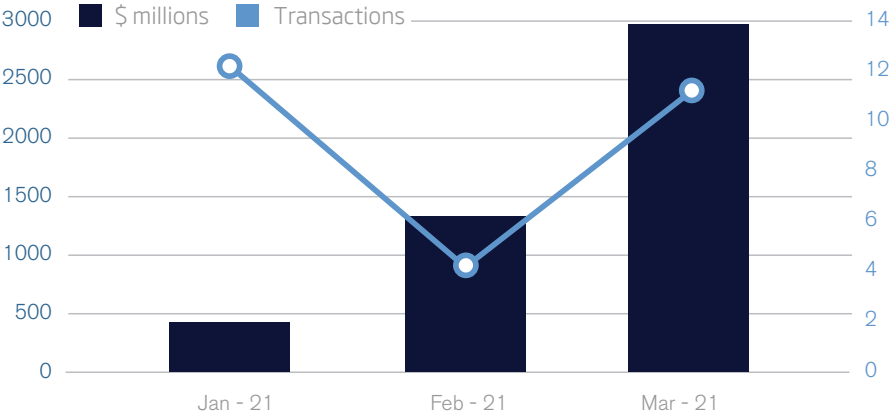
ILS average transaction size & number of transactions by year (\$M)

27 deals featured in the period, which is in line with the record number of deals issued in any Q1 set in 2020, and significantly above the ten-year average; highlighting how active the start to the year has been. At \$171mn, the average transaction size of first-quarter issuance is just below the ten-year average for the period.



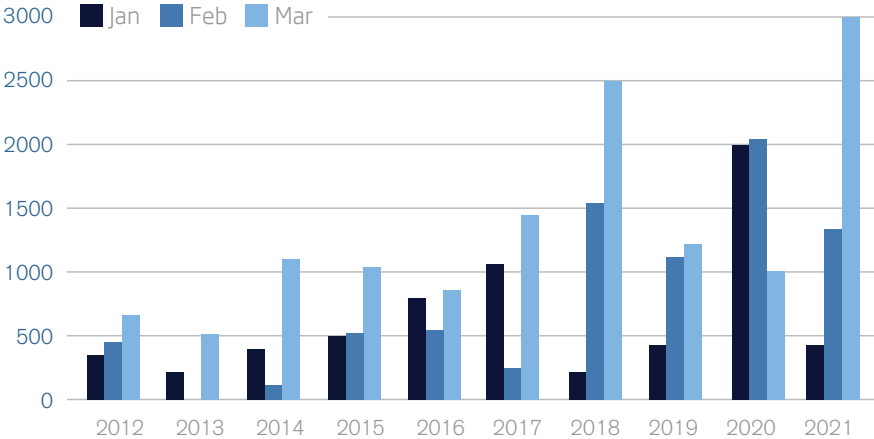
Number of transactions and volume issued by month (\$M)

The month of March was the most active period in the first-quarter of 2021, in terms of the volume of risk capital issued, which reached a record \$2.9bn. February issuance declined year-on-year but remained significantly above the ten-year average at \$1.3bn. In January, issuance of just \$417mn came in below last year and also below the ten-year average of \$637mn for the month.



Q1 issuance by month & year (\$M)

