



Q3 2023 Catastrophe Bond & ILS Market Report

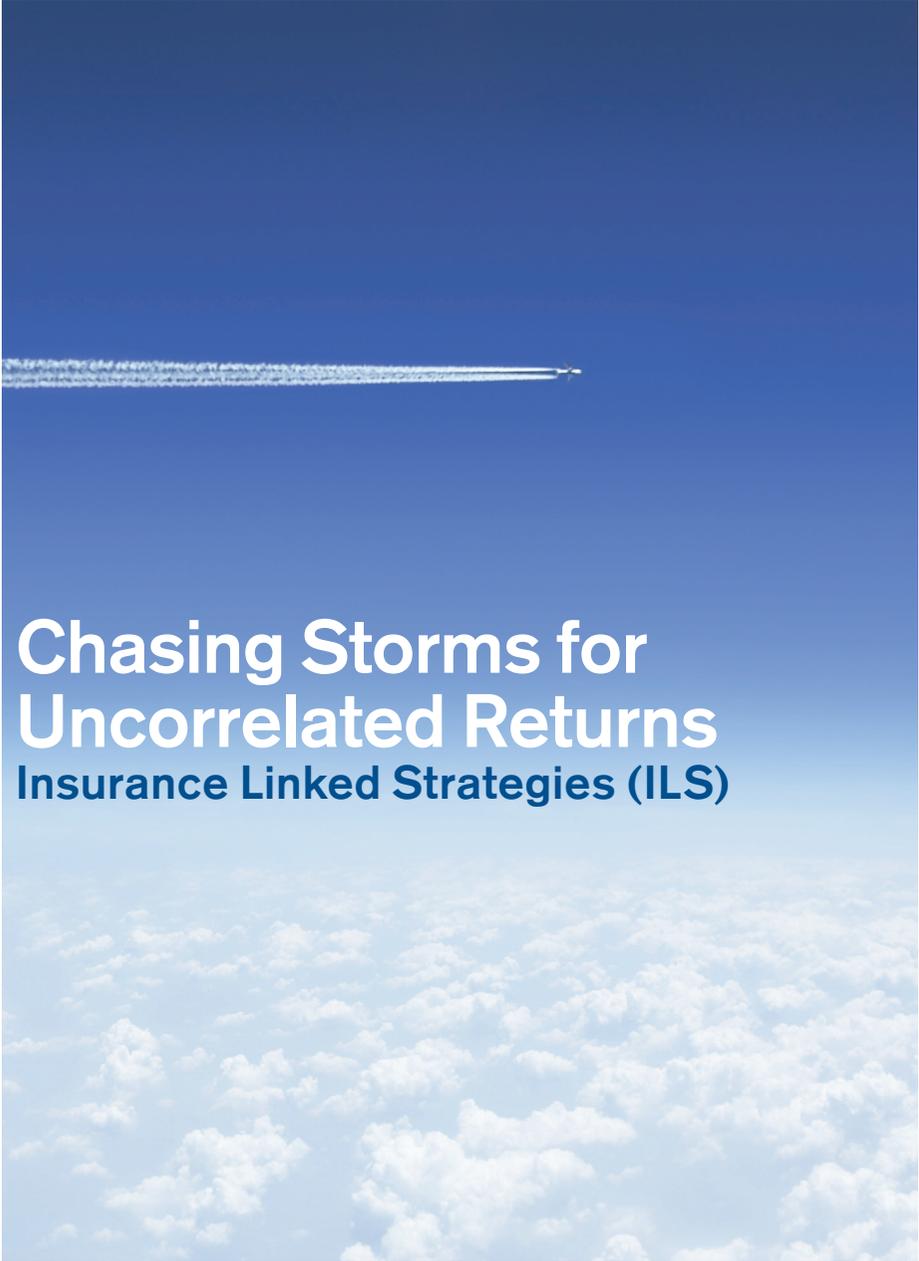
A quiet Q3 but market still
on track for record year

ARTEMIS

Focused on insurance-linked securities (ILS), catastrophe bonds,
alternative reinsurance capital and related risk transfer markets.

www.artemis.bm

For qualified investors only.



Chasing Storms for Uncorrelated Returns Insurance Linked Strategies (ILS)

For further information please visit www.credit-suisse.com

This poster was produced by Credit Suisse Insurance Linked Strategies Ltd. (together with its affiliates "CS") with the greatest of care. It is not investment advice, nor does it constitute an offer or invitation to enter into any type of financial transaction. It may not be distributed in the U.S. or to a U.S. person or in any other jurisdiction where distribution would contravene local laws or regulations. This material may not be reproduced, neither in part nor in full, without the written permission of CS.
Copyright © 2017 Credit Suisse Group AG and/or its affiliates. All rights reserved.

INTRO

As the following pages of the Artemis Q3 2023 catastrophe bond and insurance-linked securities (ILS) report show, it was a quiet period for the market on the back of a record-breaking first half of the year, with just \$549 million of new risk capital brought to market.

Traditional 144a property cat bond issuance once again dominated the quarter and came from three deals comprised of four tranches of notes, accounting for 73% of quarterly issuance. Three privately placed transactions also featured this quarter, making up the remaining 27% of issuance in the period.

The first mortgage ILS transaction of the year also came to market in the third quarter, as Essent Guaranty returned with its first deal since September 2022.

Of the property cat bond deals issued in the quarter, one came from repeat sponsor SageSure although for the first time via Anchor Re, its captive reinsurer, and two from sponsors returning for their second deals – Blackstone via its Gryphon Mutual real estate captive and growing Florida carrier Slide Insurance Company.

First half 2023 144a property cat bond issuance had already set a record, but the additional \$400 million brought to market in the third quarter has seen issuance for these types of deals now exceed \$10 billion in 2023, and there's still the fourth quarter to come.

All in all, nine month cat bond issuance amounts to roughly \$10.9 billion, which is more than \$400 million above the annual total for 2022, as shown by the Artemis Deal Directory.

Artemis is the leading, freely accessible source of timely, relevant and authoritative news, analysis, insight and data on the insurance-linked securities, catastrophe bond, alternative reinsurance capital and related risk transfer markets. The Artemis Deal Directory is the leading source of information, data and analysis on issued catastrophe bond and insurance-linked securitization transactions.

Transaction Recap

The table below details the mix of traditional 144a and privately placed, or cat bond lite deals issued in the third quarter of 2023, as well as the one mortgage ILS transaction, which is the first of the year.

The largest cat bond issued in the quarter is the \$250 million transaction from Blackstone's real estate captive, Gryphon Mutual. Wrigley Re 2023-1 is the company's second cat bond after its debut \$50 million deal in 2021, which covered California earthquake risks on a parametric basis. This year's deal covers US and Canada named storms, as well as earthquake risk in all US states except California, but this time all on an indemnity basis.

The first cat bond via SageSure's Anchor Re, Gateway Re 2023-1, provides the captive reinsurer with \$50 million of retrocessional protection against US named storms. It is the fourth cat bond of the year to benefit companies linked to SageSure.

Slide's second cat bond is the same as its first, a \$100 million Florida and South Carolina named storm transaction.

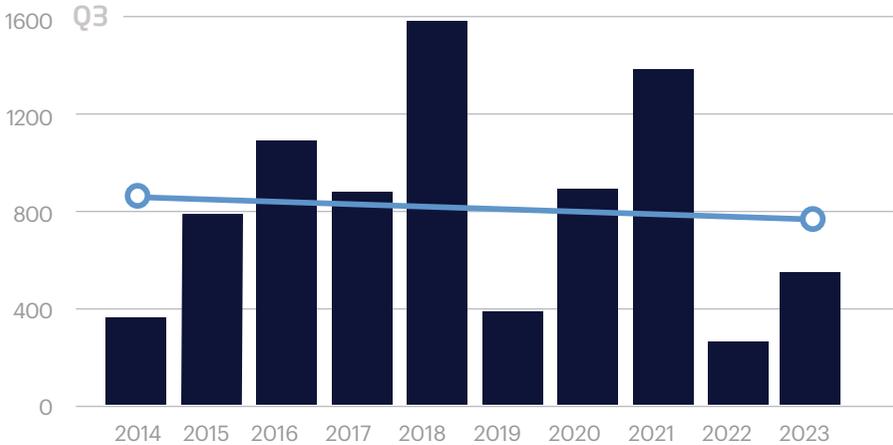
Of the three private deals that featured, Beazley's third cyber cat bond of the year is the smallest, at \$16.5 million. The other two deals, one from Mercury Insurance and another from an unknown sponsor, brought \$45 million of California wildfire protection and \$87.6 million of unknown property cat risk to market, respectively.

