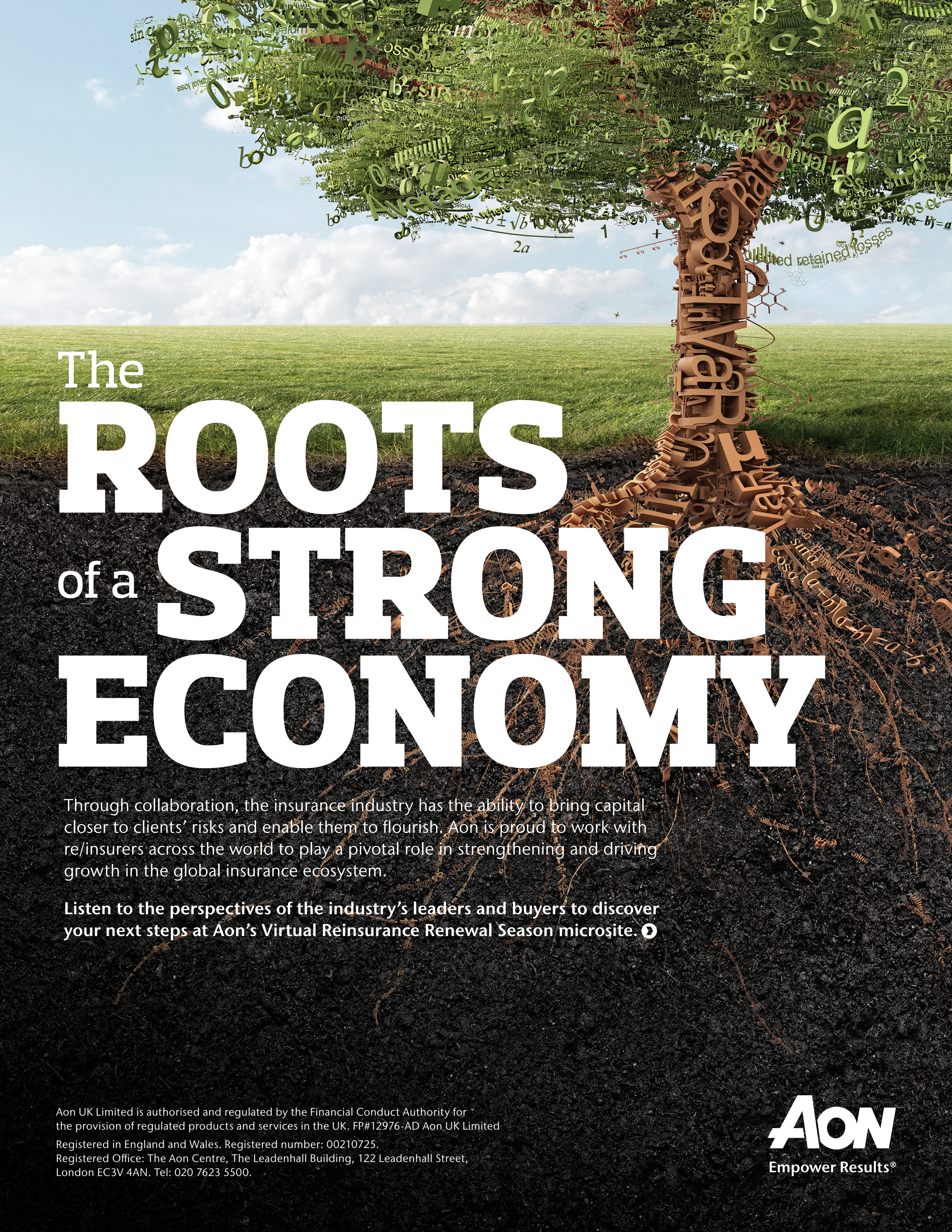
in | trading risk

ILS INVESTOR GUIDE

H1 2021

COMMITTING TO ESG:

THE ILS MARKET SEEKS TO DELIVER ON SUSTAINABLE VALUES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Practical and preventative: ESG strategies and ILS

Just a few months into 2021, the first natural-disaster headlines of the year are already occupying the minds of ILS insurance risk-takers. The snowstorms that brought freezing conditions to Texas will be a challenging event to evaluate for a number of reasons.

But it occurred to me that they may also be taken as an example of how some of the discipline of ESG investing could be brought to bear to the industry.

That's because much of the loss of life and damages that occurred were not solely due to the record low temperatures in itself, but because ageing power grids could not handle demand, leading to prolonged outages.

In many cases it is difficult for insurers to know how to price for these kinds of risks as public infrastructure is generally not what they're directly insuring. But if the industry could begin to agitate or price for known, particular infrastructural weaknesses – such as the New Orleans levees prior to Hurricane Katrina for example – then in theory, this could help drive more resilient development and investment in preventative measures.

There is clearly a growing wave of insurers that are now moving quickly to address ESG demands, even if initially with a lot of the focus on investing policies.

Even so, that momentum is positive for the ILS market since they may initially be relying on exerting pressure on this client base to drive ESG outcomes.

Within the ILS industry, moving on from the initial tone of debate on how ILS is inherently ESG-friendly – as its business is in assisting with disaster response – the conversations in the industry are now much more practical and further advanced as managers start taking concrete steps to appeal to investors who are approaching their portfolio through that lens.

I must admit that when we discussed the idea of delving into what ESG investing might mean on a practical level within the ILS space, my preconceived idea was that more focus would be on the "E" of that triumvirate – finding the risk-transfer solutions that do the most for the environment, given that this is disaster risk we are dealing with, perhaps prioritising those covering under-insured perils such as flood or drought.

But what surprised me when we looked into it is the extent to which practical, less glamorous grunt work on the governance side is a key part of these strategies – it really is last but not least when it comes to the G of ESG. Here, tackling challenges from losses in past years has meant a lot of lessons have been learnt on all sides and more specific disclosures are now available to investors.

As for the societal side of ESG, this will come to the fore as workplaces start looking to rebuild post-Covid-19 office life – look out for more on this aspect in our next ILS Investor Guide.

Fiona Robertson
Managing Editor,
Trading Risk

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ESG in ILS: committing to action

Environmental, social and governance (ESG) concerns are of growing importance to the ILS industry, largely driven by pressure from end investors and regulators, but work remains to be done on building a consensus about concrete goals, industry sources have said.

ILS is sometimes perceived as inherently ESG-compliant because of the nature of the asset class and its main property catastrophe focus, which provides capital to rebuild after a hurricane, wildfire or other kinds of natural disaster.

This is in relation to the social or "S" aspect of ESG, but does not account for the other two parts: environmental and governance, and some sources believe an element of complacency may have set in.

"Just by the fact that ILS doesn't trigger any of the red flags for many of our clients' ESG policies – you're not investing in energy, or arms, it comes up quite positively," one ILS consultant said.

"It's convenient to say we cover the 'S' part and think there's no need to do more," another consultant said. "Quite a lot of the managers we speak to say they think ILS is ESG compliant, because it's natural catastrophe cover. But there's clearly more work to be done."

One source noted ESG activities among ILS managers are "fairly low", although interest has generally picked up in the last two years.

"Managers are starting to introduce policies in the past 18 months or so, and we've been asking for several years," they said. "Managers are now reaching out to discuss a formal policy or working to integrate ESG into their processes."

Some investors are concerned that environmental risks are not being fully addressed, with questions raised over whether catastrophe models take into account the volatility caused by climate change.

Some areas of governance are also a concern for investors, including transparency of risks covered and valuation processes – although the industry has made significant progress in this area in recent years.

Constructing the framework

Sources agreed that developing and keeping to a clear reporting framework based on a shared consensus about ESG goals was the most important next step for the ILS industry as a whole.

Patrick Roder, a Switzerland-based ILS consultant for Synpulse who works with fund managers, said that developing an ESG reporting framework could be a challenge for ILS managers because of where they are positioned at the end of the risk transfer chain.

"You can tell ILS fund managers they have to report how many coal power plants they cover. But often they don't even know. Maybe they want to know, but they are often not given enough information about the portfolio of the cedant they are working with.

"This isn't to say they can't do anything, but the further away in the value chain you are, the less transparency you have, the less you can impact it and steer it."

However, on the industry's front line, insurers are moving to focus on addressing ESG concerns within their investment strategies at least.

The larger insurers are now used to enquiries and giving details about their investment policies and ESG to ILS partners, said Leadenhall Capital Partners CEO Luca Albertini (see pp8-9).

Some cedants are also willing to go further, wanting to demonstrate commitment to issuing "green cat bonds". However, Aon Securities CEO Paul Schultz says others want to know more about how it may benefit them first. (see p11).

ESG for ILS: the targets

Environmental: Investor questions about the pricing of weather risk

Social: Less of a concern because of the nature of ILS in responding to disasters, but some investor focus on diversity and inclusion

Governance: Transparency in areas like fund valuation, counterparties and delegated authority

To help make progress, figuring out which ESG issues must be addressed is the first challenge, Schultz said.

However, the sheer breadth of ESG as an umbrella term is another hurdle to developing a reporting framework. There is a wide variety of ESG priorities among institutional investors and the ILS managers with whom they have mandates.

Bill Dubinsky, managing director and CEO of Willis Securities, part of whose work is to help ILS managers to formulate ESG goals, noted the diversity of perspectives among ILS end investors.

"Everyone is at a different stage, and there are varied perspectives about how ESG fits into a business model. Some people are more focused on governance, others more on climate change. It's really all over the board.

"Part of the challenge for an ILS manager is to take whichever set of principles their investors subscribe to and make them operational."

Investors might assume there would be a trade-off to be made if looking for the most ESG-friendly ILS instruments – for example given that deals covering developing world risks tend to pay less as they are rare non-US diversifiers.

But Fermat Capital Management, which has created an ESG rating system that it applies to all ILS assets in its portfolios, said this is not the case, pointing to the importance of strong governance – in the context of the transparency of ILS risk disclosures, of loss reporting and on how a company governs its risk – to ILS underwriting.

"What rates highly from an ESG point of view generally rates highly from an underwriting point of view," said Joanna Syroka, Fermat's senior underwriter and director of new markets. "We want ILS that enhance environmental awareness and preparedness, contribute to important societal needs and promote good risk governance principles. We believe this is not only important for the sustainability and scalability of the market... but also for investor returns in the long run."

Regulatory pressure

Sources noted that funds within the EU, UK and Switzerland are currently more likely to be focused on ESG goals, at least partly because of higher regulatory pressure compared to other jurisdictions.

A raft of new ESG rules is coming into force in the EU from March. Managers that market funds in the EU, including ILS managers, will have to make new disclosures about their ESG activities under the Sustainable Finance Disclosure Regulation (SFDR). The new Taxonomy Regulation will also aim to prevent "greenwashing" – the practice of marketing a product as sustainable when it is not.

Joanna Syroka,
Direct of new markets,
Fermat Capital Management

"What rates highly from an ESG point of view generally rates highly from an underwriting point of view"

Some EU-based ILS managers are likely to launch "article 8" funds under the new regulation, Roder said, which means they'll be able to market themselves as ESG-friendly, but also that they'll have to be more transparent in their disclosures about what they invest in.

Environmental concerns

Stepping back from the granularity of regulatory frameworks, there is a growing concern among some institutional investors that increasing climate risk could constitute a black mark against the environmental component of ESG in ILS.

Some investors fear catastrophe modelling is inadequate, citing the increased frequency and severity of hurricanes and wildfires in recent years and the tendency of firms to use data from prior years to inform their models.

One portfolio manager at a pension fund with more than $200bn assets under management said: "ILS does not meet the "E" part of ESG until such point in time that someone can show me we are being paid for climate risk.

"There is a huge divergence between how the broad institutional investor world looks at climate risk and how the reinsurance and ILS world does."

Others argue that this is a simplistic view of the issue. Mark Wilgar, an ILS consultant at Cambridge Associates, who works with managers and their investors, noted that it is "somewhat unfair" to draw a direct parallel between faltering ILS returns in recent years and the potential for increased frequency and severity of natural catastrophes that comes with climate change.

"Investors might say 'of course ILS has done worse [in recent years], look at climate change' but actually the issue is much more complex than that," he said.

"It's not necessarily appreciated by investors how sophisticated some of the models are. The models themselves aren't just backward looking, they're taking account of a range of factors like higher sea surface temperatures."

Concerns regarding climate change can also distract from other less intuitive issues which affect ILS modelling and performance, Wilgar said, including property valuations, social inflation, loss adjustment expenses and potential for litigation.

Outside of property catastrophe, another way that ILS firms are taking on climate change is by providing weather risk to renewable energy or sustainable agriculture companies.

Continued on page 06

Leadenhall
Capital Partners

Insurance Linked Investments

Non-Life and Life Strategies

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Nephila Climate, part of the ILS manager Nephila, is among the leaders in this area.

"If we as a society want there to be more renewable energy or sustainable agriculture, both of those things have a huge exposure to climate risk and weather fluctuations", explained Nephila Climate chairman Barney Schauble.

"We as a firm can provide a shock absorber for that risk and get paid for it, and it's another way of putting in place the change you want to see in the world."

Corporate governance

While environmental issues may be the most attention-grabbing part of ESG, governance is also a key concern for ILS investors, both from an operational and reputational point of view.

Within that, areas of attention include transparency, fund valuation and the domicile of the special-purpose vehicles that ILS managers use to run transactions.