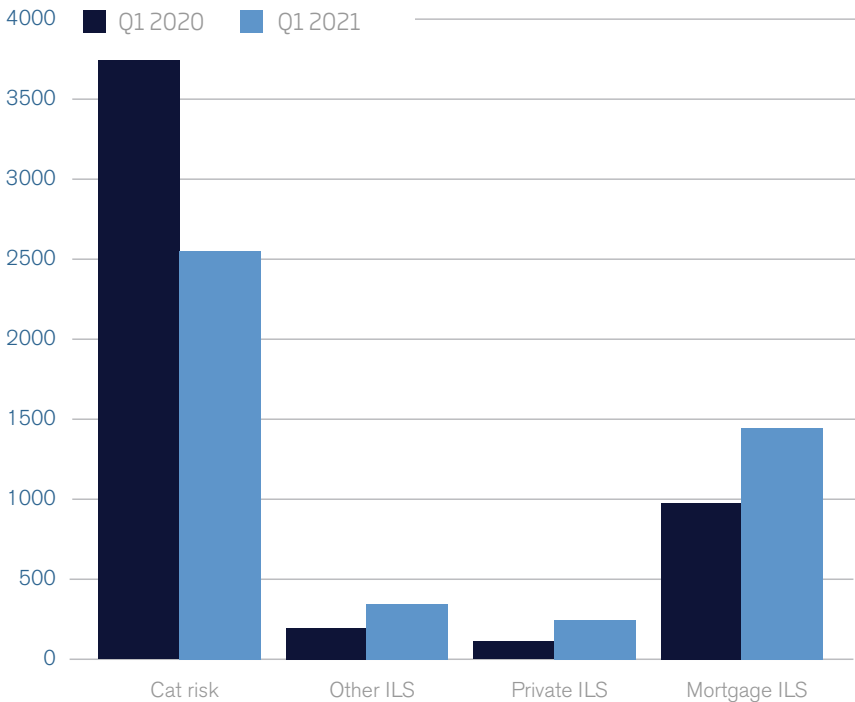
In total, a record equalling 27 deals came to market in the opening quarter of the year. The most witnessed in a month during Q1 2021 was the 12 deals brought to market in January, which was dominated by smaller, private cat bond issuances. Just four deals came to market in February, while the quarter ended strong with 11 transactions issued in March.



Q1 ILS issuance by type

With Q1 2020 and Q1 2021 being the two most active first quarters in the market's history, the below chart breaks out the different types of risks that featured in each period. As the chart shows, mortgage ILS issuance, other ILS (which includes non-cat risk deals), and private, or cat bond lite deals all grew year-on-year, in terms of the volume of risk capital issued.

Offsetting growth in these segments is a decline in 144A property catastrophe bonds in Q1 2021 to \$2.6bn, although these deals still accounted for 60% of total issuance. Add the volume of property cat focused private deals in both Q1 2021 and Q1 2020, and the totals for each year reach \$2.8bn and \$3.9bn, respectively.



Last year was a record year for the issuance of catastrophe risk deals. Although year-on-year issuance fell by 28% in Q1 2021, \$2.8bn of cat risk is still an impressive start to the year and shows that despite the losses of recent years, issues such as trapped collateral and the effects of the pandemic, investors remain very attracted to the cat bond marketplace.



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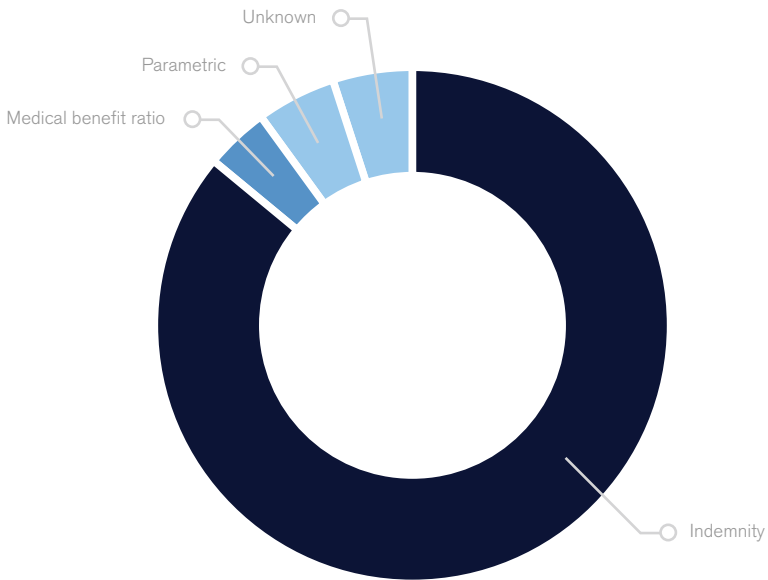
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Q1 2021 ILS issuance by trigger type

While it is typical of any Q1 to be dominated by indemnity structured deals, this year a huge \$3.9bn of risk capital issued leveraged an indemnity trigger, which accounts for 86% of total issuance in the period.