The only mortgage ILS deal to be issued this year came from repeat sponsor Essent Guaranty and was a reasonable size at more than \$281 million.

ISSUER / TRANCHE	SPONSOR	PERILS	\$M	DATE
Beazley cyber cat bond (Cairney III)	Beazley	Cyber risks	16.5	Sep
Isosceles Insurance Ltd. (Series 2023-A, C, G)	Unknown	Unknown property cat risks	87.6	Sep
Radnor Re 2023-1 Ltd.	Essent Guaranty	Mortgage insurance risks	281.5	Aug
Gateway Re Ltd. (Series 2023-3)	Anchor Re	US named storm	50	Jul
Wrigley Re Ltd. (Series 2023-1)	Gryphon Mutual	International multi-peril	250	Jul
Randolph Re (Series 2023-3)	Mercury Insurance	California wildfire	45	Jul
Purple Re Ltd. (Series 2023-2)	Slide Insurance Company	US named storm	100	Jul

Q3 ILS issuance by year (\$M)

At \$549 million, third quarter 2023 cat bond issuance is more than double the amount seen a year earlier but is still roughly \$268 million below the 10-year average for the period. Q3 is typically the least active quarter of the year, both in terms of the number of deals and overall volume, and it's rare that Q3 issuance exceeds \$1 billion, having only happened three times since 2014.



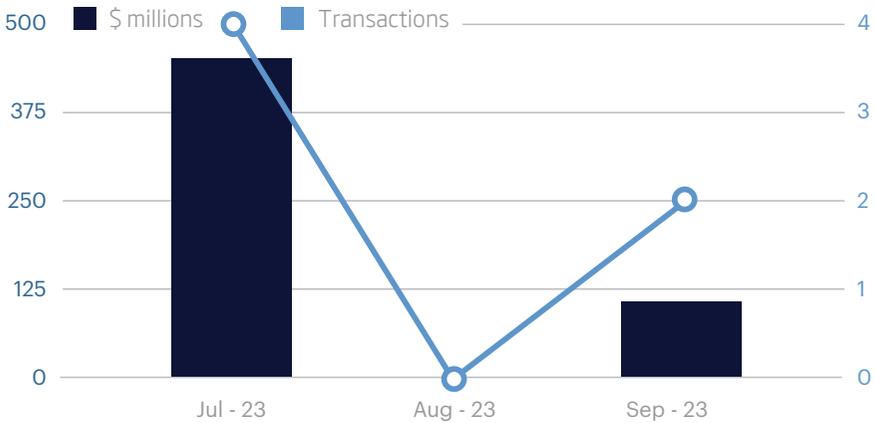
ILS average transaction size & number of transactions by year (\$M)

The six cat bonds issued in Q3 2023, three traditional 144a and three privately placed, are slightly below the 10-year average for the quarter of 7.3. These transactions have an average size of \$91.5 million, which is also below the 10-year average of \$110 million for the quarter. This is typical of a quarter in which private deals are prominent, as these deals are often smaller in size than 144a placements. In fact, Beazley's latest private cyber ILS deal completed at a size of just \$16.5 million.



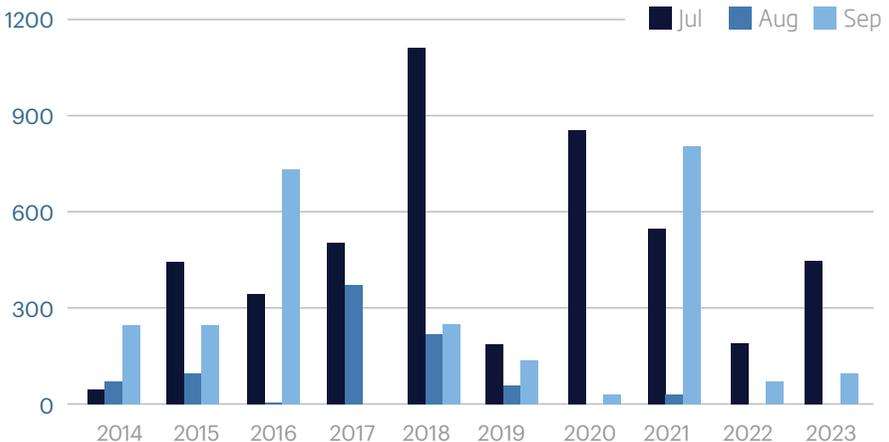
Number of transactions and volume issued by month (\$M)

For consecutive years and for the third time in the last 10 years, no deals were issued in August. It is usually the least active month of the third quarter, and only twice in the past decade has issuance been \$100 million or more. The 10-year average level of issuance for the month is just \$87 million, which is far below the average for both July and September, which is \$466 million and \$265 million, respectively.



Q3 issuance by month & year (\$M)

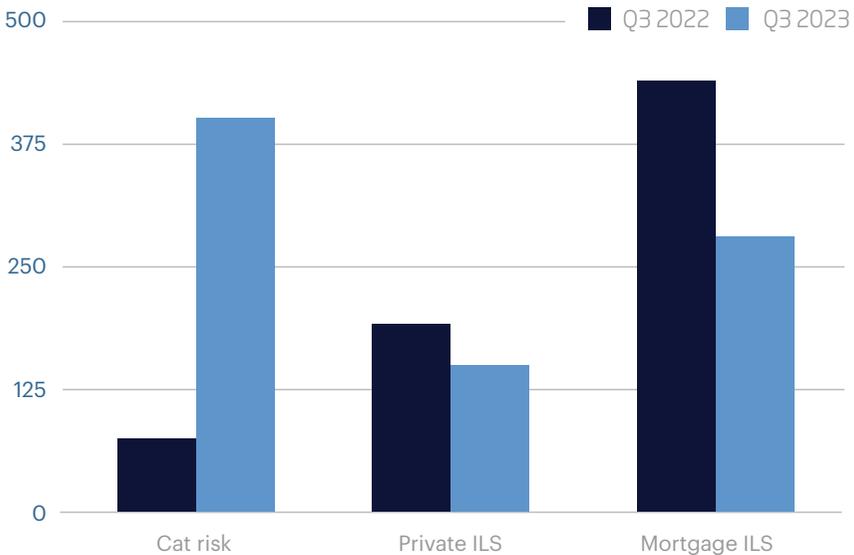
Highlighting just how subdued Q3 2023 issuance has been, which is the norm due to the Atlantic wind season, both July and September levels fell below the 10-year average. In July, which was the most active month in terms of the number of deals when four came to market, including all three of the traditional 144a transactions, issuance almost hit the average at \$445 million. The remaining two cat bond lite deals featured in the final month of the quarter, bringing \$104 million of new risk capital to market.



Q3 ILS issuance by type

As the chart shows, catastrophe risk deals dominated third quarter 2023 issuance, with three traditional 144a transactions bringing \$400 million of risk capital to market. This is up considerably on the \$75 million of cat risk volume seen in Q3 2022 and adds to an already record-breaking year for these types of deals.

Additionally, two of the private deals issued this quarter do bring a further \$132.6 million of cat risk to market. Of this, \$45 million covers California wildfire risks and \$87.6 million covers unknown property cat risks. Combined with Beazley's \$16.5 million cyber risk transaction, private cat bond issuance totals \$149.1 million, which is down on Q3 2022's \$191.5 million.



In a repeat of last year, risk diversification offered via the transfer of non-cat risk to ILS investors, such as mortality deals, was lacking this quarter.

For the first time since the third quarter of last year, mortgage ILS featured this quarter, as Essent Guaranty returned with its ninth transaction, a \$281.5 million Radnor Re placement. Year-on-year, mortgage ILS issuance came down by \$158 million from \$439 million, which was from two transactions.