One pension fund manager said understanding where underwriting authority lies at an ILS manager is a key part of their due diligence as part of the process of evaluating corporate governance standards at a fund manager.

"When we select a partner we want to know where the value comes from as well. In some cases it might be that they have super smart underwriters with great track records on niche lines, and we'd want to know the authority that is given to them."

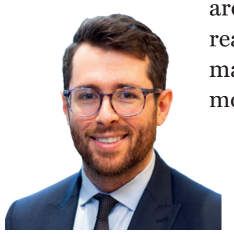
Understanding the process for remedying the inevitable errors or misjudgements that come in any form of investment management over a long enough period is also vital, the pension fund manager added.

Another aspect of transparency is understanding what exactly a fund's investment is providing reinsurance for.

According to a 2019 report by environmental group 350.org, more than 1,000 institutional investors with over $11tn in assets under management have committed to divesting fossils fuels, for example, so it is important for those portfolio managers to know that their capital is not going towards a fossil fuel-burning power plant.

"For the most part, improving ESG compliance really boils down to counterparty selection in ILS," according to Cambridge Associates' Wilgar.

"Transparency is definitely an issue – think back to 2017, when what managers were disclosing was sometimes inadequate at the time",' Wilgar stated. "Some managers are moving with the times and really giving granular data, some managers are moving slower but momentum is positive.



Mark Wilgar,
Investment director,
Cambridge Associates

"For the most part, improving ESG compliance really boils down to counterparty selection in ILS"

"Transparency is something that needed to improve, has improved and probably could go further."

Alongside reinsurance counterparties, ILS managers should also carefully consider service providers such as legal counsel or financial services providers for their credentials, sources said.

Independent valuation of collateralised reinsurance contracts is another important concern for institutional investors, especially regarding events like 2017's Hurricane Irma that have resulted in significant loss creep.

"Almost the most crucial aspect is to understand how valuation is done," the pension fund manager said.

"Most funds include an independent valuation option... It's vital to know from an ILS manager, if their valuation agent says that this asset is worth a certain amount and they maintain it's worth double, what are they going to mark that position as in their [net asset value]?"

Elsewhere, the domicile of special-purpose vehicles (SPVs) is also an area of attention for some European institutional investors, sources pointed out, although this is less of a concern now Bermuda has been placed on the EU's tax "white list" after making regulatory changes.

Besides tax issues, there are other more general points to consider from a structural point of view.

"In Bermuda there are several different classes of insurers used for reinsurance backed by ILS – investors need to know which one is being used, how it is being used, and does it provide better or weaker governance and transparency," explained Willis Securities' Dubinsky. "If it's weaker, is there something specific being done to remedy that?"

Attention on ESG issues within ILS continues to grow, driven by investor and regulatory pressure. Funds continue to make progress on evaluating environmental and governance standards at counterparties, and boosting transparency in their own processes.

But just as ILS is naturally ESG-compliant to a certain extent, a major challenge to further improvement is inherent within the asset class.

Unlike equity investors, ILS managers do not own the companies they invest in and so must take a more collaborative approach to influence counterparties towards more ESG-friendly activities. Sources agreed that pushing for more clarity from counterparties on a wider range of issues is the most straightforward way to improve ESG in ILS.

Dialling up the heat on ESG

Leadenhall Capital Partners CEO Luca Albertini says he wants to achieve a "firm-wide" approach to ESG investing, and climate pricing know-how is the industry's major advantage.

How is Leadenhall implementing an ESG strategy?

Both Leadenhall (since October 2018) and its ultimate parent group (the MS&AD Group) are signatories to the UN Principles for Responsible Investment. We appointed a head of ESG 18 months ago, making us we believe one of the first ILS managers to have a dedicated team in this area. We want all the parts of our business to be represented on that team.

What does the approach look like in practice?

We discuss the kind of questions you should ask before underwriting each transaction. On the governance side, these issues are particularly interesting – as the market has seen in the past few years that dealing with counterparties that don't have strong governance can amplify losses, such as in Hurricane Irma.

We also have questions we ask around a cedant's investment portfolio – if they follow ESG practices themselves.

Luca Albertini, Chief executive officer

How do cedants typically respond to those enquiries?

We can see the larger firms are used to it – they are often signatories to ESG standards themselves.

We're not using their responses as a filter as yet, but if the answer is "no we're not pursuing ESG investments and we don't care" then that's a problem. For us it's more about dialling up the heat and making sure that it's something that needs to be done as an industry.

It helps to be a leader or important counterparty for an insurer; that's when you can have a strong impression if you say to them that you're starting to look at these issues. If you're 3% on their reinsurance panel, it might be harder.

But beyond asset management, not much is necessarily happening. There's a major gap between what's realistic and the extreme version of what it could mean – such as stopping insuring oil extractions tomorrow. It's easier for insurers to say they will not insure any new coal mines, but phasing out legacy exposures will take longer. I think that sticking to a principles-based approach rather than a rigid rules-based one will help to limit greenwashing of this type. While we are working on future energy sources, you can argue that insurance can help support clean-up and liability payments when things go wrong, such as with the Deepwater Horizon incident, for example.

Overall, how well do you think the ILS market fits ESG goals?

Fundamentally I believe there is a massive alignment of interest with insurance and ESG products. Poor environmental and social management can create more losses and poor governance can amplify claims for the insurance industry.

We believe that insurance is really a positive factor in society and we are supporting people as needed after a disaster event. Insurance can also influence risk management: for example, by making insurance covering assets in high-risk areas markedly more expensive, we incentivise commercial enterprises to build in safer areas and with better construction codes, making their business more resilient and sustainable.

"For us the question is whether we want to be an ESG firm overall or not… the answer is definitely yes"

We would be really foolish if we didn't call ourselves ESG champions as an industry. But we don't want to earmark specific funds as ESG; for us the question is whether we want to be an ESG firm overall or not, and for us the answer is definitely yes. European regulations are being introduced to broadly define what can be seen as ESG friendly, and would require a classification of each fund against ESG principles.

The move is positive as it focuses more attention for all asset managers on these issues, although for now the regulations are not yet fully developed to be able to ascertain the detailed impact of the requirements on our niche sector.

Where do some of the complexities that emerge?

There is a very wide range of views on what should be ESG-compliant. We understand that some European players consider investing in countries that use a death penalty as non-ESG-compliant: with such an extreme view this could lead to an ILS manager excluding US perils. These views are in my opinion extreme and not viable for our industry, but I am confident the mainstream view would allow investors to focus chiefly on the ESG impact of their counterparties. The work to be done there is huge if you, for example, see major corporations that are part of most stock indexes entering crypto currencies which are highly energy-consuming assets subject to virtually no governance (and as such helping money laundering).

How does climate change play into the demand for an ESG response from ILS firms?

On the surface we look like the most exposed industry to climate change.

But we are also one of the very few industries that has a measurement for climate change and when we are pricing risk, we take it into account.

There is a debate to be had about how well it is being priced in and understood, but we're doing as much as we can to measure it and we are ahead of other industries.

How much longer do you think investors can expect continued rate gains from ILS?

There are a lot of reasons why these rate improvements should not stop – let's not forget that some conversations over Covid-19 claims were postponed at 1 January which meant we didn't see the full changes should the wide end of the industry loss estimates materialise.

But the increase in rates was happening before Covid-19 – the pandemic is one of the reasons for the upturn, not the only one.

We believe these trends should continue but the brokers are very optimistic over the supply of capital.

However, some capital that came into the market entered because of the rate conditions – if these prices start plateauing, some investors might get out as quickly as they came in and underpin the market where it is.

Overall, I think we are on a sustainable path with the potential for some further improvement to returns.

"There are a lot of reasons why these rate improvements should not stop"

How important and durable do you think changes to terms and conditions were in the recent renewals?

We were starting from a good base in these renewals – we didn't have allocations to the products that have created issues such as quota share treaties and sidecars.

The reduction of capacity for low attaching aggregates was one of the biggest things that the market observed in 2020, although we never played that low in reinsurance programmes.

There's no comparison to the situation before, a lot of the concerns over eliminating disease coverage have been addressed and natural peril definitions on an "including but not limited to" basis came under severe pressure.

Hopefully that will lay a very stable foundation for the retro market going forward.

However, there isn't an enthusiastic acceptance from cedants of newer strict wordings – we had a lot of players asking for exclusions to be rewritten, and I expect they will ask again and again in the coming months.

We have been more selective on collateralised reinsurance counterparties in light of collateral release and commutation issues with some... there are some cedants who are not fit for trading with the collateralised markets as they just don't understand our requirements.

How has the pandemic impacted future trading possibilities for Leadenhall's life ILS portfolio?

For the funds we have raised since the beginning of the pandemic, it has been split roughly half and half between non-life and life strategies.

Our life ILS portfolios were initially built on taking pandemic risks, but the proportion of the portfolio and bond market that is directly exposed to those risks was small by the time the pandemic struck.

You would expect greater demand to arise for pandemic bonds and pandemic coverage in general, although for now it is a bit dialled down by the lack of appetite in covering for Covid-19, but you may start to see it later.

We are also starting to see more regulatory capital transactions for life insurers as they respond to the event.

Meanwhile, as we clarify terms and conditions of cover on the non-life market, then it is clear to me that a lot of people who believed they had pandemic cover will have to pay additional premium to secure it in the future.

I'm optimistic about what we will be able to do – you may have a combination of private and public covers as we do for terrorism and flood insurance.

There should no longer be silent coverage, and there will be a place for pandemic risk well beyond a pure life coverage in ILS portfolios.

ILS manager asset base bounces back in 2021

The ILS industry has largely bounced back from its pandemic dip, entering 2021 with an asset base 4% larger than at the mid-year 2020 mark, according to data collated by *Trading Risk*.

The assets under management (AuM) of specialist ILS managers gained 4% over the half-year to reach $72.8bn, clawing back the bulk of initial pandemic outflows but remaining below the $73.8bn they oversaw in January 2020.

In-house reinsurer platforms lifted assets by 4% to $23.3bn.

Key trends during the latter part of 2020 included a group of managers surpassing the $2bn threshold and joining the top tier of ILS managers. This continues a theme that emerged post-Hurricane Irma, in which smaller players attracted inflows after demonstrating strong performance.

New entrants to this top tier included Pillar Capital, Neuberger Berman, Amundi Pioneer and Scor Investment Partners, following its acquisition of Coriolis.

But at the same time, the industry's largest players have started to gain ground again.

The 10 largest players have rebounded after a consistent slide throughout 2019 and in the early stages of the Covid-19 pandemic, gaining 3% during H2 2020 to reach $60.4bn by January 2021.

It is noteworthy that the top 10 peer group has experienced some turnover in recent years, with Markel Catco being removed after it was put in run-off in March 2019, so the figures are based on the 10 largest firms at reporting date rather than a consistent peer group.

Key trends

- Pandemic dip unwound, but gains/losses unevenly spread
- Cluster of smaller funds surge past $2bn
- Top 10 begin to claw back 2019 slide
- Most gains among specialist ILS players

Leaderboard shuffling

The ILS leaderboard has been reshuffled to some degree following the 2017-2019 loss years and the more recent pandemic disruption, as investors rebalanced their portfolios.

The biggest gainers in the half-year, posting more than $500mn of additional assets, were Leadenhall Capital Partners (up $780mn to $6.4bn), Fermat Capital (up $600mn to $7.6bn) and Hudson Structured Capital Management (HSCM) (up $500mn to $2.6bn within their reinsurance funds).

The make-up of this trio underscores certain fundraising themes seen over the past year. First, increased interest in liquid alternatives and cat bonds, where Fermat specialises, and a tendency for experienced ILS investors to seek diversity in nat-cat portfolios, with HSCM's pitch centred on taking a range of (re)insurance risks.

In contrast, Credit Suisse's assets shrank by $400mn to $5.8bn, based on lagging quarter data, and Stone Ridge's public funds also continued to fall by $300mn to $3.8bn, while Securis shed $300mn to reach $4.5bn.

On the reinsurer side of the market, Renaissance Underwriting Managers was also up by more than $650mn, although as it reports on a quarterly lagging basis, this reflected Q2 fundraising activity into its DaVinci and other vehicles.

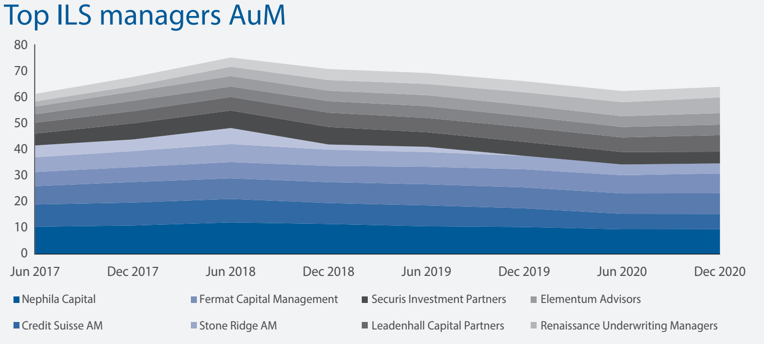
Among the most liquid strategies tracked by *Trading Risk* – European UCITS and US 40-Act funds – total assets rose to $5.2bn from $4.7bn.

For the full listings see pages 28-29.