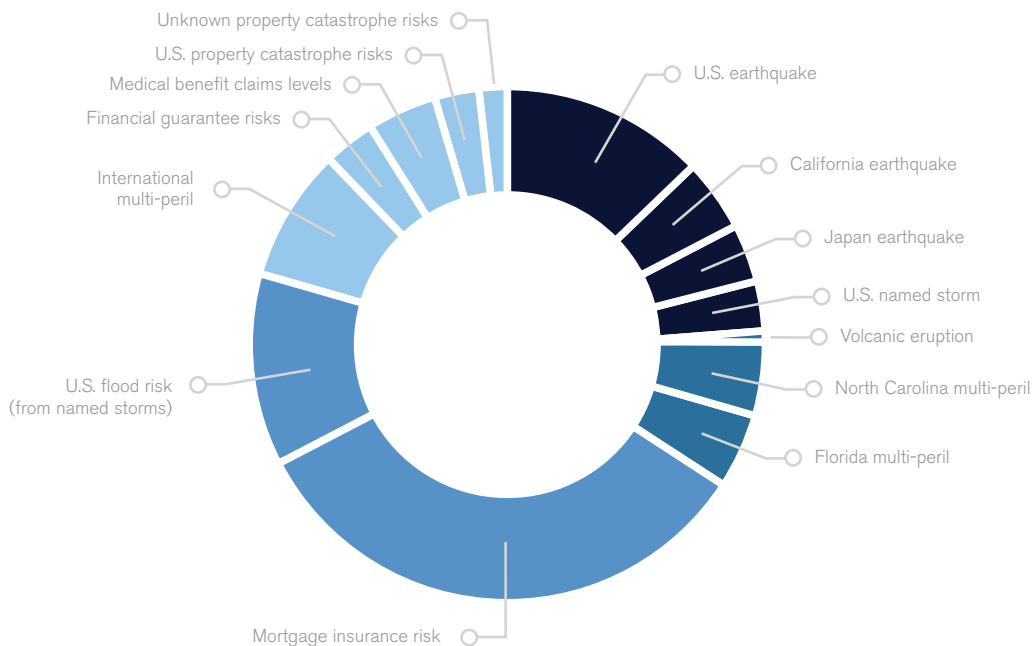


Parametric triggers were the second most utilised structure in Q1, both in terms of the number of transactions and the amount of risk capital issued. Three deals comprised of four tranches of notes provided investors with \$221mn of parametric trigger diversification in the quarter. Just over 4% of Q1 issuance featured a medical benefit ratio trigger, bringing additional diversification, while trigger information was unavailable for \$216mn of issuance.

Q1 2021 ILS issuance by peril

Palomar Specialty and Bayview Asset Management brought a combined \$600mn of U.S. quake risk to market, as the CEA sponsored its latest California quake transaction. \$150mn of Japanese quake risk from Tokio Marine also featured in Q1, while a private deal added a further \$18.3mn of Japanese quake risk.

Sompo returned with \$400mn of protection against Japanese typhoon and floods, and U.S. quake risk. Universal sponsored a \$150mn transaction covering U.S. named storm risks, and FEMA returned with its largest ever FloodSmart Re deal.



North Carolina IUA and Security First issued state specific deals, a \$250mn deal covering named storm & severe thunderstorm risks in North Carolina and a \$225mn deal covering the same perils in Florida, respectively.

Sponsored by the Danish Red Cross, the only new peril to feature in Q1 covers pure volcanic risk.

Private deals brought \$216mn of unknown and U.S. property cat risk to market, while Aetna returned with \$200mn of healthcare risks and Build America returned with \$150mn of financial guarantee risk. Three transactions comprised of 15 tranches of notes, sponsored by Arch, MGIC and Genworth, brought roughly \$1.5bn of mortgage risk to market in Q1 2021.