EXPECT A BUSY YEAR-END FOR CAT BONDS AND SIDECARS: BRAD ADDERLEY, APPLEBY

History has shown that in both soft and hard markets, the final quarter of the year is always busy, and this could be especially true this year with a solid pipeline of both cat bonds and sidecars, according to Brad Adderley, Bermuda Managing Partner, Appleby.

After a record-breaking first six months for the catastrophe bond market, issuance has slowed in the third quarter, which is typically the least active period for the sector.

In the final quarter of the year, however, issuance levels tend to pick up ahead of the January renewals, and when you consider the current re/insurance market landscape, it looks set to be a busy year-end for the space.

“I think you’re going to see a big year-end for cat bonds. I wouldn’t be surprised if it turns out to be the best year ever for issuance.

Importantly, we’ve seen some new risk and new sponsors as well, who are learning and could return in the future,” said Adderley.

Interestingly, Adderley told Artemis that there also appears to be a surge in sidecar activity on the property and casualty (P&C) side.

“There haven’t really been that many sidecars over the past five years or so, and we currently have several clients taking this approach,” said Adderley.

“So, I think you’re going to see some sidecars before year-end, either existing or new, which is only going to contribute to the busy year-end for the insurance-linked securities (ILS) market,” he added.

Adderley explained that even when it’s been a very soft market, end of September to end of December has always been busy. But with the

market remaining hard, all signs point to a very busy year-end, and Adderley is bullish for a number of reasons.

"I would argue it's probably the biggest dislocation in the marketplace. We know that players have pulled out, we know people aren't really raising capital. You don't read about new ILS funds or massive raising of existing funds. We know the pricing is high, we know there's inflation, and we know there's climate change and more risk.

"So, all of that together, you've got to figure that people will be looking to do opportunistic deals, because someone is going to take the risk," said Adderley.

As well as a solid cat bond and sidecar pipeline, Adderley suggested that some of the new commercial reinsurers that have been rumoured

could also get off the ground before the end of the year.

"But look, if they do, and I hope that they do, they're not likely to be market leaders, to set or affect pricing, so it doesn't really adversely impact existing players," he said.

"So, with this renewal season fast approaching and what has happened, and with the extremely active cat bond market, and with the sidecars and potential new start-ups, next year is going to be really interesting as well. Will the momentum continue? That is the big question on people's mind," concluded Adderley.

APPLEBY

applebyglobal.com

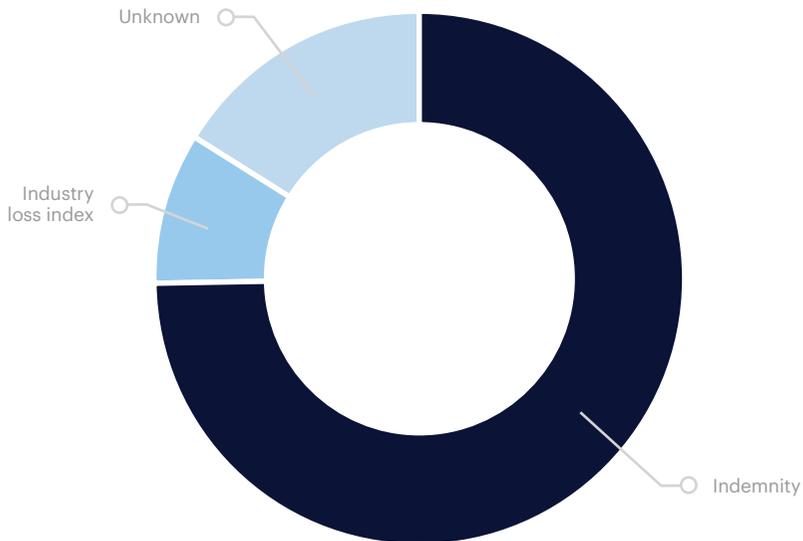


BRAD ADDERLEY
BERMUDA MANAGING PARTNER

Q3 2023 ILS issuance by trigger type

Two of the private deals and all but one of the traditional 144a deals issued in Q3 2023 utilised an indemnity trigger, which ensured that the trigger dominated issuance, which is typical in any quarter of the year. 75%, or \$411.5 million of quarterly issuance was structured with an indemnity trigger.

Just one tranche of cat bond issuance in the quarter, Anchor Re's \$50 million Gateway Re deal, leveraged an industry loss trigger, accounting for 9% of total issuance.

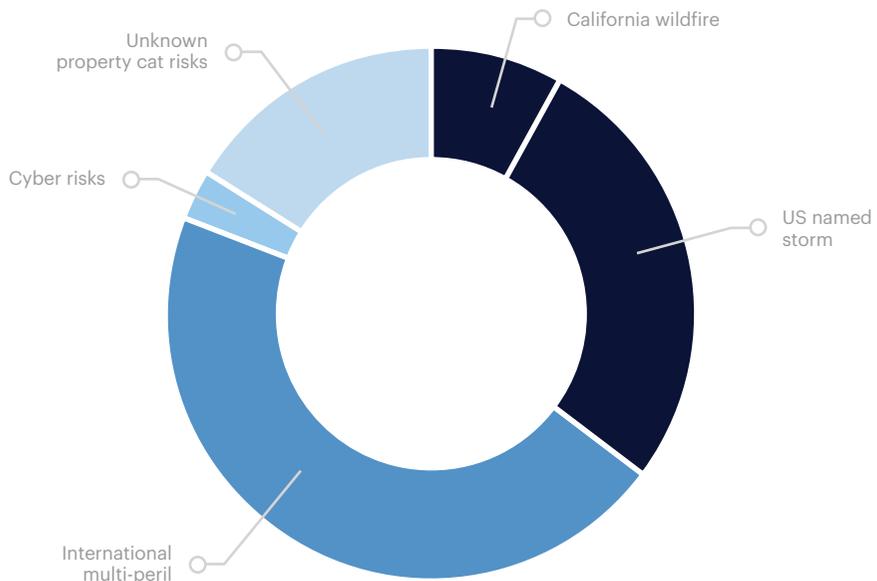


It's hoped that parametric triggers will become a more common feature of cat bond issuance as these are seen as an important way to provide coverage for perils in both existing and new regions. However, in Q3 2023 trigger diversification was lacking.

Q3 2023 ILS issuance by peril

The largest transaction issued in the third quarter of 2023, Wrigley Re sponsored by Gryphon Mutual, is a \$250 million international multi-peril deal. Specifically, it provides per-occurrence named storm protection across the US and Canada, as well as aggregate earthquake protection for all US states except California, accounting for 46% of total issuance.

The two other traditional 144a property cat bonds to feature, Gateway Re and Purple Re, brought a combined \$150 million of US named storm risk to market, accounting for 27% of issuance. Gateway Re provides Anchor Re with aggregate retrocession protection for named storms in Alabama, North and South Carolina, Louisiana, Mississippi, Texas, Virginia, and New York. Whereas Slide's second Purple Re deal provides per-occurrence reinsurance coverage for named storms in Florida and South Carolina.



The fifth ILS transaction from Aon's Randolph Re private cat bond issuance platform, brought \$45 million of California wildfire risks to market, for the benefit of Mercury Insurance. The latest private issuance from Marsh McLennan and Guy Carpenter operated Isosceles Insurance platform, added \$87.6 million of unknown property cat risk to Q3 2023 issuance.

Cyber ILS has been a feature of 2023 issuance, with Beazley bringing a deal to market in each quarter of the year so far. Q3 2023's cyber ILS deal is the smallest of the three, at \$16.5 million, accounting for just 3% of quarterly issuance.



APPLEBY

**Intelligent and insightful offshore
legal advice and services.**
Delivered with perspective.

INSURANCE & REINSURANCE

Our Insurance & Reinsurance practice involves advising on the establishment, regulatory compliance and business operations of re/insurance companies (life and non-life), as well as re/insurance managers and brokers in international jurisdictions.

Our market-leading practice in Bermuda is renowned for its expertise in all aspects of re/insurance, including catastrophe bonds, SPIs, sidecars and other insurance-linked securities, in addition to capital raising, M&A and insurtech.