Top tier ILS AuM 2017-20

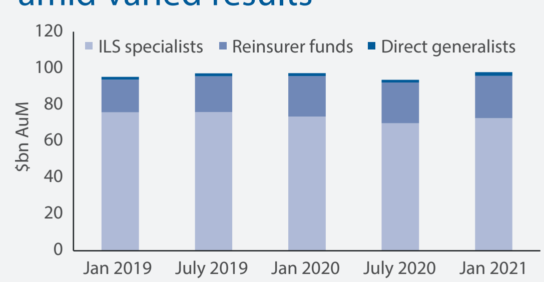
Source: Trading Risk

Top ILS managers AuM



Source: Trading Risk

Overall ILS assets stable amid varied results



Source: Trading Risk

Cat bond sponsors set to collaborate on ESG

Cedants want to know how ESG demand will impact transactions, says Aon Securities CEO Paul Schultz

How do you think an ESG focus will impact the ILS industry?

We're very excited about building out more work around ESG strategies and socially responsible investment strategies.

It's the right thing to do anyway, but I think it will bring more capital to the market and enable growth. It will have to be done in parallel with the sponsors and cedants.

One of the initial challenges is it means something slightly different to everyone who hears it – the further you drill down, the more you start to uncover, so that's where it will take time to make progress.

We need to design a framework to address these issues, as otherwise you risk going down a tangent and losing focus on what it is you're trying to solve for.

Paul Schultz
CEO of Aon Securities

For example, are US Treasuries (where most ILS collateral is held) suitable for ESG mandates? Investors have varying views on this.

What types of cat bonds do you think fit particularly well with an ESG mandate?

Cat bonds, like other forms of green bonds, fit squarely in ESG mandates. Unlike some other green bonds, which provide pre-event funding, cat bonds provide capital after a climate event to facilitate rebuilding.

Bonds in the ILS space have a key role to play in closing the protection gap and fortifying resiliency. You can look at transactions such as those by the World Bank as good examples, but insurance and reinsurance deals overall also fit in well.

How are cat bond cedants responding to this wave of interest?

Some cedants want to demonstrate their commitment to issuing "green cat bonds" where the economics make sense; others want to know what the benefit will be to them.

We need to quantify what it means to the investment community if we narrow down a portfolio that could be transferred to them; how does that impact the cost of a bond and capacity.

How are cat bond yields looking after the dip towards year-end 2020?

We think that 2021 rates are more or less back to 2019 levels.

The market has given back some of the gains it took in 2020.

But we don't think it's a softening market – it's more neutral, and generally speaking the market is still looking to improve pricing and terms and conditions after years of rate reductions.

We're at one of the times in the cycle where the ILS market is leading behaviour in pricing. It will be interesting to see how the traditional reinsurance market responds to this.

But the ILS market had started to reprice upwards prior to the reinsurance market, and now it is just giving back some of that gain.

The pricing options for cedants considering cat bonds and traditional reinsurance are pretty competitive.

What do you think has driven risk levels upwards in the ILS market over recent years?

We think some of this reflects investor preferences to deploy at higher risk-return levels after the 2017-2018 losses.

Some capital providers were saying we need to see a larger opportunity following those losses – not just moving ahead taking similar yields. However, it's not universally true of all investors.

Do you think the market is still on track to see a record volume of deals?

Yes, we think our forecast of $11bn-$12bn record annual issuance for 2021 holds.

Volumes this year will be elevated by a high level of churn from maturities, circa $10bn, but we expect both repeat and new sponsors.

Amongst new sponsors we hope to see some outside the (re)insurance market – whether that's from the government or corporate markets, both are important to us.

Cat bonds set for buoyant 2021

Cat bond deals could reach record volumes during 2021, with broker-dealers forecasting annual issuance ranging from $10bn to $12bn.

Much of this will be driven by renewals, with more than $10bn set to mature this year. The hardening traditional reinsurance sector could also bring new sponsors to the cat bond market, brokers said.

This comes on the back of a record year for cat bond issuance in 2020 of $10.9bn, according to a report published by Aon in January.

Including non-cat deals would take volumes close to $11.8bn, according to *Trading Risk* figures.

The cat bond market was the best-performing segment of the ILS market, the broker noted, as investors have been drawn to the transparency and specificity of bond instruments.

But after an uptick in spreads following the initial pandemic disruption last March, by year end 2020, strong investor demand had led cat bond yields to fall back from Covid-19 peaks.

Across the whole of 2020, new issuance spreads averaged 6.6% on a weighted average basis, with a 2.7x multiple, versus 7.7% on a 2.4x multiple in 2019.

Brokers surveyed by *Trading Risk* at the start of the year varied in the outlooks that they gave for the spreads cat bond investors could expect from deals in 2021.

Most said they thought pricing could continue to improve slightly from a sponsor's perspective in 2021 as in 2020, with investor appetite for the liquidity and transparency of cat bonds remaining healthy, and yields relatively attractive compared to corporate BB bonds.

But Aon's head of ILS Paul Schultz was more cautious, telling *Trading Risk* in January that pricing would flatten out this year and perhaps even increase slightly, given the continuing wariness from some investors about secondary perils like wildfire and flooding (see commentary p11).

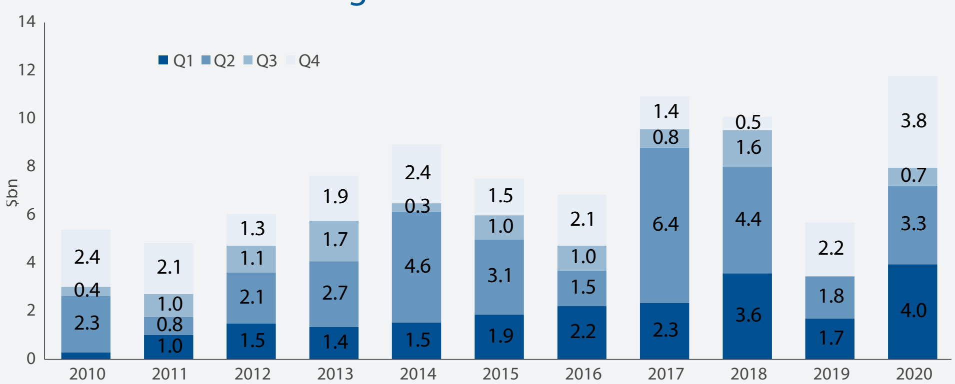
One of the impacts of the hardening traditional reinsurance market in 2020 was reinsurers turning more frequently to the cat bond market for retro protection, with some $4.3bn of cat bonds providing retro cover. Brokers said this trend was likely to continue in 2021.

Sponsors appear to be benefiting from strong investor demand already at the start of the year, with sponsors of deals covering US flood and earthquake risk obtaining cover at discounted premiums compared to similar prior deals.

Despite the year-end downturn in spreads, Swiss Re capital markets managing director Judy Klugman said in January that cat bond rates were still offering "relatively good value for the amount of risk that you take compared to a "bb" or "b" bond".

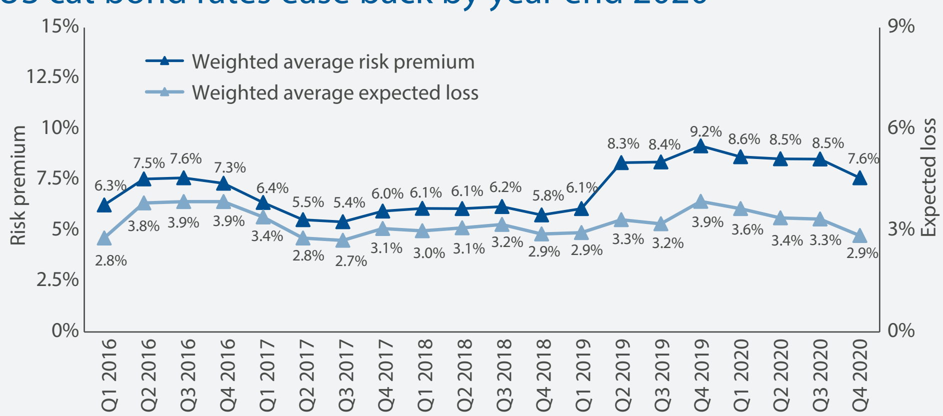
Cat bond spreads have stayed largely above corporate BB bond yields over the past two years, save for a relatively brief spike at the start of the Covid-19 crisis in March 2020. For US cat bond spreads, the differential between gross cat bond rates and corporate BB debt over the second half of the year surpassed 400 basis points.

Cat bond volumes surge in 2020-2021



Source: Trading Risk

US cat bond rates ease back by year end 2020



Source: Willis Re

Q&A: Dr Ben Fox

The Hiscox principal, portfolio manager says the ILS industry is well-placed to tackle the "E" in ESG

How do you think ILS managers can better position themselves as ESG-friendly strategies?

We have seen an increased emphasis on ESG and responsible investing themes across the investment landscape, and there's a natural prominence placed on the 'E' of ESG given the industry's focus on climate change risk. With that risk comes opportunity as the industry is well placed to tackle the impacts of climate change, but it's important that ILS managers can demonstrate that they live their ESG values, rather than just pay lip service to them.

For instance, at Hiscox ILS we have developed a climate change dashboard which is embedded in our investment process to help us identify, quantify, monitor and manage the impact of climate change on our natural catastrophe exposures. Two of the parameters we especially focus on are: (i) the current scientific understanding or a given peril region's sensitivity to climate change, and (ii) how the available models account for and quantify the impacts of climate change.

As an affiliated manager, we also have representation on the Hiscox Group-wide ESG working group and Hiscox ILS has recently joined the newly formed Responsible Investment working group of the SBAI. At Hiscox ILS, we are committed to ESG and are actively seeking opportunities to contribute to ESG initiatives that help drive positive behaviour in the industry.

How long will it take to resolve issues over ILS investors' exposure to Covid-19?

That's the $64,000 question at the moment.

While we understand frustrations around the trapping of collateral with respect to Covid-19, context is extremely important here. In the aftermath of a US windstorm event, typically there are relatively high levels of certainty in: (i) the footprint of the event, (ii) the behaviour of the underlying insurance policies and (iii) the behaviour of the associated reinsurance contracts.

With Covid-19, all these factors remain subject to high uncertainty, while the legal and regulatory landscapes around them continue to evolve. To help allay investor concerns around capital lockup, we have recently developed and embedded an elegant mechanism in a number of our funds that helps mitigate the impacts of trapped collateral on returns which has been very well received by our investors.

What were the most positive outcomes from the January renewals for you – how much better do you think ILS portfolios may perform this year as a result?

While the January renewals did not quite meet the more optimistic expectations that markets had going in, we continued to see material price rises across all products and regions (including on non-loss affected contracts) – a healthy sign that, despite capital inflows to start-ups and scale-ups alike, we are seeing a relatively disciplined market pricing risk appropriately.

Terms and conditions were the other big theme through the renewals – specifically the drive, spearheaded by Hiscox amongst others, for communicable disease and cyber exclusions – something our underwriters have been pushing hard on for some time now.

On the communicable disease side, we saw exclusions agreed to across almost all contracts, which we believe will considerably limit the exposure to a repeat of the recent pandemic and represent a cleaner investible product going forwards.

What is your take on how long rate improvements will be sustained?

A year is a long time in the reinsurance and ILS space. However, the current house view is that we will see continued rate improvements through the upcoming 2021 renewals, but timescales beyond that are subject to high uncertainty.

When considering the combination of the effects of several consecutive years of rate rises across our business mix of property catastrophe reinsurance and retro, we see pricing back to at least 2014 levels. In concert with the associated improvements in terms and conditions, we believe that ILS continues to represent a compelling investment proposition.

What does 2021 hold in store for Hiscox ILS?

We recently welcomed our new CEO of Hiscox Re & ILS, Kathleen Reardon, who has been busy meeting investors and other key stakeholders and helping us further refine our strategy for the platform for the next five years. As we enter our eighth year of trading, we have high-performing mature portfolios managed by a stable, experienced investments team.

Our approach is very much evolution rather than revolution as we seek to take our offering to the next level. We see continuing opportunities to grow our core market-leading products while expanding into other lines as befits an ILS manager affiliated with a leading global (re)insurer.

Comeback year for ILS returns; index gain hits 3.5%

ILS funds made an average return of 3.51% in 2020, in the best year for the Eurekahedge ILS Advisers index since 2016.

The comeback year fell short of the annualised average 4.25% return since inception in 2006, but well overshot last year's 0.92% gain.

The past year brought a string of minor US hurricane losses and wildfires, but with almost all the biggest natural disasters remaining well under the $10bn threshold, ILS managers were able to largely swerve major claims.

The pandemic itself also brought some exposure to business interruption losses. The initial global lockdowns in March marked the biggest monthly downturn of the year for the index, dropping 0.7%, with minor losses also recorded in April, October and November.

Aggregate contracts drove some claims activity, while in its June report, ILS Advisers noted that some funds had recorded further deterioration to prior loss years.

However, three years on from Hurricane Irma, prior-year losses are now close to being commuted and wound up.

The 2020 gains have enabled the sector to claw back more ground lost in the 2017-2018 loss years, after a flattish 2019. The overall index is now only 5.6% below its January 2017 starting point.

Breaking the index return down by segment, cat bond funds made a 3.3% gain for 2020, versus a 3.7% return from private ILS funds. The result marked the first year that private ILS funds outperformed cat bond funds in the past four years.