CORPORATE GOVERNANCE OF ILS VEHICLES – A VIEW FROM THE BOARDROOM

Sherman Taylor serves on the board of a number of ILS vehicles registered in Bermuda. Below, he provides a unique view of the asset class from a boardroom perspective.

Insurance-linked securities (ILS) are a mechanism to transfer underwriting risks from (re)insurance companies to the capital markets, usually hedge funds, pension funds and other sophisticated, institutional investors. The nature of these transformer-type structures means that specialised knowledge of both the insurance and capital markets is required.

In Bermuda, Special Purpose Insurers (SPI) are typically used as vehicles for ILS deals. These SPIs must adhere to a robust regulatory environment that includes a code of conduct with a requirement for a board of directors that is fit and proper and composed of directors with adequate subject matter expertise. These boards often include directors from both the insurance manager and the corporate service provider. Bermuda's deep insurance and capital market talent pools allow for easy fulfilment of this requirement.

There is a clear shift away from commoditisation in the ILS sector, and diversity and innovation are increasingly evident. Naturally, this increases the level

of board expertise required. For example, in the past five years we have seen a broadening of the general structure of ILS deals, the incorporation of new technology, and a move towards adopting ESG into ILS platforms. Additionally, ILS now provides coverage of less conventional risks such as credit default risks, operational risks, terrorism risks, and even pandemic risks. The geographical areas of cover have also expanded, with ILS deals now covering regions of Latin America, Asia and Africa. Taken together, these trends mean that boards must have similarly broad commercial experience and a thorough understanding of the ILS market.

Board expertise is particularly important when commercial challenges arise. Covid-19 has certainly demonstrated this and while direct losses from Covid-19-related pandemic risks were mostly limited to the World Bank's pandemic cat bond, anxiety remained high about losses attaching to ILS; some ILS funds even made provisions for potential losses. This highlights the need for boards to have the necessary fiduciary expertise required in order to

effectively guide SPIs through events sitting outside the normal course of business.

Sound corporate governance at the SPI level plays a key role in the future of the ILS sector. There are significant growth opportunities for the asset class as investors seek to diversify their portfolios to reduce exposure to equity market shocks (such as the one precipitated by Covid-19 in 2020). However, the ILS sector must retain the confidence of the capital markets to continue to realise these opportunities, and good governance is fundamental to this. Success can be seen in the form of new ILS funds being established on the back of excellent performances from exiting ILS funds.

Specialist knowledge at board level is also required when conducting both the larger 144A ILS deals and the smaller “collateralised re” deals. The latter tend to be more innovative and customised, and many have unique structural features because they are more directly negotiated between participants.

Most ILS deals are listed on the Bermuda Stock Exchange and there are continuing obligations that issuers must comply with. Here, the board must be aware of the additional responsibilities placed on the SPI by virtue of its securities being publicly listed.

The board must also have a strong understanding of the legal and regulatory environment its structure is situated in, ensuring the vehicle keeps up with regulations, operates transparently, and avails itself of the most beneficial rules available. For example, in October 2019, Bermuda revamped its regulations for SPIs, providing, among other things, a very useful 15-day grace period for collateral to be in place in ILS deals.

Good corporate governance has played an important role in the success of the ILS sector, and it is no surprise that ILS is becoming increasingly recognised as a traditional asset class.