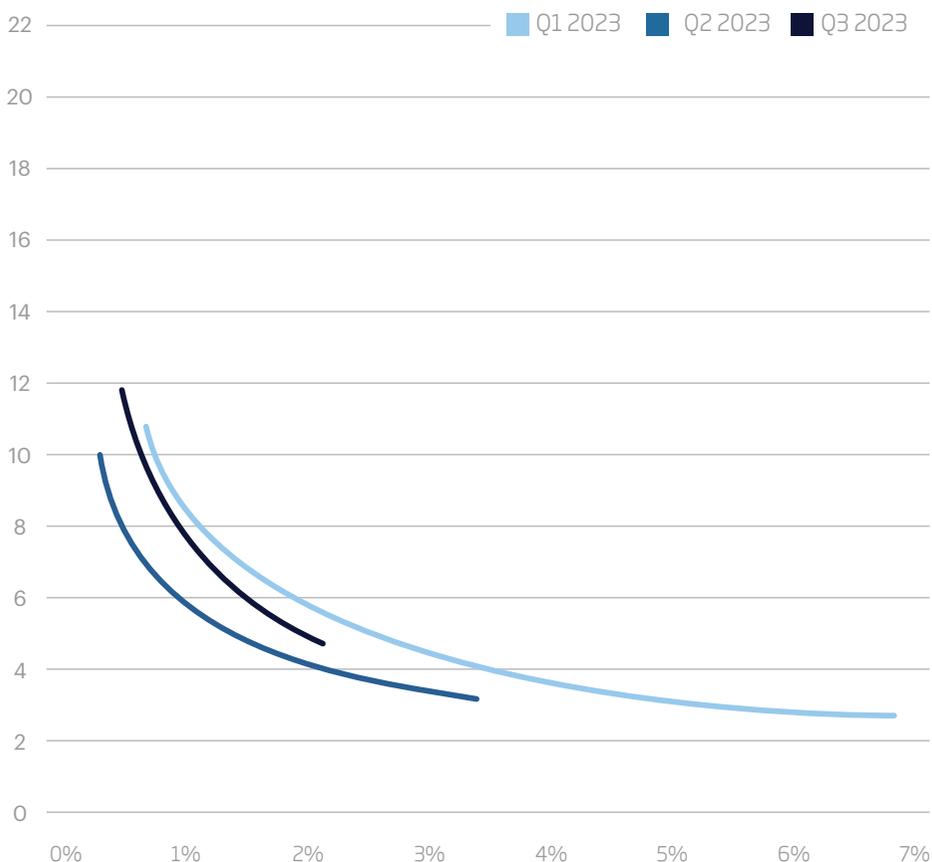
Visit applebyglobal.com to learn more.



Q3 2023 expected loss & multiple year-on-year

The lightest blue line represents Q1 2023, the middle Q2 2023, and the darkest Q3 2023. The trend has remained consistent throughout the year, with the lower the expected loss on offer the higher the multiple (price coupon divided by expected loss). While this quarter there's a limited amount of expected loss and pricing data, it's clear that investors continue to demand higher pricing on the back of firming reinsurance and retrocession rates.

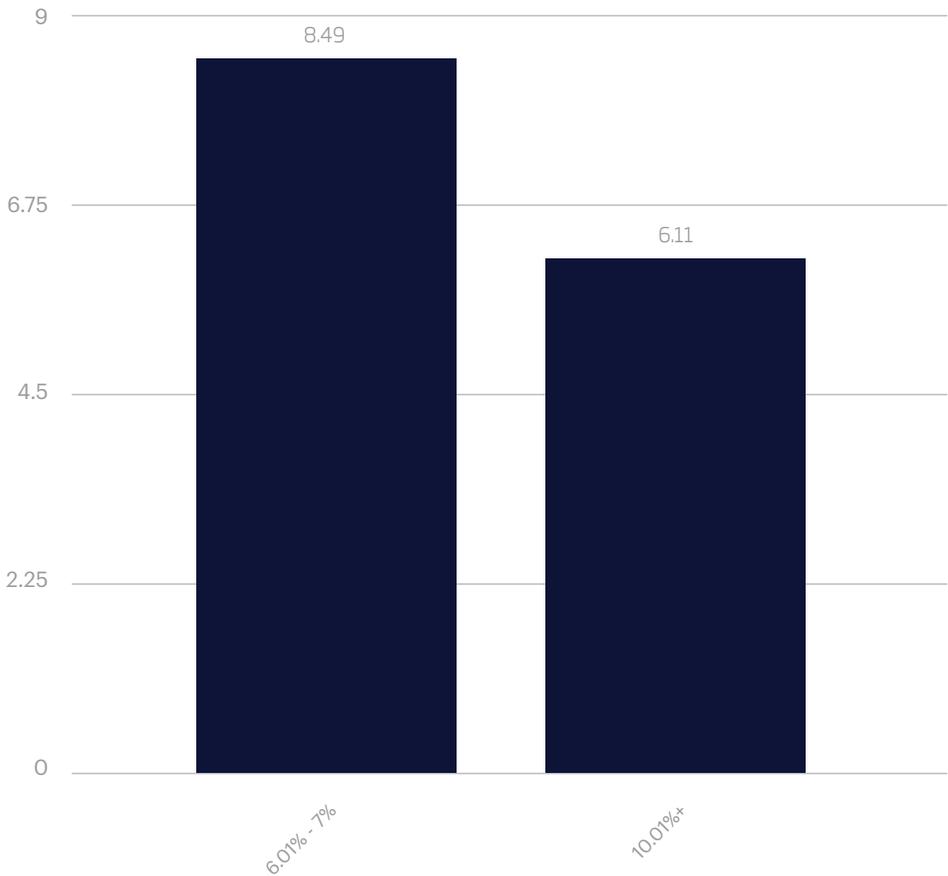
The average expected loss in Q3 2023 is 1.22%, the average coupon is 8.38%, and the average multiple is 6.87. This compares with 1.56%, 7.52%, and 4.82, respectively in Q2 2023, and 2.08%, 11.49%, and 5.52 in Q1 2023, respectively.



Q3 2023 average multiple by coupon pricing

Full pricing data is limited for Q3 2023 issuance and is only available for the four tranches of notes which comprise the three traditional 144a cat bonds. However, as the chart highlights, on average, the lower-priced deals had the higher multiple. Although, one of the highest-priced tranches of notes does have the second-highest multiple, reflecting the fact that investors continue to demand higher levels of risk-adjusted returns in the current market cycle.