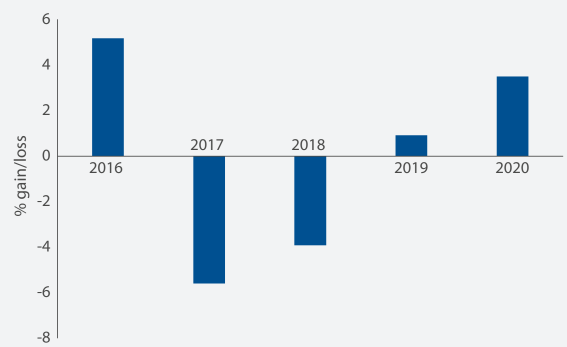
These figures are based on the initial monthly breakdowns released by ILS Advisers, which are sometimes adjusted slightly as full data comes in.

Key metrics

	%
Annualised return	4.25
Return since inception (2006)	86.66
Sharpe Ratio	0.69
% of positive months	86.11

Source: Eurekahedge ILS Advisers

ILS returns bounce back



Source: Trading Risk

Looking back over the past four years, the uneven split of losses between lower-risk cat bond funds and private ILS strategies is more obvious.

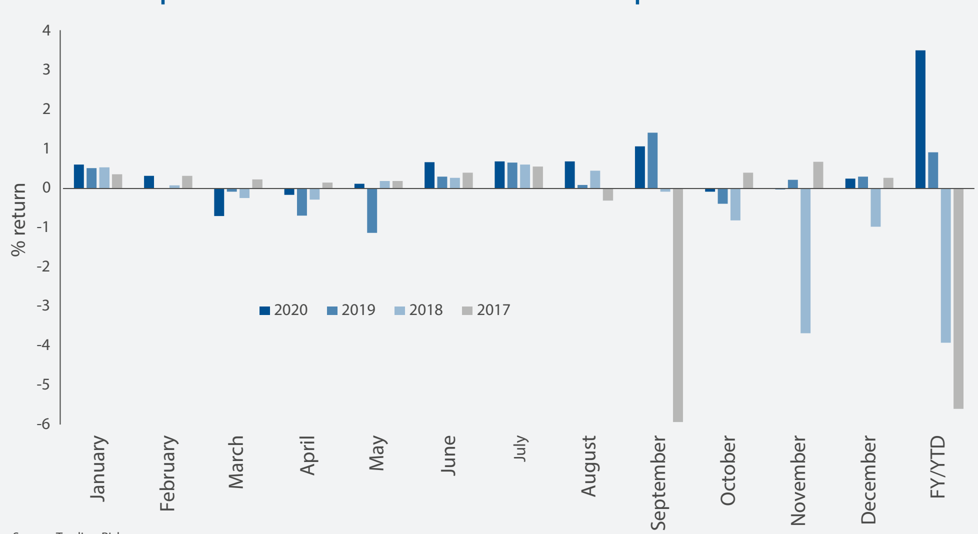
As the cat bond segment avoided major losses in 2017-2018, its four-year track record since 2017 is running at a 7.6% gain, versus a 9.3% loss among private ILS funds, according to *Trading Risk* records based on initial ILS Advisers data.

Some variation in performance remained but, overall, the volatility in returns was narrower and results more clustered within a tighter range than in 2019. The swing in monthly returns from the top to lowest performers averaged 4% versus 6% in 2019.

Various reinsurers and brokers put the year's natural disaster insured losses at above average figures for the prior decade, but individual events were not particularly costly by industry standards.

The biggest loss of the year was Hurricane Laura, which Munich Re put at $10bn, with multiple US wildfires costing $7.5bn and a Midwest derecho around $5bn by the reinsurer's estimates.

2020 ILS performance robust as Covid spreads



Source: Trading Risk

Cleaning up after Covid

The 1 January reinsurance renewals were marked by a focus on wordings and adding exclusions to avoid future pandemic and cyber risks.

The January reinsurance renewals produced a widespread pricing upturn in catastrophe markets, although strong levels of supply meant that rate gains were more limited than some had hoped for.

Reinsurance and retro buyers were able to secure better deals later in the renewal, as the pace of rate increases slowed, raising a question over how long the improving market conditions will be sustained.

In Europe, where cat reinsurance rates are generally difficult to move, sources pegged increases at around 5%, in some cases lower – versus around 10% increases for the US market, and uplifts in the teens for the retro market.

But these estimates varied as ever among different firms and participants, partly because calculating risk-adjusted changes depended on the value ascribed to exclusions and other structural changes, not just pure price.

Deferred negotiations

The January renewal season features a heavy focus on retrocession and European risk – two areas that have been impacted by uncertainty over Covid-19 exposure.

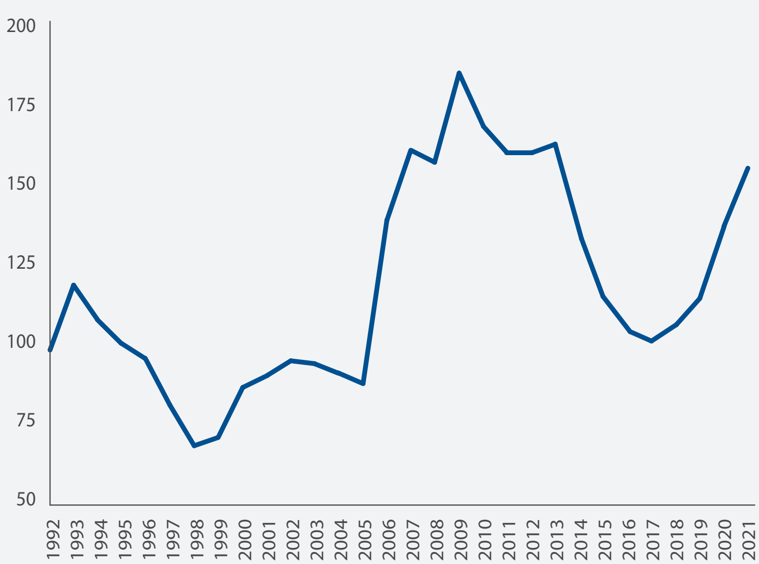
However, for the most part, discussions over potential pandemic claims were set aside and deferred until later this year, due to the lack of clarity over business interruption (BI) exposure.

This meant negotiations focused on exclusions, with communicable disease and cyber exclusions widely enforced on property deals.

Increasingly cedants sought bespoke wording on exclusions, which divided market participants.

Some reinsurers argued that altering the exclusion wordings risked watering them down, although others saw it as a more natural progression similar to the evolution of terrorism exclusions after 9/11.

Retro rates back to ~2013 levels: Howden index



Source: Howden

Key points

- Rate increases are widespread, but more limited than hoped
- Retro market pressure eases as buyers cut back, while new suppliers step up
- Cyber and disease exclusions affirmed, but wording goes bespoke
- Covid claims debates deferred

For example, there might be the potential for losses to be inflated by pandemic circumstances, such as delays in accessing properties to repair physical damage, but as the underlying loss is covered cedants want to ensure this does not impact their recoveries.

Retro draws in new providers

Retrocession – reinsurance for reinsurers – was expected to be one of the most disrupted niches in the renewals, but pressure abated by 1 January.

New capacity providers had arrived to the market from third-party capital ventures and rated reinsurers. Among new facilities, private equity firm Oaktree Capital backed the launch of equity-funded vehicle Acacia, while another PE investor Olympus invested in a new PartnerRe sidecar.

But the interest in retro markets was also broader among rated providers, including the likes of PartnerRe alongside stalwarts such as Everest Re, RenaissanceRe and Liberty Specialty Markets.

"Everybody has now got a bit of retro in their plan," one source pointed out.

But retro buyers also adjusted their demand in expectation of higher rates and cut back purchasing by as much as 10% or around $2bn of cover. Some also turned to the cat bond market during 2020, which led to retro cat bond volumes jumping to $3.5bn versus $2.4bn in 2019, according to *Trading Risk* figures.

Some flagship retro buyers with favourable loss experience were able to achieve renewals on close-to-expiring terms, skewing the overall outcomes.

But after achieving rate increases in prior years, retro business is still back in line with roughly 2013 levels, according to Howden's rate-on-line index, which showed rates jumping 13% from January 2020.

Since the trough of 2017, retro pricing has increased on average by 50%, Howden pointed out.

Although aggregate retro remains a shrinking market, there was some more capital available than had been expected and this "greases the wheels" and lets reinsurers deploy more aggregate in turn, one underwriter noted.

Trapped capital was expected to be a hurdle for ILS-backed retro writers, but in the event many buyers agreed to roll forward collateral – like the European market, effectively deferring conversations over loss exposure.

The major grey-zone debates over retro Covid-19 losses will centre on contracts written on a natural perils basis "including but not limited to" a list of specified perils.

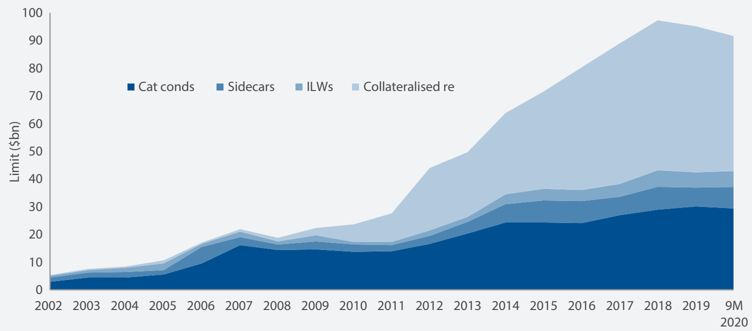
Thus, there was a strong drive towards named natural perils from ILS providers.

Other start-ups

The successful start-ups of 2020 that have a reinsurance orientation – Conduit Re, Vantage and, to some extent, Inigo – arrived relatively late in the day and were not cited as a major influence on the overall dynamic, although clearly they contributed to the healthy supply-demand balance.

But some participants suggested the more subdued pace of rate increases may make it harder for newcomers to gain a foothold in the market, with expansive carriers such as Convex and Fidelis suggested to be finding it easier to grow smaller existing lines than they would find it to break into panels.

Alternative capital deployment



Source: Aon Securities Inc.

Future directions

One of the industry's major post-renewal discussion points is what the slowing pace of change implies for this current repricing phase.

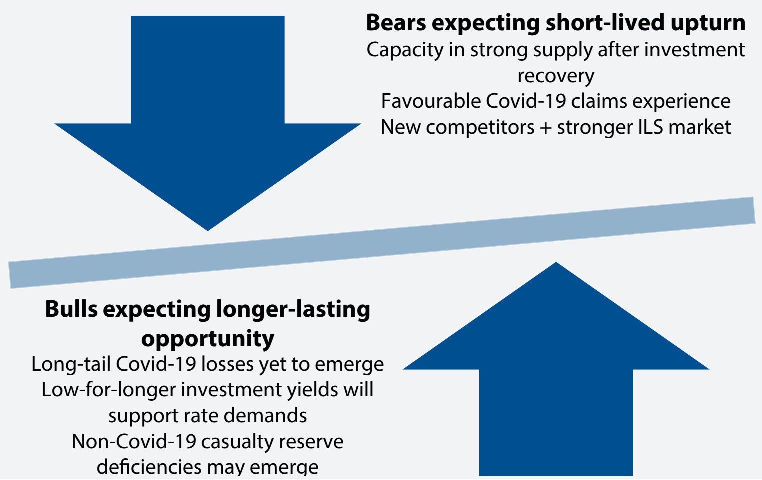
Those in the bearish corner who fear rate momentum will run out sooner rather than later may point to strong levels of supply in the market and new competitors coming online, including the 2020 start-ups.

As well, there has been little fresh demand; while the cat bond market is relatively competitive and overall, the industry is having success in holding back US BI claims.

On the counter side, those who believe the hardening market cycle has much more innate momentum might point to the uncertainty over the BI losses that are already in the market and the prospect of a post-pandemic recession that might drive more liability-linked claims, as well as prompt a general shift in risk appetite that could equalise the supply-demand equation.

Other drivers, such as low investment yields and casualty reserving inadequacy, will also hamper overall returns for an extended period, which should support continued demand for higher underwriting yields to offset this impact.

Those are the main arguments for each camp – and the divisions between the two are deeper due to the varying strategies heading into this year, from large-scale fundraising to new sidecar launches to a business-as-usual approach. That fresh capital will be looking to see which side got it right.



trading risk

ILS Week 2021

Bouncing Back

#TRILSWeek

Online **27, 28, 29, 30 April 2021**

The alternative reinsurance market is recovering its strength in 2021 after a quiet couple of years. Cat bonds are providing reinsurance and retro buyers with a buoyant source of capacity, helping them to manage their needs in a rising market.

Many ILS managers have benefited from post-Covid investor interest in alternatives and grown their assets under management notably, boosting the segment after an initial pandemic drop-off in funds. But with strong competition for new fundraising wins, firms are looking for fresh ways to differentiate themselves.

As the run-up to the Florida June renewals gathers pace, Trading Risk will host a week of sessions diving into the factors influencing the ILS market, from delving into the retro market to delivering on ESG ambitions to capitalising on the pace of change brought about by the pandemic.

Each day will feature panel debates as well as head-to-head Q&A with key industry players over a 90-minute session that lets you carve out a mangeable chunk of your day to further your understanding of this fast-changing market.

The short-form sessions will have something for both ILS market participants, cedants and investors.