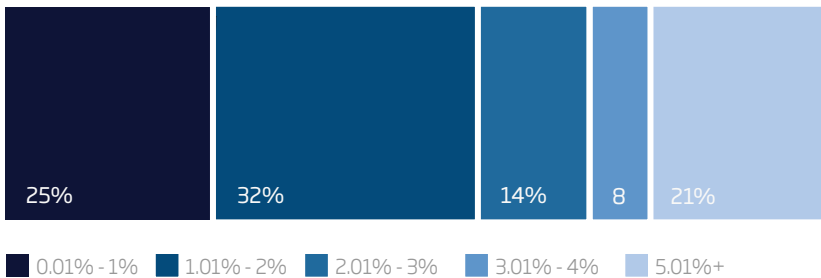
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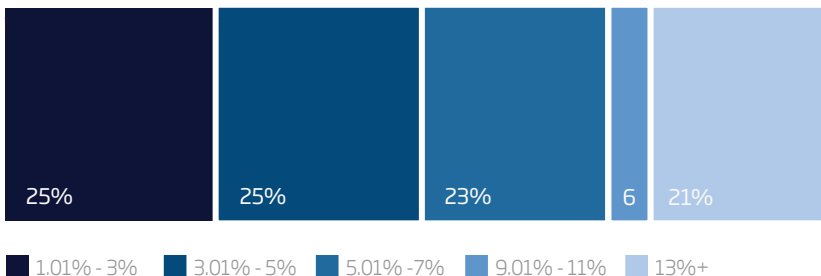
Q1 2021 ILS issuance by expected loss

We have expected loss data for approximately \$2.8bn of first-quarter issuance. Of this, almost 57%, or \$1.6bn had an expected loss of below 2%, with the lowest on offer, at 0.01%, coming from the Class A tranche of Vitality Re XII notes. A little more than 43% of issuance had an expected loss of more than 2.01% in the quarter. The Class B tranche of FloodSmart Re notes had the highest expected loss in Q1, of 7.23%.



Q1 2021 ILS issuance by coupon pricing

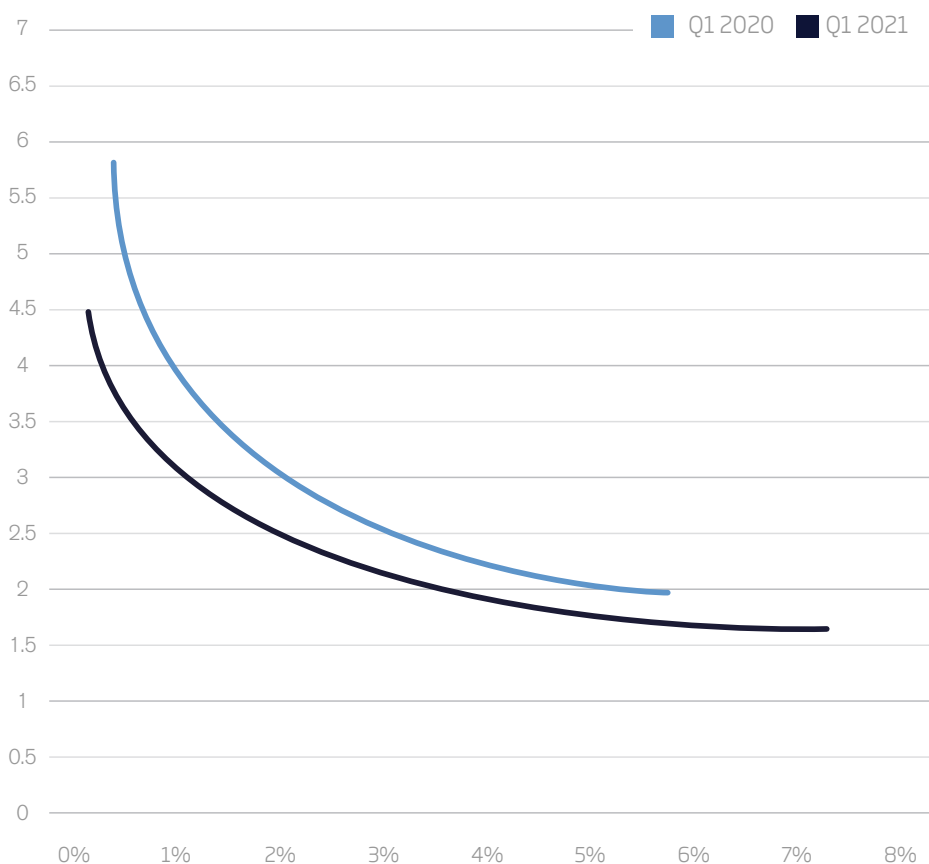
For the approximately \$2.8bn of issuance where we have pricing data, 50% paid investors a coupon of below 5%, while \$790mn, or 29% paid investors a coupon of between 5.01% to 11%. The two highest coupons on offer, at 13% and 16.75%, came from the Class A and Class B tranches of FloodSmart Re notes, respectively. The Kizuna Re notes paid the lowest coupon of the quarter, at 2%. With the exception of the Class B tranche of Sakura notes, which priced at the mid-point, all property cat bonds issued in Q1 priced below the mid-point of guidance, many pricing below the initial marketed ranges.