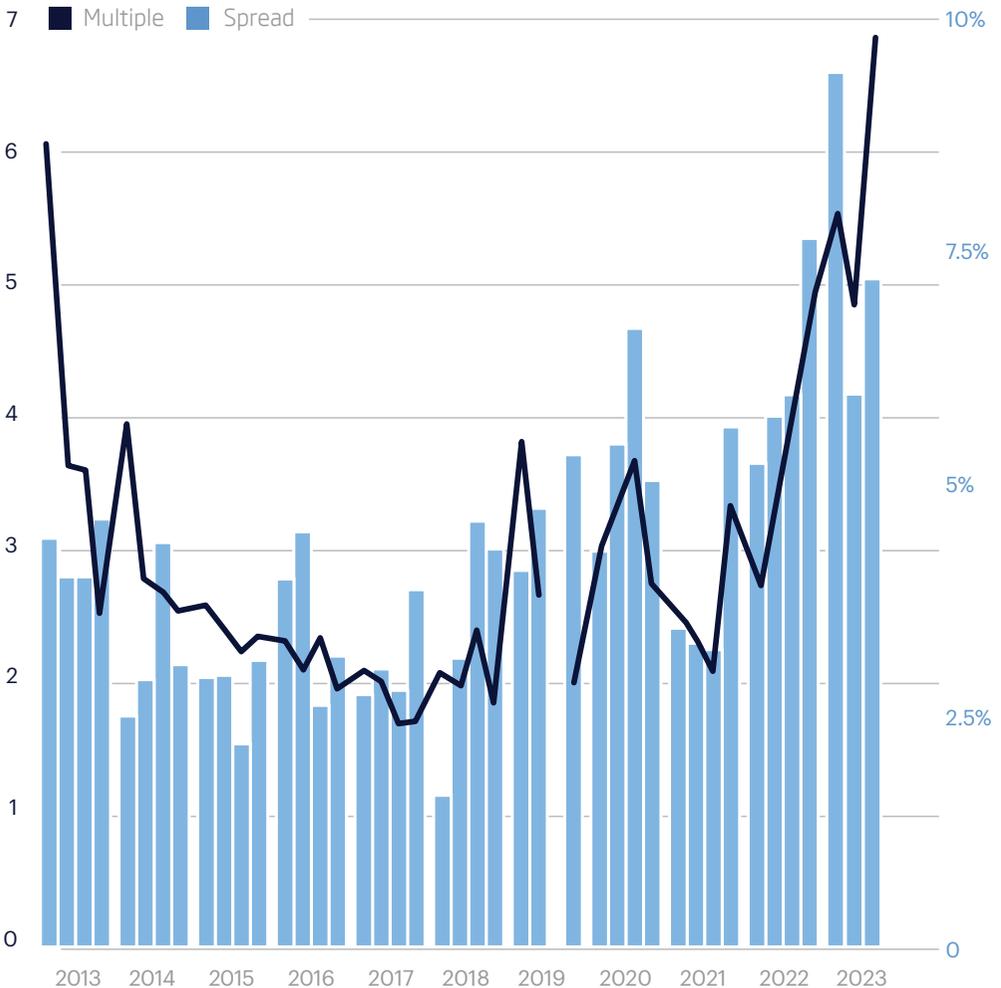
The average coupon of Q3 2023 issuance is 8.38%, which is higher than the 7.75% seen in Q3 2022. Similarly, the average multiple of issuance has also risen, from 4.26 in Q3 2022 to 6.87 this quarter.



Multiple and spread by quarter

Below, the line shows the average multiple and the bars the excess spread of quarterly issuance since the start of 2013. At 6.87, the average multiple of Q3 2023 issuance is the highest of any quarter during this period and is the only time it has exceeded 6. The average multiple has been on the rise since the middle of 2021, hitting the previous most recent historical high of 5.52 in the first quarter of this year, before falling slightly in the second quarter and rebounding to a new high this quarter.

Q1 2023 remains the quarter with the highest excess spread of 9.41%. But while the spread fell to below 6% in Q2 2023, it has risen again in Q3 2023 by 1.2% to 7.16%, which is the third highest spread of any quarter since the start of 2013.



CORPORATE TAX PROPOSAL: WHAT LIES AHEAD FOR BERMUDA'S ILS SECTOR?

In August 2023, the Government of Bermuda announced the possible introduction of corporate income tax in Bermuda once it has conducted a series of two consultations. Sherman Taylor, Head of Capital Markets at Ocorian in Bermuda, explores the proposed corporate income tax and considers its implications for the Insurance Linked Securities (ILS) sector if approved.

Back in October 2021, a historic agreement was reached among 141 jurisdictions, including Bermuda, ushering in a new era in international tax reform. The two-pillar solution was designed to ensure that large, multinational enterprises (MNEs) with global annual revenues exceeding €750 million contribute a minimum level of income Tax.

Central to this transformation is the Global Anti-Base Erosion Rules (GloBE Rules), developed by the Organisation for Economic Co-operation and Development (OECD). Pillar 2 of this agreement seeks to guarantee that the global income amassed by MNE's is subject to an effective tax rate of at least 15%. This approach hinges on the imposition of a 'top-up tax' on profits arising in jurisdictions where the effective tax rate is below the 15% minimum effective rate.

Bermuda's existing taxes like payroll tax and duties on imports, are unlikely to be considered "covered taxes" under the GloBE Rules. The Bermuda proposal therefore contemplates corporate taxation, ranging from 9% to 15%, applicable to revenue earned on or after January 1, 2025.

Should this proposal become law, its impact on Bermuda's ILS industry would be limited to entities who are part of an MNE group. Notably, the typical structures employed for ILS transactions in Bermuda are 'stand-alone' entities, detached from both cedants and investors. These entities are conceived solely to facilitate one or multiple ILS transactions, and in isolation, they are unlikely to meet the criteria for MNE status. This may seem counterintuitive, given the substantial size of ILS deals, often amounting to hundreds of millions of Euros. However, the €750 million benchmark is

rooted in annual revenue, not assets under management, with premiums falling well below this threshold.

Bermuda's proposed corporate tax is a response to a growing push to establish a minimum global tax of 15% and there is no indication that Bermuda intends to widen its tax net beyond this. With 141 countries committing to the OECD agreement, the global minimum tax will be difficult to avoid by making domicile changes. Nonetheless, this would unlikely deter the demand for and expansion of ILS as an asset class.

Instead, it shifts the spotlight to other factors influencing the selection of a domicile for ILS transactions, where Bermuda holds a distinct edge. Bermuda transcends tax considerations - it is fortified by a myriad of compelling factors, including its stellar track record, competitive advantages spanning low operational costs, rapid market entry, an impeccable reputation, and the seamless establishment and operation of ILS vehicles.

Moreover, Bermuda's regulatory framework is well-established and has stood the test of time. Bermuda's regulations are underpinned by knowledgeable and accessible regulators. The island boasts a robust ecosystem, with major insurance players, brokers,

reinsurers, claim handlers, actuaries, and insurance managers entrenched in Bermuda, making it a veritable treasure trove of insurance expertise.

These cumulative strengths far outweigh any potential tax benefit, positioning Bermuda to maintain its global supremacy in the ILS realm, irrespective of the introduction of corporate taxation.

Ocorian provides a full suite of administration and fiduciary services to the ILS market in Bermuda. If you would like to discuss how we can support your ILS needs, please visit [Ocorian.com](https://ocorian.com) or contact Sherman.Taylor@ocorian.com.



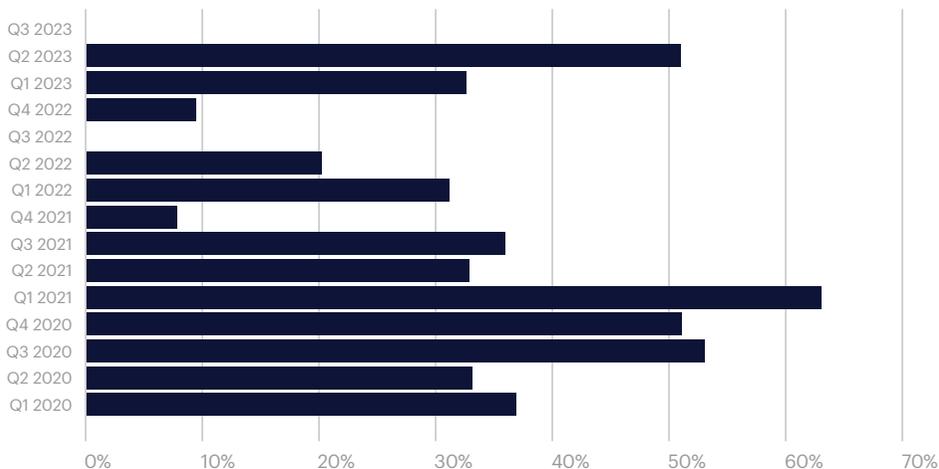
SHERMAN TAYLOR
HEAD OF CAPITAL MARKETS
IN BERMUDA

O C O R I A N

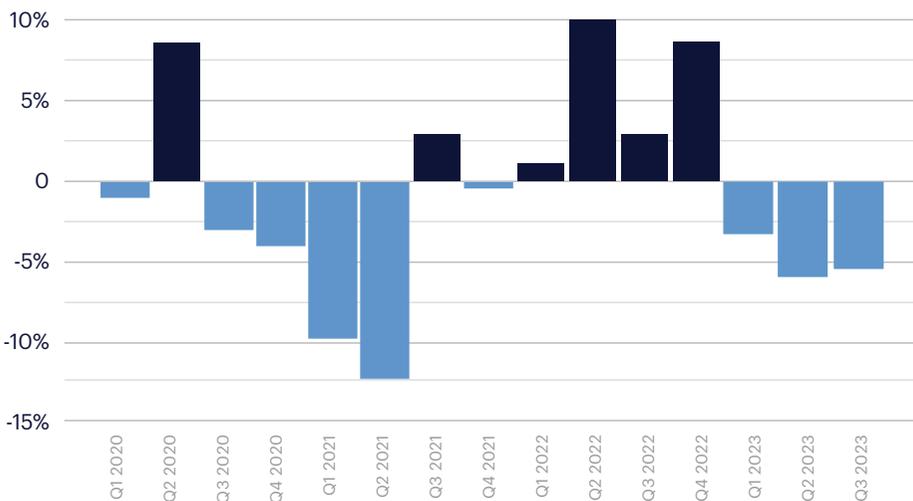
ocorian.com

Issuance size and price changes

For the first quarter this year, all tranches of cat bond notes closed at their initial target size, as reflected in the chart below. This is the first time there's been a 0% average upsize of quarterly issuance since Q3 2022 and is only the second time this has happened since the first quarter of 2020. For the first nine months of the year, deals have upsized by an average of 42.4%, compared with 25.8% in 9M 2022.