What to expect

Tuesday, 27 April **Day 1: Opening up after Covid: how long will the good times last?**

New/old competitors: from start-ups to sidecars
Investor appetite in the run-up to mid-year renewals
Liquidity and beyond: changing buying patterns

Wednesday, 28 April **Day 2: ILS Reshaping**

2:00 – 3:00 (GMT)
Panel discussion: Future ILS Structures
Fresh ideas on dealing with trapped capital
The evolving face of ILS management platforms
Opening up market access

Thursday, 29 April **Day 3 : ILS and ESG**

Identifying key investor concerns and trade-offs
Taking concrete steps
The big "E" worry: climate change

Friday, 30 April **Day 4: London & ILS**

New routes to Lloyd'ss
Cat diversifiers
Future of follow market structures

Register free online at https://events.trading-risk.com/ilsweek2021

events.insuranceinsider.com

What other asset classes are useful benchmarks for thinking about the relative appeal of ILS?

Trading Risk speaks to ILS consultants on relevant comparisons to help weigh up industry opportunities

Mercer principal and ILS class specialist Robert Howie says comparing ILS yields to sub-investment grade bond yields makes sense as both represent a "high-yield-type thinking" approach to investing. "Fundamentally, it's providing capital, you receive a premium, and you put your capital at risk."

At present the yields on ILS stack up quite well against high-yield bonds, he notes.

However, Howie reiterated that ILS cannot be seen as a "matching asset", that is, "not a substitute for sovereign and high-quality investment-grade fixed income for pension funds".

"Rather, it is a growth asset whose role is to provide return and diversification, and therefore it needs to compete with other growth assets for a role in the portfolio."

Cambridge Associates investment director Mark Wilgar agrees that the different mindset of investing in bonds means comparisons to equity returns with greater potential for upside are less relevant, and comparing the drawdown risk of the ILS sector to other bonds makes sense.

"It helps to be pessimistic, you have to be cynical and skeptical and focus more on risk."

However, while BB corporate bonds might be statistically equivalent to cat bond risk levels, Wilgar notes that looking at US rather than global cat bond indices may produce a "somewhat unfair comparison", as the US segments highlight the best-compensated part of the ILS market.

But Wilgar points to one rarely discussed take on the difference between the two bond markets: that of regulatory safety nets.

The insurance sector faces more risk that regulators can sometimes potentially force insurers to take losses to support policyholders, when stricter interpretations of policies may have ruled out claims.

However, the pandemic has highlighted the willingness of governments and policymakers to throw support at the markets after the dislocation of last March – and the transmission of that support and attempts to shore up asset prices came via broader fixed income markets.

But as financial stimulus and low interest rates are set to drive base yields lower for longer, investors are now increasingly looking for sectors that replace high-quality, fixed-income or money market instruments – where some argue that ILS, particularly cat bonds, may fit the bill.

This came as Cambridge Associates released a research report arguing that investors should not turn away from lower-yielding alternatives such as ILS to help meet overall return targets in this environment. In part, this is because in a low-yield environment, higher-yield alternatives such as private equity funds are "unlikely to fill the void" as the premium they offer adjusts down, according to the Vantage Point report on modern portfolio diversification.

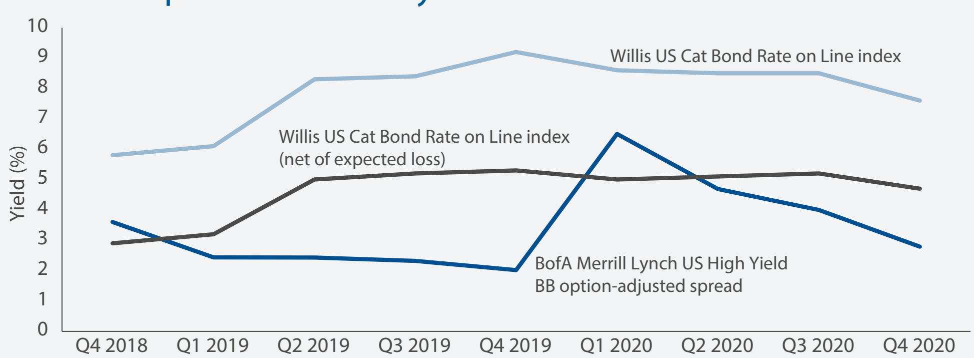
Private equity is less of a relevant benchmark as the longer-term, 10-year horizon of such investing does not align with the typical annual reporting from ILS managers, Mercer's Howie notes. "You know, on a year-by-year basis, how much money you're making. So that naturally is probably more comparable to what hedge funds can offer," he says.

"It helps to be pessimistic, you have to be cynical and skeptical and focus more on risk"

The fee structure on ILS products is also similar to standard hedge funds, Howie adds, although ILS funds tend to be seen more as products that capture underlying risk premium in a smart beta-type way, than alpha-driven hedge funds marketing themselves on their "skill and ability to manoeuvre".

"So they do compete against hedge funds, but it's in different ways."

ILS vs corporate BB bond yields



Source: BofA Merrill Lynch US Corporate BB Index

Swiss ILS investors review strategies

Swiss institutional investors have been a significant source of ILS capital, but some might reduce commitments to the market after years of catastrophe losses, industry sources have said.

Sources suggested that while ILS returns vary and attitudes to the asset class differ, Swiss pension funds are considering their options and reviewing their allocations to the sector.

However, looking past the track record of recent cat loss years, the relative appeal of ILS is increasing compared with other asset classes, which may draw in new investors and offset the impact of any retractions, sources explained.

"Our ILS allocation is certainly up for discussion," a portfolio manager at a Swiss institutional investor told *Trading Risk*. "For sure, we need to analyse past results."

Swiss institutional investors overall have $7bn-$10bn in ILS, according to Michael Knecht, a founding partner of local consultancy Siglo.

Investors tend to have allocations with multiple managers, and ILS typically constitute about 2%-3% of their total assets.

Domestic managers are often the most popular among Swiss investors.

Relative appeal increasing

Despite some negative indications about the ILS market, there is no indication that Swiss investors are clamouring towards the exit en masse.

"If you talk to 10 ILS investors, five are sticking to their strategy and the other half are reviewing their allocation," Knecht noted. "You also have some people coming back in now because the relative attractiveness to the credit market is definitely higher than before."

An investor agreed that increasing rate momentum is making the ILS market look more attractive on a prospective basis.

"If you judge the results just based on historical numbers, there is not that much that speaks for ILS," the Swiss investor said. On the other hand, the ILS market environment has improved a lot, he added.

"When you look into the industry, there has been a lot of premium improvement. The unknown component has been the catastrophe side."

A fund manager said: "Overall, attitudes aren't changing... The amount of money from Switzerland is not going to change too much."

Another area of increasing interest within ILS is the cat bond segment.

It's understood that around half of Swiss ILS allocations are held in bonds, which fared much better than private reinsurance/retro contracts in the 2017-2019 loss years thanks to their lower-risk profile.

One fund manager noted that they were seeing an upturn in interest in bonds from investors. As one consultant pointed out: "The only happy clients you have out there are cat bond-only clients".

"If you talk to 10 ILS investors, five are sticking to their strategy and the other half are reviewing their allocation"

Diverse performance

There has been a divergence in performance among the ILS managers that have mandates with Swiss institutional investors in recent years, sources said.

Several named Credit Suisse as underperformers, and sources told *Trading Risk* last year that some of the manager's ILS funds underperformed peers in ILS indices during the 2017-2019 catastrophe-struck years.

Other local managers have performed better, sources said.

For some investors, a downturn in one part of their ILS portfolio might prompt a broader review of the strategy.

One Swiss investor noted: "Some managers did a lot better than others. You cannot put everything into the same bucket."

However, while ILS may be coming under increased scrutiny in Switzerland, many of the country's institutional investors have a long history with the asset class and the country is still expected to continue to be a key source of mandates.

Selected Swiss pension funds' ILS allocation

Fund	ILS investment (CHFmn)	ILS investment ($mn)	Total assets (CHFbn)	Total assets ($bn)	ILS allocation (%)	Manager
PK SBB	371	418	17.8	18.3	2	Unknown
City of Winterthur Pension Fund	42	47	1.4	1.6	3	LGT
City of Zurich Pension Fund	360	403	18	20.2	2	Elementum, Scor
BLPK	197	220	10.3	11.6	1.9	Unknown
APK	233	262	11.7	13.1	2	Unknown

Source: Fund websites

Canada's PSP enters ILS market

Trading Risk rounds up recent investor entries and mandate wins within the sector

Canada's Public Sector Pension Investment Board (PSP Investments) made its first ILS allocation to start-up manager Integral ILS in November 2020.

The cornerstone mandate from PSP Investments, one of Canada's largest pension funds with C$169.8bn ($135bn) in assets under management (AuM) as of last March, focuses predominantly on natural catastrophe risk. PSP also backs one of Integral's partners, wholesale specialty broker Amwins.

With an allocation from New Holland Capital (NHC), Integral's total ILS AuM reached $600mn.

New Holland Capital has been investing in ILS since 2003. It currently manages over $20bn for institutional clients and focuses on smaller or earlier-stage managers and catalyst-driven opportunities with more established managers.

Along with the investment, announced in January, NHC will provide strategic support to Integral as it ramps up its operations. It is understood this could include assistance to uphold best practices in operations, risk management, client services, and other matters.

Elsewhere, Scor received a new allocation from the City of Zurich pension fund in January 2021, complementing an investment made with Elementum Advisors in June 2019. The size of the allocation was undisclosed, but overall ILS mandates now comprise around 2% of the pension fund's total CHF18bn ($20bn) portfolio, equal to around CHF360mn ($400mn).

The pension fund also classifies mandates with life settlement and longevity investors Miravast and Broadriver in its ILS holdings.

Meanwhile, Nephila is in line for "a portion" of the Blackstone Alternative Investment Funds' assets, according to a December filing by the private equity fund, but the exact amount was not disclosed.

Nephila has been named as a sub-adviser to two Blackstone alternative mutual funds since 2013, but when cat bond yields began falling in 2014, Blackstone quickly scaled back the allocation.

Finally, Elementum said in January that it had launched a new high-risk return strategy after receiving a mandate from a large institutional investor for the vehicle. The manager did not disclose the size of the mandate or identity of the investor that seeded the collateralised reinsurance strategy.

This came as private equity firms Oaktree Capital and Olympus Partners backed new retro vehicles – Acacia Re and a PartnerRe sidecar, respectively.

Select major investors in ILS, $250mn+ allocation to sector

Organisation	Domicile	Current ILS allocation $mn	Total portfolio in ILS	Managers employed	
PGGM	Netherlands	7500	2.40%	Fermat, LGT, Nephila, Elementum, Munich Re, New Ocean, AlphaCat, RenaissanceRe, PartnerRe and Swiss Re on behalf of ultimate client PFZW	2006
RBS	UK	1330	2.31%	Nephila, Leadenhall and insurance litigation fund	2012
Future Fund	Australia	1141	1.00%	Elementum Advisors, Hiscox Re ILS	2015
Pennsylvania Schools (PSERS)	US	966	1.63%	Nephila, Aeolus, RenRe	2011
Canada Pension Plan (CPP) Investment Board	Canada	>907	0.34%	Fermat, Nephila and RenRe	
Florida Retirement System	US	740	0.50%	RenRe, Nephila, Pillar, Aeolus, ILS P&C legacy fund	2018
AP2	Sweden	686	1.71%	Fermat, Credit Suisse ILS, Elementum	2012
Challenger Life	Australia	662	1.00%	Allocations not known	
Teacher Retirement System of Texas (TRS)	US	600	8.33%	Allocations not known	2013
AP3	Sweden	600	0.90%	In-house and external allocations	
MLC	Australia	560	1.00%	Mt Logan, AlphaCat Managers	2007
Abu Dhabi Investment Authority	Middle East	550	0.07%	Allocations not known	2019
State of Michigan Retirement Systems	US	538	0.77%	Allocations not known	
West Midlands Pension	UK	473	2.30%	Markel Catco, Credit Suisse, Coriolis	
Railpen	UK	462	1.54%	Credit Suisse ILS	
PK SBB	Switzerland	418	2.00%	Allocations not known	2013
Maryland State Retirement and Pension System	US	>400	0.22%	Nephila, HSCM Bermuda, ILS Property & Casualty	2014
The Coca-Cola Company	US	346	5.40%	Allocations not known	2012
Arkansas Teacher Retirement System	US	331	1.90%	Aeolus; Nephila	
IBM UK	UK	291	2.53%	Nephila, Securis	2013

Source: Trading Risk

What would it cost: US derechos

Hailstorms and tornadoes are the better-known threats from the peril of severe convective storms, but last year an Iowa storm threw the spotlight on another, little-appreciated hazard from these severe weather events: the derecho.

It produced insured losses that Aon put at $7bn, ranking it as the second most costly cat event of the year. The event caused major damage in Cedar Rapids and damaged 14 million acres of cropland in Iowa.

Technically, a derecho is defined as a straight-line wind event that tracks at least 250 miles (400 km) with gusts topping 60 mph (95km/h).

But they do not occur in isolation and an event would be accompanied by hailstorms and tornadoes, with insurance policies providing combined cover for the three sub-perils of severe convective storms (SCS).

Trading Risk asked modelling firms RMS, CoreLogic and KCC to calculate what a major derecho impacting the Midwest cities of Chicago and Des Moines would cost and to discuss the challenges of modelling for these events.