Q1 2021 expected loss & multiple year-on-year

The below chart, which plots the expected loss against the multiple (price coupon divided by expected loss) of Q1 issuance, highlights that, for the most part, the lower the expected loss the higher the multiple.

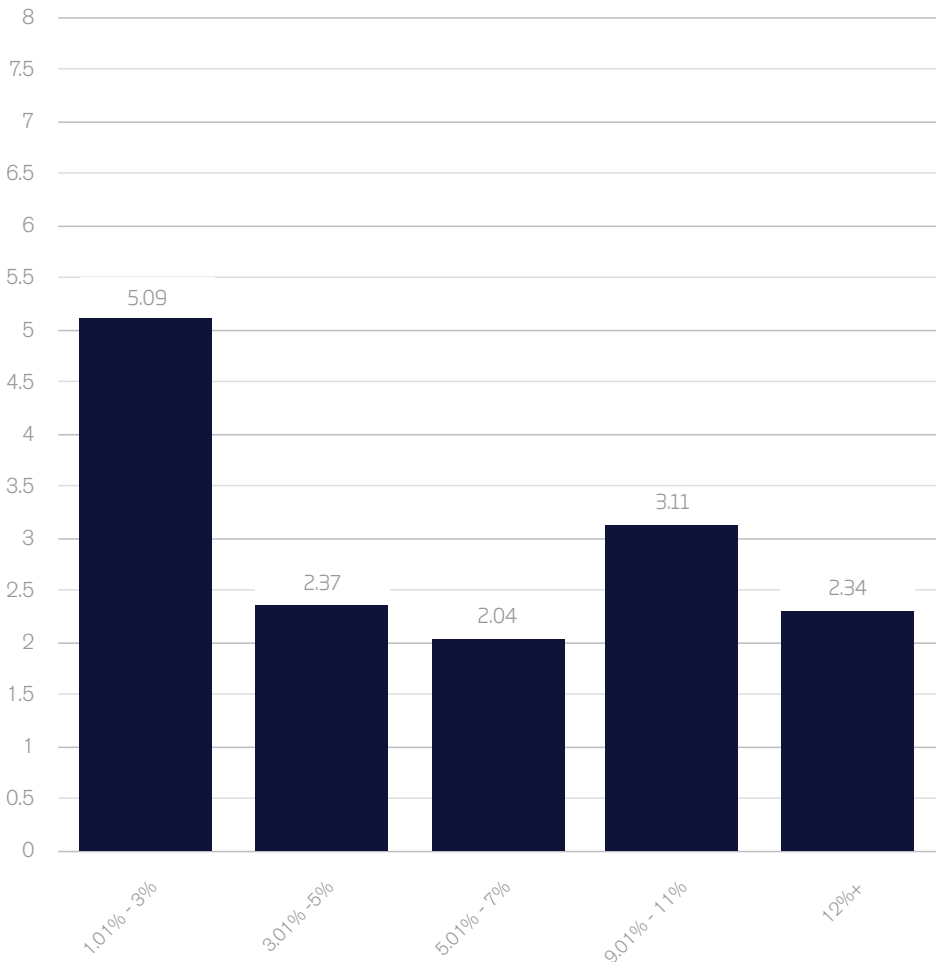
The light blue line represents Q1 2020 and the dark blue line Q1 2021, and shows that in both periods, tranches of notes offering the lowest risk / return reward saw investors seek the highest multiples.