In Q3 2023, the average price change of issuance for the tranches of notes we have full pricing data for stands at -5.8%, so not quite as steep as the -6.3% seen in Q2, but a more dramatic decline from Q1's -3.2%. As the chart shows, all quarters have experienced a negative price change during 2023, which is a reverse of the trend in 2022 when all quarters saw an increase. In Q3 2023, all tranches of notes priced below the mid-point of initial price guidance, which suggests a more favourable placement for sponsors of deals when compared to last year.



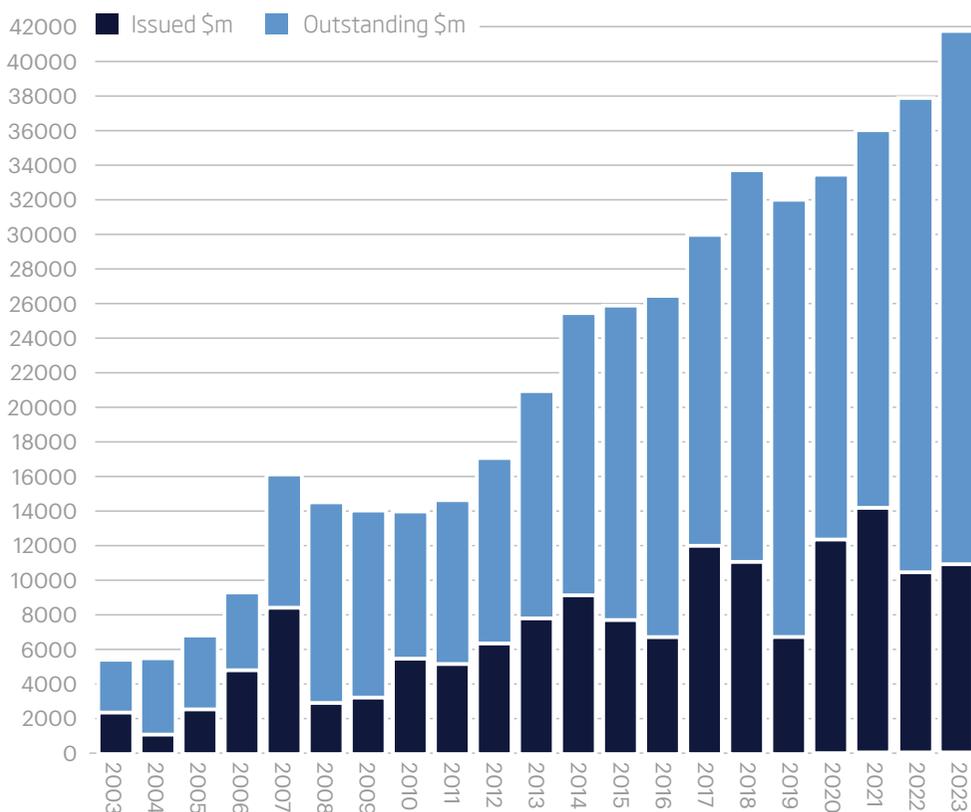
Issued / Outstanding

Catastrophe bond and related ILS issuance after the first nine months of the year amounts to \$10.9 billion and is \$408 million higher than the volume issued for all of 2022. With Q4 still to come, 2023 is already the fifth most active year ever in terms of risk capital issued and is the sixth time in the past seven years that annual issuance has exceeded \$10 billion.

Over the past decade, Q4 cat bond and ILS issuance has averaged \$2.2 billion, and if Q4 2023 turns out to be just an average final quarter, 2023 would be the second busiest year in the market's history. However, the expectation is that Q4 2023 will be busy ahead of the January renewals, so there's every chance that issuance levels hit a new record high this year.

During Q3, roughly the same volume of risk capital matured from the market as was issued, so the outstanding market ended the quarter at \$41.6 billion, unchanged from the end of Q2.

The Artemis Deal Directory already has one traditional 144a property cat bond listed for October, and again, it's expected to be a busy year-end amid firm retro and reinsurance market conditions.



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

Free daily reinsurance news online & in your inbox



www.ReinsuranceNe.ws

Reinsurance News is run by professionals with years of experience in journalism, knowledge management and the curation of timely insight for the reinsurance and risk transfer sectors.

By combining our experience in knowledge management and our broad reinsurance insight with technology we aim to bring you the most important reinsurance news both online & in a simple daily email.

Reinsurance News brings the reinsurance industry news that matters to a growing global audience.

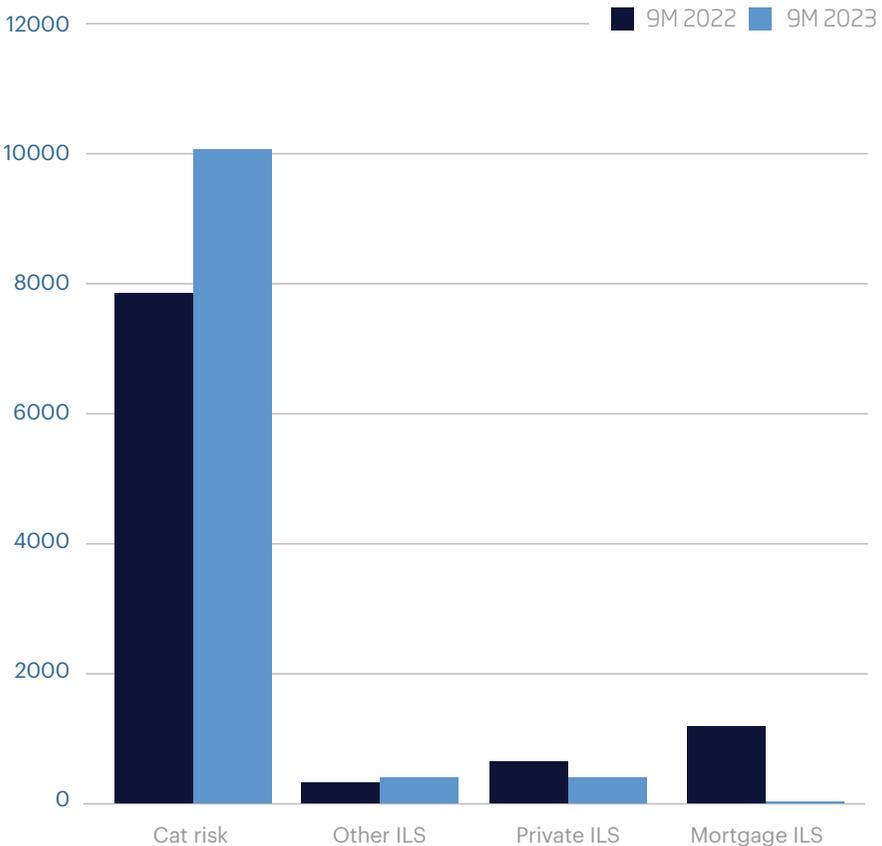
Sign up for email updates at www.ReinsuranceNe.ws