As with all modelled perils, there was a range of outcomes, but the firms all emphasised some common themes – notably, the fact that these storm losses, which are sometimes described as "secondary perils", should be expected to produce major losses.

CoreLogic said the higher losses from last year's storm showed "tail risk events can and do happen – even far beyond the 1-in-100-year marker, and knowing this risk and exposure is key to supporting a healthy portfolio".

"For the north-central states affected by this event, the August 10 derecho was representative of the types of losses we should expect every few decades."

RMS senior product manager Chris Allen agreed that the August 2020 loss reinforced that "SCS is not just an 'attritional' peril."

The firm's SCS models suggest a 1-in-50-year loss in the Upper Midwest may cost $6.6bn. The August derecho contained unusually long duration of wind gusts, which significantly raised its damage severity and provided modelling firms with new information on potential wind damage, Allen added.

KCC: regional loss viewpoint

	Five-year return period	20-year RP
DDEs – single event	$1bn	$7bn
All SCS events – single event	$9bn	$14bn
All SCS events (nationwide) – annual aggregate	$39bn	$53bn

"The Midwest derecho demonstrates how recent experience only contains a subset of all possibilities, and more extreme events are more likely to be missing from the observed record in the past couple of decades. Catastrophe models are designed to fill this gap in knowledge," he continued.

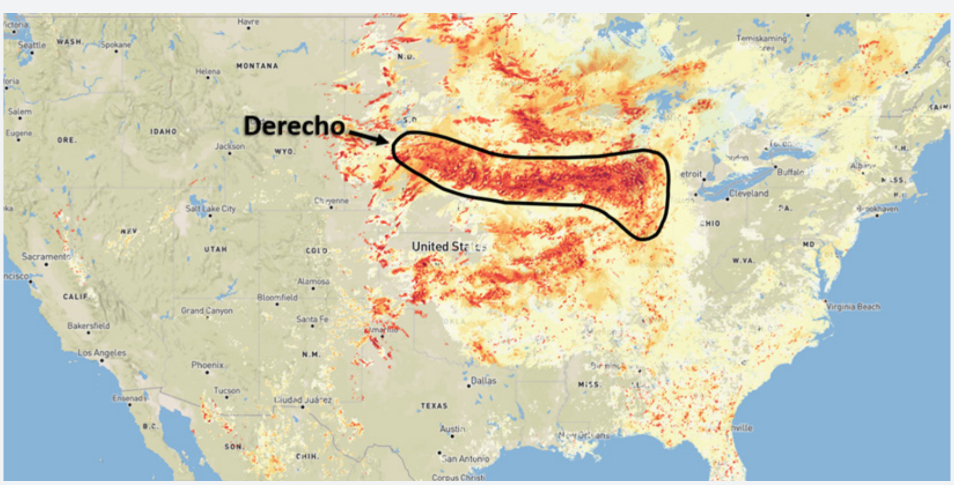
KCC also highlighted that a $7bn SCS/derecho industry loss "should not be considered an extreme loss".

On average, two to three derecho-denominated events (DDEs) may occur in the US each year, but many are minor and do not incur significant insured losses. Every four to five years, a DDE will result in insured losses of over $1bn, the firm projected.

KCC founder Karen Clark said assigning a severity to derechos is not as simple as for hurricanes where the category classifiers – category 3 or 5 – make it relatively obvious which events may have more destructive potential.

"What would make it more extreme is duration and length, but the losses would be most influenced by whether or not it impacts a metropolitan area," she explained. Costs from the Iowa derecho were no surprise in terms of modelling for the peril – the storm was just a particularly large one.

KCC Footprint for August 8-11, 2020 SCS event with the Iowa derecho highlighted



All-state losses

KCC chose to focus on shorter return periods.

The firm estimates that a $7bn DDE, in which derecho damage is a defining feature, would be a 1-in-20-year return period event across all states.

RMS: metropolitan damages

Exposure	Sub-peril	Occurence return period loss
DesMoines metro	Hail, tornado and straight-line wind	$870mn
DesMoines metro	Hail, tornado and straight-line wind	$1.91bn
Chicago metro	Hail, tornado and straight-line wind	$3.3bn
Chicago metro	Hail, tornado and straight-line wind	$4.87bn

In contrast, across all SCS sub-perils, the same return period could cause a $14bn loss.

"A derecho is a specific meteorological phenomenon, and the probability of a DDE causing a $7bn insured loss is much lower than the probability of any SCS event causing that level of loss," the firm explained.

Metro spotlight

The 2020 derecho was particularly severe and long in duration, and its broad regional scope contributed to the scope of loss.

However, RMS noted that the return period of an event such as last summer's derecho will be much larger in the worst-affected metros than it is at regional scale.

The damage to Cedar Rapids alone exceeded those from any other severe thunderstorm in the city over the past 30 years by a large multiple, and indicated that the return period of the event at city scale is much longer than 100 years, the firm said.

Taking a lens on the losses that would arise only in metropolitan areas from a Chicago or Des Moines event, RMS put a 100-year event in Chicago at $3.3bn, rising to $4.9bn for a 1-in-250-year disaster.

In the smaller city of Des Moines, the costs would be $870mn and $1.9bn respectively.

The firm also included all three SCS sub-perils in its estimates.

However, CoreLogic isolated the derecho wind losses only within its estimates for Polk County, which includes Des Moines (population 500,000), and Cook County, incorporating urban Chicago (population more than 5 million).

Its analysis put the derecho losses at $80mn-$100mn for Des Moines, versus $750mn-$900mn for 1-in-50- or 1-in-100-year events.

Setting aside individual major losses, reinsurers are more concerned about aggregation of losses from convective storms, KCC explained.

The firm calculates that a 1-in-20-year annual aggregate loss for such events could reach $53bn, which means insurers should be more concerned with the potential aggregation of SCS losses in a year versus one large event loss.

The 2011 major tornado outbreaks, which resulted in losses to the Mariah Re cat bonds, occurred alongside two major derechos.

A recurrence of that season could result in nearly $50bn of losses, KCC projected.

CoreLogic: derecho only, metropolitan damage

	$mn, insured loss	
Severe storm straight-line winds	1-in-50-year	1-in-100-year
Chicago, Illinois	750	900
Des Moines, Iowa	80	100

Breaking down 2020 cat losses

Total insured catastrophe losses came in above average for the past decade, according to various agency figures. But what was notable was that the year's top losses were all relatively minor.

Munich Re, which gives the top five insured cat losses in its NatCat data, put these at $30.1bn, while the top 10 per Aon's statistics were $39.3bn.

In both cases these were about $4bn higher year on year, but well below the average across a limited four-year sample of $50bn and $57bn.

As a proportion of the year's total insured losses, they are also the lowest for the past four years, at 37% for Munich's top five of its $82bn total and 41% for Aon's top 10 of its $97bn total (including public insured losses).

This leaves a huge loss tally from minor events that wouldn't even have registered on news headlines. A similar effect is shown in Swiss Re's data, as although the firm does not provide individual loss event figures, it said 70% of its annual disaster loss tally was derived from so-called "secondary perils", versus 50% in 2018 and 60% in 2018.

Munich Re calculated that the total was 26% higher than the 10-year average of $65bn up to 2018, and Aon's tally was 40% higher than its $69bn average for the 21st century.

Major cat losses remain low despite above-average 2020

Source: Company reports

ILS market primer: from disaster frontline to pension portfolio

What is the insurance-linked securities (ILS) market? As the name suggests, it consists of financial instruments that provide insurance cover.

But don't conflate this industry with a standard burglary or fire insurance product. If you're investing in the ILS market, your risk antennae instead need to be tuned to the kind of natural disaster that might take over CNN screens – US hurricanes or Japanese earthquakes, for example.

The ILS market first emerged in the mid-1990s but it wasn't until after the 2008 financial crisis that it began to take off.

This surge was driven by its major selling point as a source of diversifying, or non-correlating risk – acts of God that won't be triggered by financial market turmoil.

The ILS market has largely made its home within the reinsurance sector – a wholesale industry that provides insurance to insurers to help them bear claims when disasters produce a spike in losses.

The ILS sector is sometimes labelled the "alternative" reinsurance market, and contrasted with the so-called "traditional" reinsurance market, which refers to rated balance sheet companies such as Swiss Re or Munich Re, to cite

Why ILS?

- Diversification from financial market risks
- Catastrophe models provide a framework for analysing risk and quantifying exposures
- Purer access to insurance risks – avoiding investment exposure on the balance sheets of major (re)insurers
- Cushions against inflation risks, as premiums include a floating rate return from cash pledged against insurance liabilities
- Short-term liabilities (largely one- to three-year contracts, some tradeable)

ILS primer: Market timeline

1996 – George Town Re, widely cited as the market's first cat bond, is launched by St Paul Re, followed a year later by the first Residential Re deal from USAA and a Swiss Re deal

1997 – Nephila Capital, which is now the industry's largest asset manager, is founded

2005 – The hurricane season of Katrina, Rita and Wilma sets off a spike in reinsurance rates and a spate of new start-ups

2008 – Lehman Brothers collapses – it had managed collateral for four cat bonds that defaulted – cat bond structures shift to invest collateral largely in Treasury money market funds

2011 – A heavy international loss year produces three full cat bond defaults due to the Japanese earthquake and US tornadoes

2017-18 – Hurricanes, wildfires and typhoon make 2017-18 the ILS market's biggest loss years to date two of the longest-standing industry brands.

That's because the emergence of ILS market asset managers has given investors an alternative entry route into reinsurance risk, instead of just buying equity.

However, since its early days, any simplistic distinction between the two segments has eroded as the ILS segment has broadened and melded into the wider reinsurance markets.

For one, many traditional reinsurers have set up asset management platforms to compete with ILS managers, while a number of ILS managers have set up or are closely tied to rated reinsurance vehicles, giving them more freedom to take on a broader range of underwriting risks.

In recent years, the ILS market has expanded into segments such as marine and energy and aviation reinsurance. It has also delved into catastrophe-exposed property insurance, a step down the business chain. And for a select group of managers, life (re)insurance risk is a major part of their business.

Despite its blurring boundaries, ILS still offers investors a distinct route into taking reinsurance risk while skirting the equities market.

Perils: US risks dominate

The ILS market portfolio is heavily skewed towards the US, led by tropical storm/hurricane risks. Other major perils are US earthquake and Japanese earthquake, with small elements of European wind or Australian catastrophe.

That's because, historically, these are the most lucrative products for reinsurers. Florida, in particular, is their peak zone of exposure, meaning more capital must be held against these potential liabilities, attracting higher rates in turn.

They are also the most well-studied risks, with third-party statistical models available to help quantify hurricane exposures.

This combination of higher rates and strong data laid the foundation for ILS managers to target catastrophe risks in their early days, since for their pension fund capital providers, hurricane risk was a minor source of diversifying income to their own peak peril of equity market risk.

As ILS managers grabbed more market share in the property catastrophe market, the ensuing competition eroded much of the premium previously attached to hurricane risk.

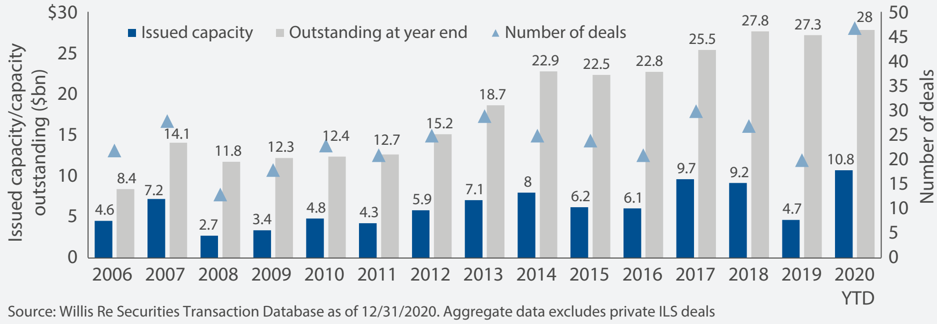
However, it remains the market's peak exposure with a corresponding price advantage compared to the types of catastrophe business that diversify a reinsurer's portfolio.

Continental European catastrophe margins are often said to be little better than break-even, which is one of the reasons why ILS market participation in this sector is relatively limited – cash collateralising limit for such margins would be highly inefficient.

Outside the catastrophe bond market, however, ILS managers are likely to be exposed to a wide range of catastrophe risks beyond the specific perils that are discussed here.

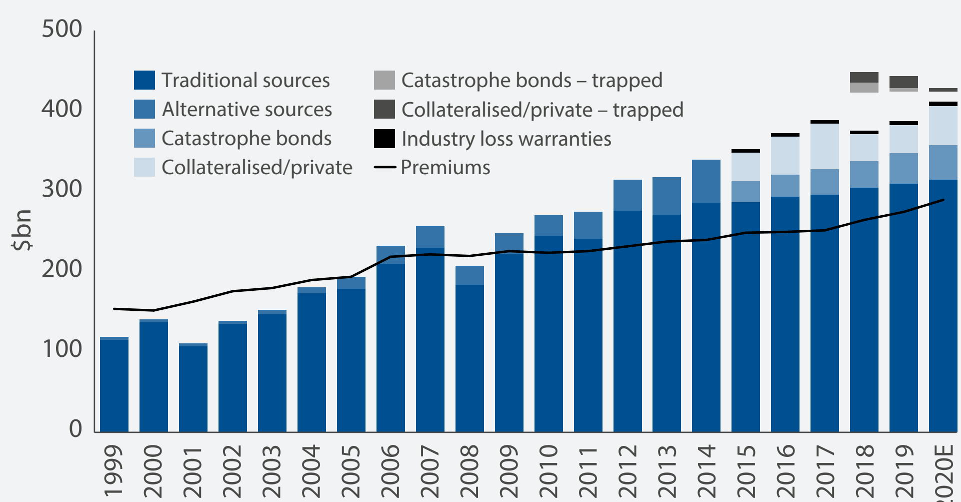
They typically offer "all natural peril" catastrophe cover, which may involve exposures that are unmodelled or less well-modelled – such as wildfires or floods.