Q1 2021 average multiple by coupon pricing

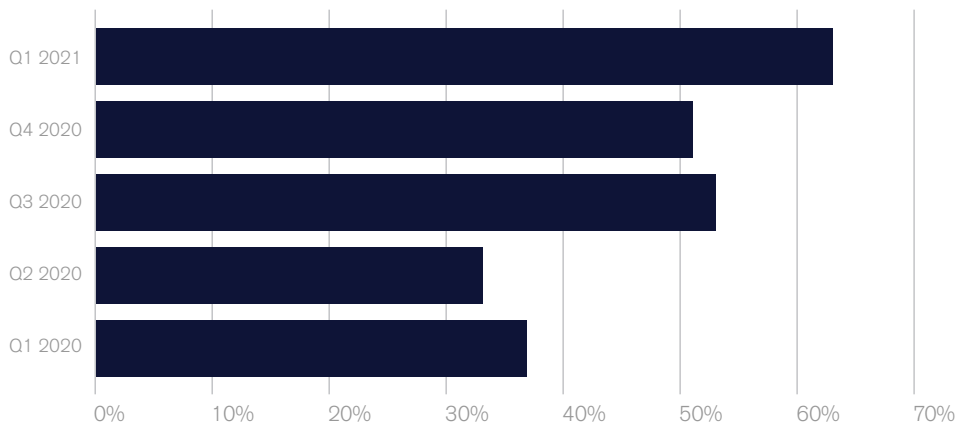
For the most part, investors achieved a higher multiple the lower the coupon on offer, with some of the highest priced deals being an exception to this in the quarter, as shown by the chart below.

The average multiple of Q1 2021 issuance is 2.54, which is down on the 2.98 posted at the end of 2020 and also below the 2.89 recorded in Q1 2020. After falling below 2 at the end of 2017, Artemis' data shows that the average multiple of issuance has been on the rise in recent years, although remains somewhat below the 4+ last seen in 2012.

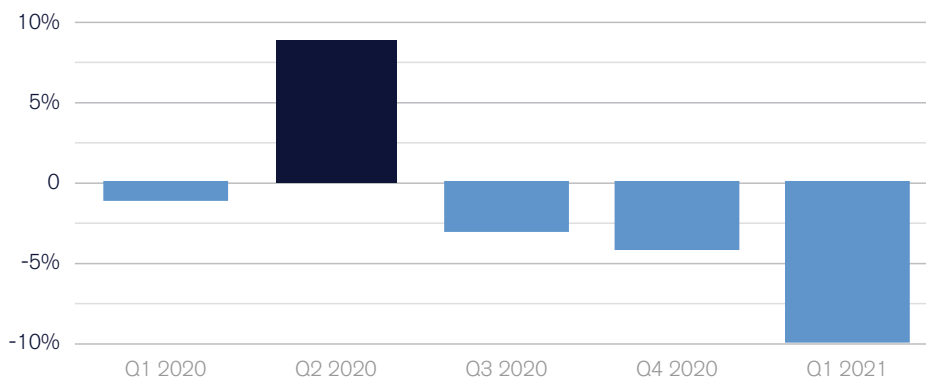


Issuance size and price changes

The below chart shows the average upsize of property cat bonds issued over the past five quarters. As highlighted, the average deal upsize in Q1 2021 was 61%, which is significantly higher than the 37% witnessed in Q1 2020. As shown by the Artemis Deal Directory, all but two tranches of notes issued in the quarter grew from their initial size, with one tranche increasing by 150%.



For property cat bonds where we have full pricing data, the average price change of Q1 2021 issuance was -9.80%, as all but one tranche of notes saw pricing decline from the mid-point of initial guidance. This highlights how cat bond market conditions are currently favourable for sponsors, with heightened investor interest enabling carriers to secure more protection at attractive rates.