9M ILS issuance by type

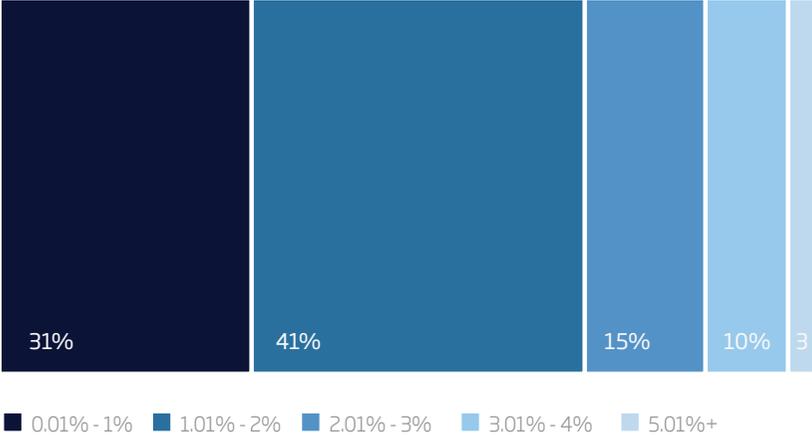
For just the third time in the market's history, property cat bond issuance has exceeded \$10 billion in 2023 and is \$2.2 billion above the level seen in 9M 2022. Further, there are still three months of the year remaining, so there's every chance property cat bond issuance beats the record of \$12.5 billion set in 2021. Highlighting just how strong property cat bond issuance has been in recent years, with the exception of 2019, it has exceeded \$9 billion every year since 2017.

While no deals covering other ILS came to market in Q3, the \$417 million seen in the first half of the year means that for 9M 2023, the level is still above 9M 2022's \$331 million. Private ILS issuance, however, has fallen year-on-year, from \$690 million in 9M 2022 to \$396 million in 9M 2023.

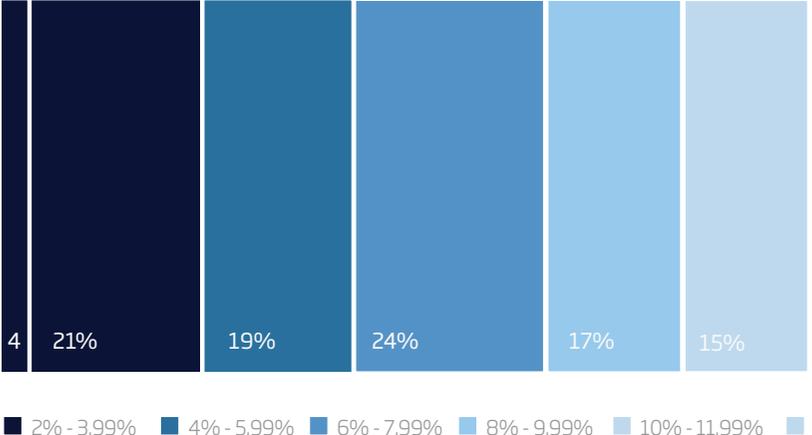
It's the same with mortgage ILS, as just one deal has featured in 2023 amounting to \$281 million, compared with the \$1.2 billion seen in 9M 2022.