Non-life catastrophe bond capacity issued and outstanding by year



Source: Willis Re Securities Transaction Database as of 12/31/2020. Aggregate data excludes private ILS deals

Dedicated reinsurance capital and global gross premiums (all lines) – 1999 to 2020



Source: HX Nova Portal, Swiss Re

Sizing up the market

Estimates vary, but ILS makes up around 15% of overall reinsurance capital at $93bn, according to figures from Aon.

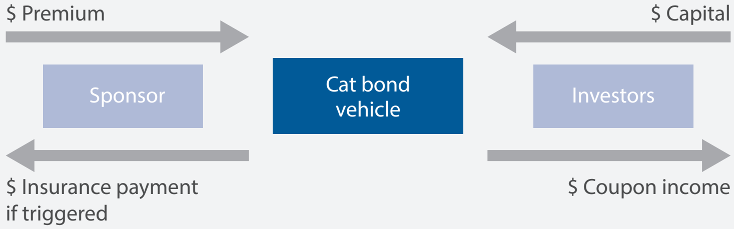
But what exactly does the ILS market's of capacity represent? There are several distinct segments within this total.

The catastrophe bond market attracts a wide range of investors looking for liquidity, although it typically presents a lower risk, lower return opportunity within the ILS world.

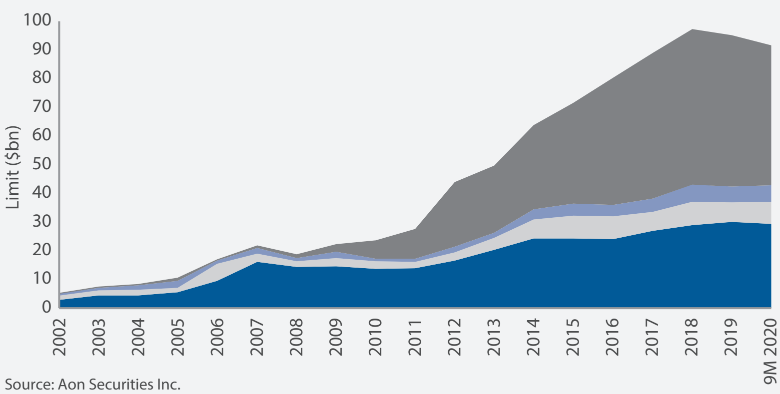
The niche industry loss warranty market is also relatively commoditised and easier to access, with a variety of risk-return options.

What is a cat bond?

A cat bond transaction involves a sponsoring insurer paying investors a premium for reinsurance cover against defined catastrophe losses. If a cat bond triggers, investors' capital is used to reimburse a sponsor's losses. There is no requirement for insurers to later repay such sums to investors. However, if no qualifying event occurs, then investors recoup their capital at the end of the transaction (typically three to four years).



ILS market components



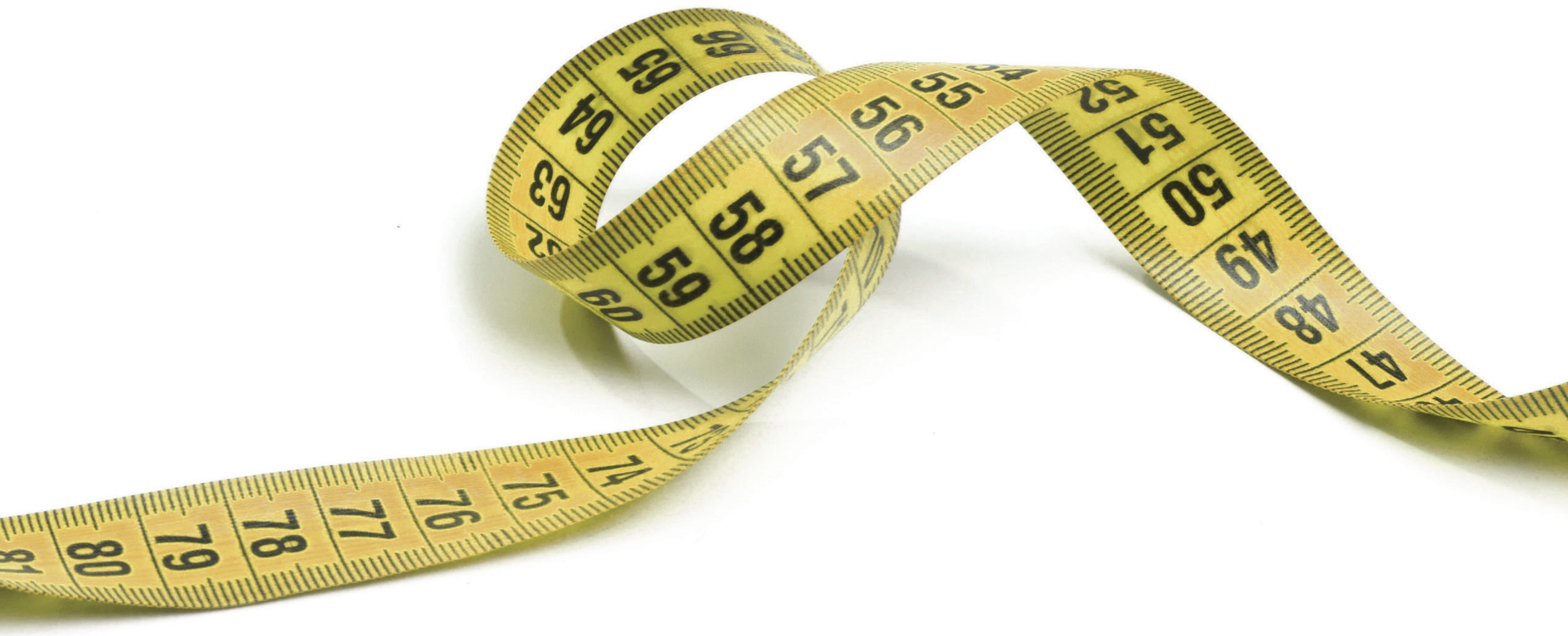
Source: Aon Securities Inc.

Catastrophe bonds
The most liquid section of the ILS market. Reinsurance in tradeable form, typically providing slightly narrower terms of cover for specified perils.

Collateralised re
Effectively just traditional reinsurance contracts, providing indemnity cover for a buyer's losses, across a broad range of perils. ILS managers pledge cash collateral to back their liabilities, hence the name.

Industry loss warranty
Contracts that trigger not on a buyer's actual losses, but on the insurance industry's overall loss from specified disasters, e.g. a $5bn Florida hurricane.

Sidecar
Vehicles run by reinsurers in parallel to their balance sheets. Typically involve a reinsurer ceding a share of a set portfolio of risks to investors (via "quota share" reinsurance). Some are "market-facing", akin to a fund, where a reinsurer writes a specific portfolio for the vehicle.



In contrast, the collateralised reinsurance segment is more specialised and difficult to access, but also provides a range of risk-return targets.

Finally, other small niches such as retro business can provide higher-octane strategies, while sidecars offer the chance to leverage off rated balance sheets and may introduce a range of diversifying risks.

Weighing up returns

So far during its short history the ILS market has delivered strong returns for investors, although margins have softened significantly in recent years.

Before 2017-18, the market's most difficult years had been 2011 and 2005, as a result of the Tohoku earthquake in Japan and Hurricane Katrina, respectively.

These were both testing, but by no means worst-case, catastrophe scenarios for the largely Florida-exposed market.

Even 2017, with its trio of hurricanes, could have been much worse had Irma taken a less favourable track over Florida.

There are a couple of benchmarks of returns that are often cited within the industry.

However, neither is without its limitations.

The Eurekahedge ILS Advisers tracks the performance of 34 ILS funds all equally weighted, which cover a wide range of strategies from high risk-return retro vehicles down to low-risk cat bond-only funds. Its worst year to date was 2017, when it lost 5.60%.

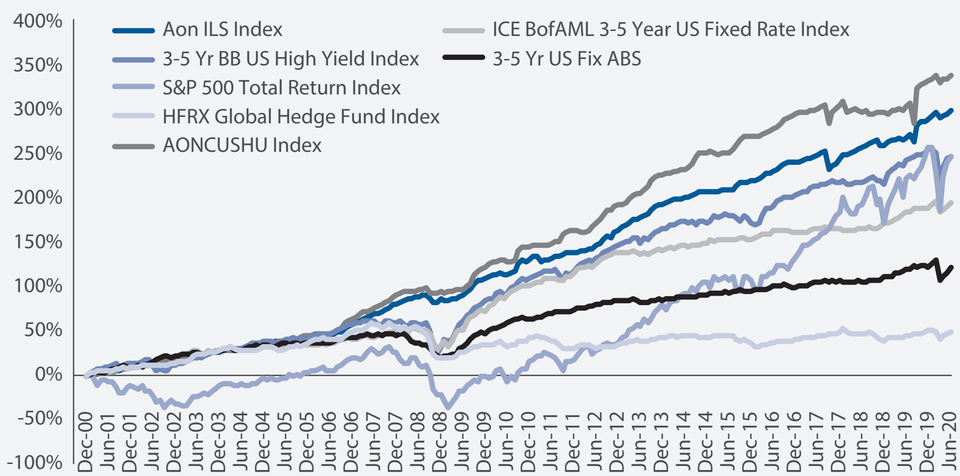
Meanwhile, the Swiss Re Cat Bond Total Return index solely tracks performance of the cat bond segment.

Quantifying risks

Cat bond investors are typically given the "expected loss" of a deal to measure their risk levels, a figure that expresses the likelihood of capital loss in any given year. For example, a 1% expected loss means investors could lose that amount of their principal in any year – or looked at another way, is roughly similar to the prospect that a 1-in-100-year disaster would wipe out all their capital.

Cat bond spreads are often cited as a multiple of the deal's expected loss, which is an easy way of referencing the margin of premium earned in relation to potential losses. Typically, cat bonds in the 1-2% expected loss range now offer investors around a 2x multiple (or spreads of 2-4%), depending on the risk profile.