Issued / Outstanding

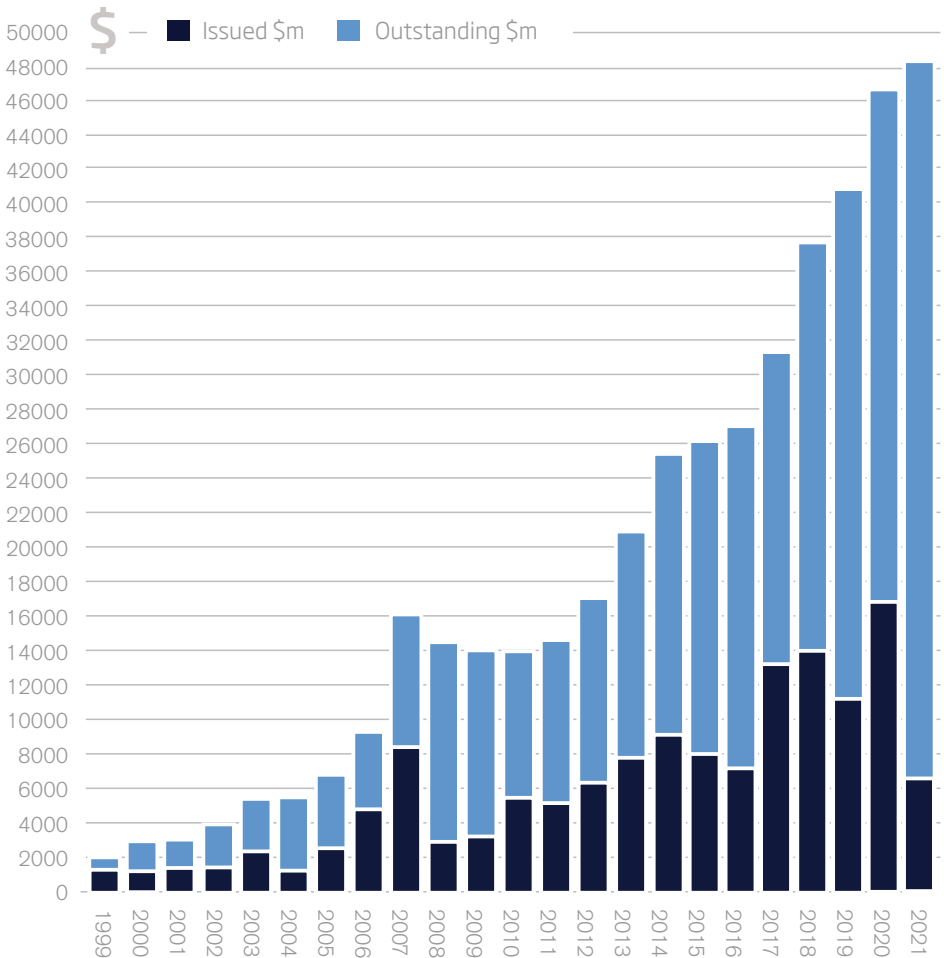
The \$4.63bn of new risk capital issued is the second most ever recorded in a first-quarter, and only \$424mn below the record-breaking Q1 2020. Catastrophe risk focused deals dominated once again and made up 60% of issuance.

Year-on-year, this does represent a dip in the contribution of cat risk deals to overall issuance, as mortgage deals increased in prevalence, somewhat offset by an increase in risk capital from private deals and transactions covering non-catastrophe risks.

It's another strong start to the year for the catastrophe bond and ILS market, and as of the end of March, takes the outstanding market size to a new high of \$48.13bn.

All but one tranche of notes priced below the mid-point of initial guidance while marketing, highlighting investors strong appetite for cat bonds and the attractiveness of the space for sponsors.

More than \$4.8bn of deals are scheduled to mature in the second-quarter of the year. And, with average Q2 issuance over the past ten years totalling approximately \$3.5bn, it's going to take another above-average quarter to ensure outright growth once again.



If you want to see full details of every catastrophe bond and ILS transaction included in the data in this report please visit www.arfemission.com/deal_directory/



All catastrophe bond and ILS issuance data sourced from the Artemis Deal Directory.

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