9M 2023 ILS issuance by expected loss

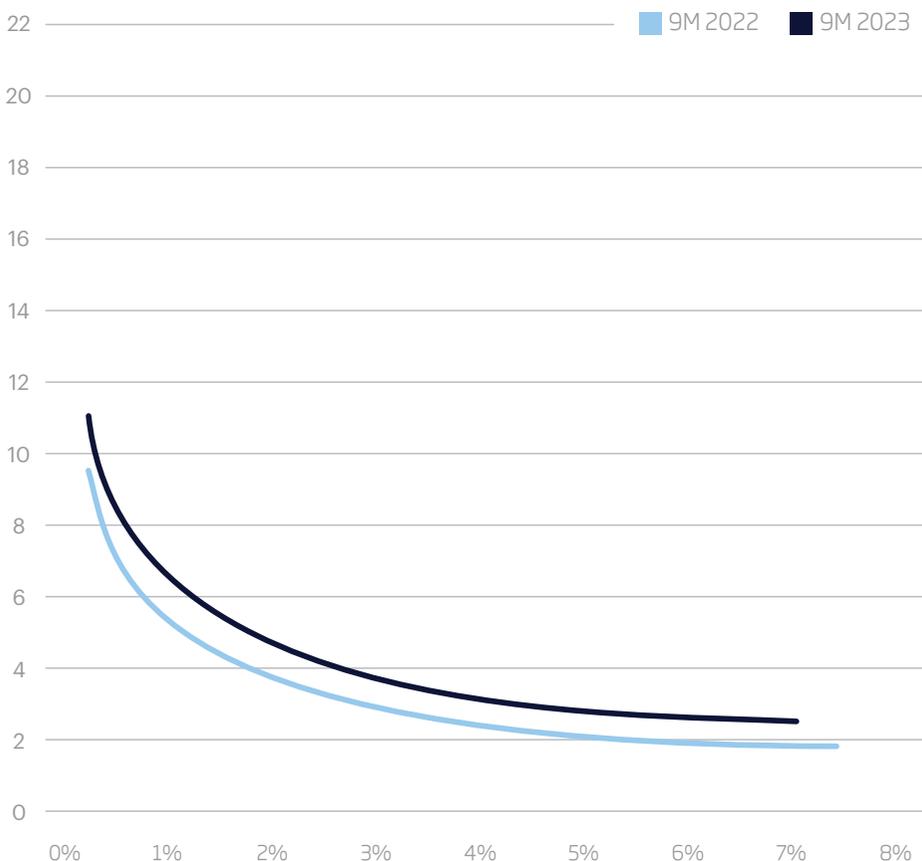


9M 2023 ILS issuance by coupon pricing

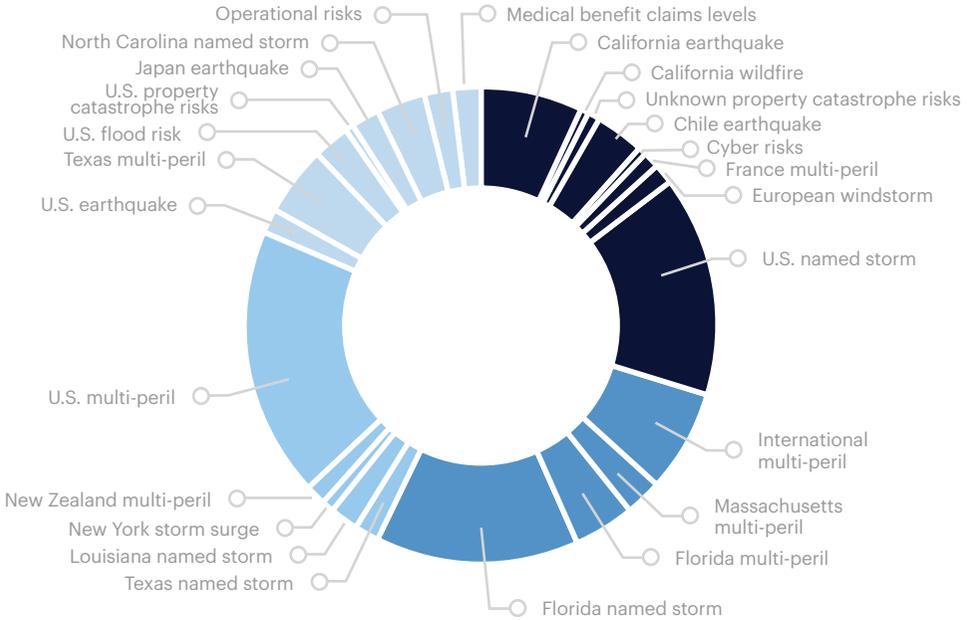


9M 2023 expected loss & multiple year-on-year

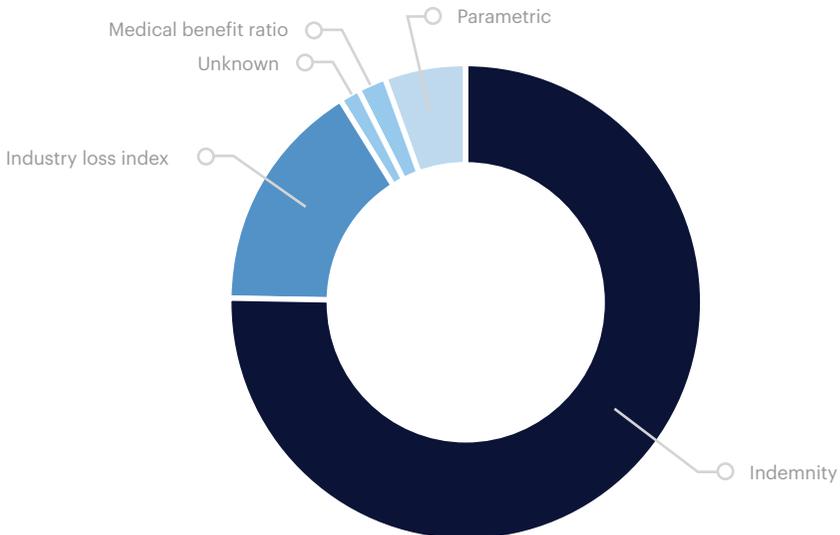
The light blue line represents 9M 2022 and the dark blue line 9M 2023. By plotting the expected loss and multiples of all tranches of notes issued in the periods, you can see that there's a consistent trend of the lower the expected loss the higher the multiple. While pricing has moderated somewhat in 2023, investors are standing firm and demanding elevated risk-adjusted returns in the current market cycle, which is supported by the fact the average multiple in Q3 2023 is the highest achieved in any quarter for more than a decade.



9M 2023 ILS issuance by peril



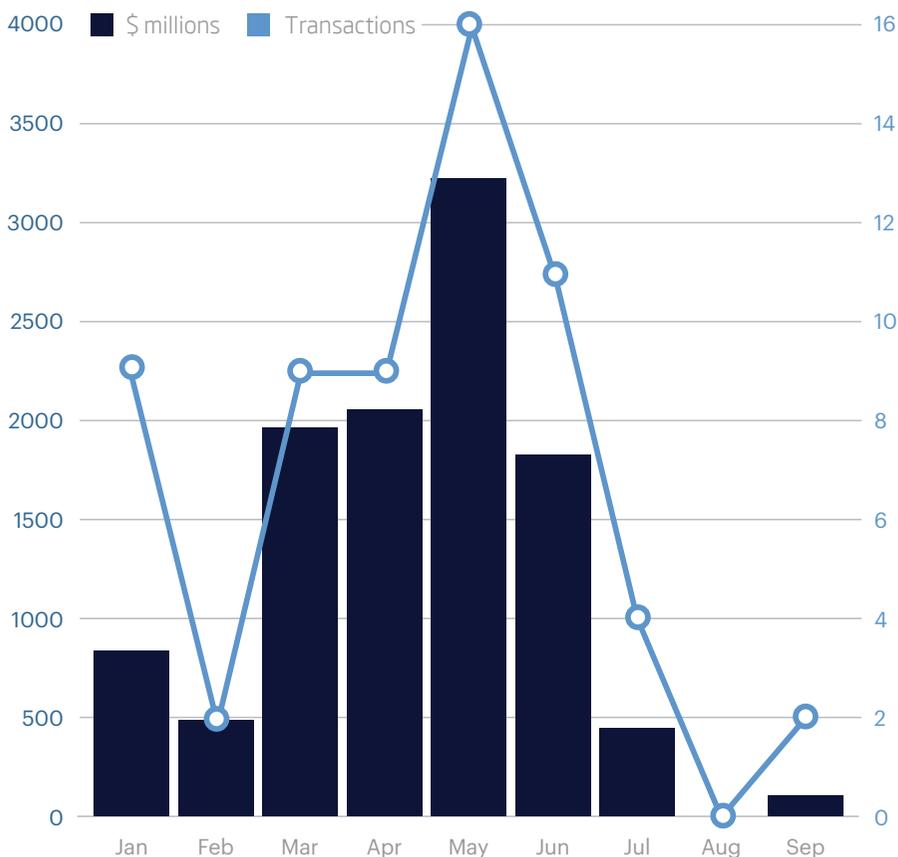
9M 2023 ILS issuance by trigger

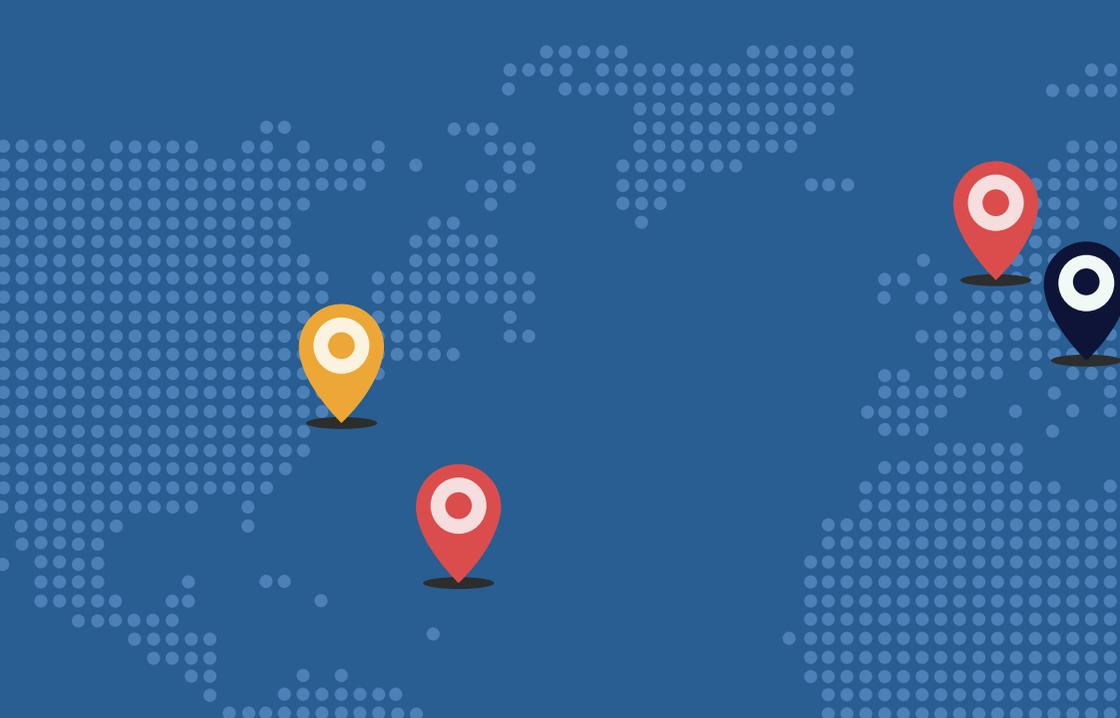


9M 2023 number of ILS transactions and volume issued by month

Year-on-year, 9M 2023 cat bond issuance increased by approximately \$2 billion to a record \$10.9 billion, driven by the more than \$7 billion of issuance seen in the busiest Q2 ever. It's also above the 10-year average for the period of \$8.1 billion by roughly \$2.8 billion and is the fourth time in the past decade that 9M issuance has breached \$10 billion. May is the most active month of the year so far with \$3.2 billion of issuance, followed by April which saw more than \$2 billion of issuance, and March with \$1.9 billion of issuance. August is the only month of the year to see no deals placed.

As shown by the Artemis Deal Directory, the staggering level of risk capital issued in 9M 2023 came from 62 transactions, which is up on the 58 recorded in 9M 2022. With the exception of 2021 (59), there have been more than 60 deals issued every year since 2017, with the most being 77 in 2020. In terms of the number of deals, May is the most active month this year with 16, followed by June with 11 deals, and then nine in January, March, and April.





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

Opportunities exist to work with Artemis to increase your profile to this segment of the global reinsurance and risk transfer market. Advertising opportunities, sponsorship, content development and partnership opportunities are available. Contact us to discuss.

CONTACT ARTEMIS:

Steve Evans, Owner/Editor
steve@artemis.bm
+44 (0) 7711 244697

To download a media pack visit:
www.artemis.bm/advertise/