Aon All Bond index versus financial benchmarks



Source: Aon

Manager list

Manager by type	Total AuM in ILS $mn (estimated)	Notes	ILS strategies	Established in ILS	Base
Specialist ILS manager					
Nephila Capital	9600	Acquired by Markel in Q4 2018	Various multi-instrument funds and single-investor mandates, also invests in weather	1998	Bermuda
LGT Insurance-Linked Partners	8000	Former Clariden Leu ILS team moved to Swiss alternatives manager in 2012. Team of 50 (22 portfolio managers; 35 support staff). Manages own rated reinsurance carrier Lumen Re.	Various funds and bespoke mandates	2005	Switzerland
Fermat Capital Management	7600	Independent ILS manager	Cat bond focus	2001	US
Renaissance Underwriting Managers	6400	Figs exclude RenRe capital. DaVinci Re rated sidecar; Medici cat bond fund; Upsilon fund; Langhorne life reinsurer; Vermeer Re (PGGM JV).	Medici cat bond fund; Upsilon funds write collateralised reinsurance/retro including aggregate; DaVinci takes quota share focused on cat reinsurance book.	1999	Bermuda
Leadenhall Capital Partners	6385	Now majority-owned by MS&AD - group took over ownership from MS Amlin subsidiary in Dec 2018	Non-life and mortality funds, life/non-life mandates	2008	UK
Credit Suisse Asset Management	5800	Trailing quarterly figures for end Sept 2020	Various funds with different risk levels; two associated rated platforms	2003	Switzerland
Securis Investment Partners	4506	Northill Capital owns majority stake	Life, non-life and mixed strategy funds	2005	UK
Elementum Advisors	4400	Independent manager; sold 30% stake to White Mountains in May 2019	Multi-instrument funds	2009	US
AlphaCat Managers	4100	Affiliate of AIG's Validus reinsurance business, AuM excludes $100mn from parent; from end Q3 disclosure	Runs a lower-risk and higher-risk fund, BetaCat cat bond tracker fund, and direct mandates	2008	Bermuda
Aeolus Capital Management	4000+	Began as private reinsurer; transformed into fund manager in 2011. Now majority-owned by Elliott Management	Retro and collateralised re	2006	Bermuda
Stone Ridge Asset Management	3820	AuM cited for public funds at 30.10.20 as current size of private funds not disclosed	Cat bond and sidecar funds	2013	US
Schroder Secquaero	2805	Fully owned by Schroders since July 2019; figures on trailing quarterly basis; Q3 2020	Six funds: two cat bond; three multi-instrument of which two include life risk, one life fund. 4 segregated mandates	2008	Switzerland
Hudson Structured Capital Management	2600	Independent manager led by Michael Millette; backing from Blackstone	Reinsurance AuM listed; transport fund not included. Firm AUM $3.0bn. Flagship ILS strategy invests across catastrophe, life/health, casualty, insurance distribution/services & other risks via ILS & debt/equity instruments. Catastrophe opportunities fund; InsurTech venture fund	2016	US/Bermuda
Scor Investment Partners	2450	Asset management affiliate of reinsurer established 2011	AuM per Nov 2020; now includes Coriolis funds after 2019 acquisition and integration	2011	France
Pillar Capital Management	2300	Management-controlled; part-owned by TransRe	Collateralised re focus but invests across retro, ILWs, cat bonds. Runs two co-mingled funds and multiple fund-of-one mandates	2008	Bermuda
Neuberger Berman Insurance-Linked Strategies	2150	Acquired by Neuberger Berman from Cartesian Capital in Nov 2018	Focus on natural catastrophe risk via ILWs, cat bonds & other ILS.	2009	Bermuda
Amundi Pioneer Investments	~2000	Amundi subsidiary offers one ILS vehicle and invests multi-strategy funds in ILS	Pioneer ILS Interval fund & others; invests in cat bonds, sidecars & other instruments	2007	US
Twelve Capital	1841	Spun out from Horizon21; team in ILS since 2007	Cat bond and multi-instrument ILS funds (insurance debt fund not tracked)	2010	Switzerland
Swiss Re	1700	Reinsurer offering quota share sidecars and funds	Internal ILS portfolio of +$1bn (not tracked). Sector Re/Viaduct sidecars and 1863 Core Nat Cat Fund		
New Ocean Capital Management	1300	Subsidiary of reinsurer Axa-XL which bought out minority partners in Nov 2018	Pantheon Re quota share cat sidecar; Daedalus algorithmic strategy and one JPY cat bond fund alongside managed accounts.	2014	Bermuda
Axa Investment Managers	1077	Affiliate of insurer; invests third-party funds only	Various funds and mandates	2007	France
Hiscox Insurance-Linked Strategies	1000	Deployable capital as of Q3 2020. Hiscox-owned asset manager; Hiscox capital $55mn	Two co-mingled diversified funds; single-investor funds; one insurance sidecar	2014	Bermuda
Axis Ventures	>1000	Reinsurer subsidiary; also oversees $600mn Harrington Re joint venture not tracked here	$1.0bn for property cat support; largely private sidecars	2014	Bermuda
Mt Logan (Everest Re sidecar)	800	AUM fig from Q2 2020. Includes some Everest Re capital.	Quota share of Everest Re book	2013	Bermuda
Aspen Capital Markets	750	Reinsurer subsidiary	Runs managed accounts, commingled funds and sidecars including Peregrine		Bermuda
Lancashire Capital Management	~750	Lancashire subsidiary established mid-2013	Kinesis Re I vehicle writes multi-class reinsurance and retro. Wrote $340mn limit	2013	Bermuda
Tokio Marine Asset Management	725	Asset management arm of Tokio Marine Group.	Largely ILS/cat bonds		Japan
Munich Re	635	Significant internal cat bond fund - not disclosed	Eden & Leo Re sidecars	2006	Germany
Integral ILS	600	Start-up led by ex AlphaCat/Hiscox ILS execs Richard Lowther and Lixin Zeng; collaborating with TransRe and Amwins	Initial retro focus	2020	Bermuda
Arch Underwriters	600	Underwrites for rated $1.13bn casualty-focused Watford Re, not tracked here	Also manages $500mn third-party capital	2014	Bermuda
TransRe Capital Markets	500	Reinsurer subsidiary	Pangaea Re and other sidecars		US

Manager by type	Total AuM in ILS $mn (estimated)	Notes	ILS strategies	Established in ILS	Base
Peak Capital (formerly Lutece)	>500	Peak Re acquired May 2020 from BTG Pactual Asset Management.	Initially a focus on retrocession	2018	Bermuda
Plenum Investments	475	Independent asset manager	Main focus on catastrophe bonds, manages also insurance bonds and life settlements, long only strategies. Cat bond fund $350mn; $100mn Insurance Capital fund	2010	Switzerland
PG3	420	Family office; largely family funds, may take third-party capital	Non-life and life reinsurance; legacy, life settlements, and other insurance finance strategies	2008	Switzerland
Tangency Capital	415	Independent manager launched by trio of reinsurance execs	Quota share retrocession portfolio	2018	London
Invesco	375	Mutual fund manager; runs ILS vehicle and invests via multi-strategy funds	OFI Global Cat Bond Strategy open to external investors	1997	US
ILS Capital Management	350	Independent ILS manager backed by Don Kramer	Specialty focus	2014	Bermuda
Brit (Sussex)	300	Brit Insurance sidecars.	Sussex market-facing, Versutus quota share	2018	UK
Azimut Investments	265	Luxembourg affiliate of Italian asset management Azimut Group. Another subsidiary Katarsis Capital Advisors also advises the fund.	One cat bond fund plus one multistrategy fund including small longevity exposure	2008	Luxembourg
PartnerRe	259	Reinsurer offering quota share sidecars	Lorenz sidecar of largest accounts $195mn; new 2019 sidecar global cat risk, Torricelli $67mn.		US
Leine Investments	200	Reinsurer Hannover Re has seeded the fund with $200mn	Cat bonds and collateralised re	2013	Germany
Merion Square	150	Joint venture between Rewire Holdings and life settlements investor Vida Capital		2019	US
PIMCO	150	Mutual fund		1971	US
Sumitomo Mitsui DS Asset Management (Tokyo)	105	Advised by Mitsui Sumitomo Insurance	Also manages $500mn third-party capital	2014	Japan
Lodgepine Capital Management	100	Markel subsidiary; insurer allocated up to $100mn seed funds	Retro initially; may expand into specialty non-cat risk later	2020	Bermuda
Lombard Odier	99	Swiss private bank launched ILS fund in 2016	Cat bond funds	2016	Switzerland
Tenax Capital	58	Fosun bought majority stake in equities/ILS manager Tenax in July	Cat bond funds	2017	London
Eastpoint Asset Management	50	Backed by Japanese manager Asuka Asset Management	Cat bond focus	2012	Bermuda
Entropics Asset Management	25	Independent ILS manager	Cat bond focus	2015	Sweden
Chard Re	not disclosed	Independent ILS manager	Reinsurance	2020	UK
Solidum Partners	not disclosed	Independent ILS manager	Cat bond and multi-instrument funds	2004	Switzerland
Solidum Partners	not disclosed	Independent ILS manager	Cat bond and multi-instrument funds	2004	Switzerland
Markel Catco	in run-off	Markel subsidiary placed in run-off 2019	Retrocession writer	2011	Bermuda
TOTAL	**96,490**				
Select multi-strategy investors active in ILS; but not offering external ILS strategies					
Challenger Life	850	Around 1% of $85bn total assets	Invests in funds and sidecars		Australia
Quantedge	450	Hedge fund with $2700mn overall AuM	Invests in cat bonds, collateralised re, sidecars, ILWs	2013	US
Baillie Gifford	175	Diversified Growth Fund invests in ILS	Buys ILS directly. Also held stake in listed ILS funds Catco/DCG Iris		UK
Aberdeen Asset Management	25	8% of £427.5mn Diversified Growth fund at end Q1 18; reinvested $33mn in Catco post-loss			
DE Shaw	n/d	Has $40bn+ total AUM; ILS holdings not disclosed	Writes collateralised re/retro	2007	US
New Holland Capital	n/d	Hedge fund of funds manager for Dutch fund manager, APG			US
One William Street	n/d	$4bn alternatives manager	Hired Al Selius to build ILS portfolio	2020	US
Tiaa-cref	n/d	Manages $800bn overall AuM	Buys cat bonds directly		US
TOTAL	**1,500**				
Multi-strategy investors active in ILS; but not offering external ILS strategies					
K2 Advisors	915	Hedge fund of funds manager; $11.6bn AUM	Invests with multiple ILS funds; buys cat bonds directly	2003	US
GT ILS fund	230	Texas based advisory firm offering ILS fund of funds solution	Securis and others		US
ILS Advisers	212	Part of Hong Kong based investment manager HSZ	Fund of funds; index tracker fund tracking ILS Advisers index	2014	Bermuda
City National Rochdale	190.1	City National Bank-owned advisor targeting HNW clients	Allocates to NB Re and Stone Ridge (Select Strategies ILS fund)	2017	US
Altair Reinsurance Fund	78	Operated by wealth advisor First Republic Securities	Feeds into Hudson Structured ILS funds	2018	US
AIM Capital	20	Finnish fund of funds manager	AIM Insurance Strategies fund	2011	Finland
Hatteras Reinsurance Fund	n/d				US
TOTAL	**1645.1**				

Source: *Trading Risk*

GLOSSARY OF TERMS

Key phrase	Definition
Aggregate exceedance probability (AEP)	Probability of total annual losses of a particular amount or greater
Alternative risk transfer	Transferring risk through methods other than traditional insurance or reinsurance, for example utilising capital markets capacity through the issuance of insurance-linked securities
Attachment point	The point at which excess insurance or reinsurance protection becomes operative; the retention under an excess reinsurance contract
Attachment probability	Likelihood of losses exceeding the attachment point over the course of a one-year term
Administrator	Assumes all operating and reporting protocols for a special purpose insurer/entity
Basis risk	Risk that losses in a non-indemnity trigger differ from indemnity losses
Capacity	The largest amount accepted on a given risk or, sometimes, the maximum volume of business a company is prepared to accept
Catastrophe bond	Securities that transfer catastrophe risks from sponsors to investors
Cedant	Party to an insurance or reinsurance contract that passes financial obligation for potential losses to another party
Collateralised reinsurance	Reinsurance contract that is fully collateralised to the limit
Earned premium	The portion of premium (paid and receivable) that has been allocated to the (re)insurance company's loss experience, expenses and revenue
Excess of loss	System whereby a (re)insured pays the amount of each claim for each risk up to a limit determined in advance, while the (re)insurer pays the amount of the claim above that limit up to a specified sum
Exhaustion probability	Likelihood of losses exceeding the exhaustion point, causing a full loss on a reinsurance layer
Expected loss	The expected loss is the modelled loss within the layer divided by the layer size
Extension period	Time period after the scheduled maturity used to calculate losses for events which took place during the risk period
Extension spread	Spread paid during the extension period (typically a reduced rate from the initial risk spread)
Gross premiums	Premium before subtracting direct costs
Indemnity trigger	Type of trigger that most closely resembles the traditional market ultimate net loss cover, and offers ceding insurers (a.k.a. sponsors) the ability to recover based on actual losses
Industry loss index trigger	Type of trigger where payouts are determined by a third party estimate of industry losses
Industry loss warranty (ILW)	Form of reinsurance or derivative contract that covers losses arising from the entire insurance industry rather than a company's own losses from a specified event
Incurred losses	The total amount of paid claims and loss reserves associated with events from a particular time period
Insurance-linked security (ILS)	Financial instruments whose value is affected by an insured loss event
Limit	The maximum amount of (re)insurance coverage available under a contract
Loss ratio	Incurred losses divided by earned premiums (earned premiums include reinstatement premiums)

Key phrase	Definition
Modelled loss trigger	Type of trigger where payouts are determined by inputting event parameters into a predetermined and fixed catastrophe model to calculate losses
Net premiums	Premium less direct costs
Quota share	Reinsurance where the cedant transfers a given percentage of every risk within a defined category of business
Occurrence exceedance probability (OEP)	Probability that any single event within a defined period will be of a particular loss size or greater
Parametric trigger	Type of trigger where recoveries are triggered by a formula that uses measured or calculated parameters of an actual catastrophe event (e.g. wind speed, magnitude of an earthquake)
Peril	A specific risk or cause of loss covered by an insurance policy
Probable maximum loss (PML)	The anticipated maximum loss expected on a policy
Profit commission	A provision that provides the cedant a share of the profit from business ceded
Proportional reinsurance	System whereby the reinsurer shares losses in the same proportion as it shares premium and limit
Rate on line	Reinsurance premium divided by reinsurance limit
Reinsurance	A transaction whereby the reinsurer, for a consideration, agrees to indemnify the ceding insurer against all or part of the loss which the insurer may sustain under a policy or policies that it has issued
Reinsurer	Company that provides financial protection to an insurance company
Reset	Adjusting a layer of a multi-year catastrophe bond to maintain a bond's probability of loss at the level defined at issuance
Retention	The net amount of risk the ceding company keeps for its own account
Retrocession	A transaction whereby a reinsurer cedes to another reinsurer all or part of the reinsurance it has previously assumed
Risk period	Time period for which a reinsurance agreement covers events taking place
Sidecar	A structure to allow investors to share in the profits and losses of an insurance or reinsurance book of business
Special purpose insurer/entity (SPI/SPE)	A company created by (but not owned by) a (re)insurer for the purpose of raising capital for a specified programme
Treaty	An agreement between a cedant and a reinsurer stating the types or classes of businesses that the reinsurer will accept from the cedant
Underwriting profit	Earned premium minus incurred losses and incurred commissions (earned premiums include reinstatement premiums)
Variable reset	Adjusting a layer of a multi-year catastrophe bond up or down within a pre-defined range of probability of loss, with a corresponding update in risk spread
Vendor models	Software that estimates expected loss and probability of occurrence for specified exposure sets and predefined peril scenarios. The three largest vendors by market share are AIR Worldwide, Risk Management Services and Eqecat
Written premiums	Premium registered on the books of an insurer or a reinsurer at the time a policy is issued