Institute and Faculty of Actuaries

Exploring Third-Party Capital Introduction to Structuring, Rationale & Market Opportunities

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The Growth of Third-Party Capital

The End of the Reinsurance Cycle

For property catastrophe reinsurance there is a new normal of steady rates

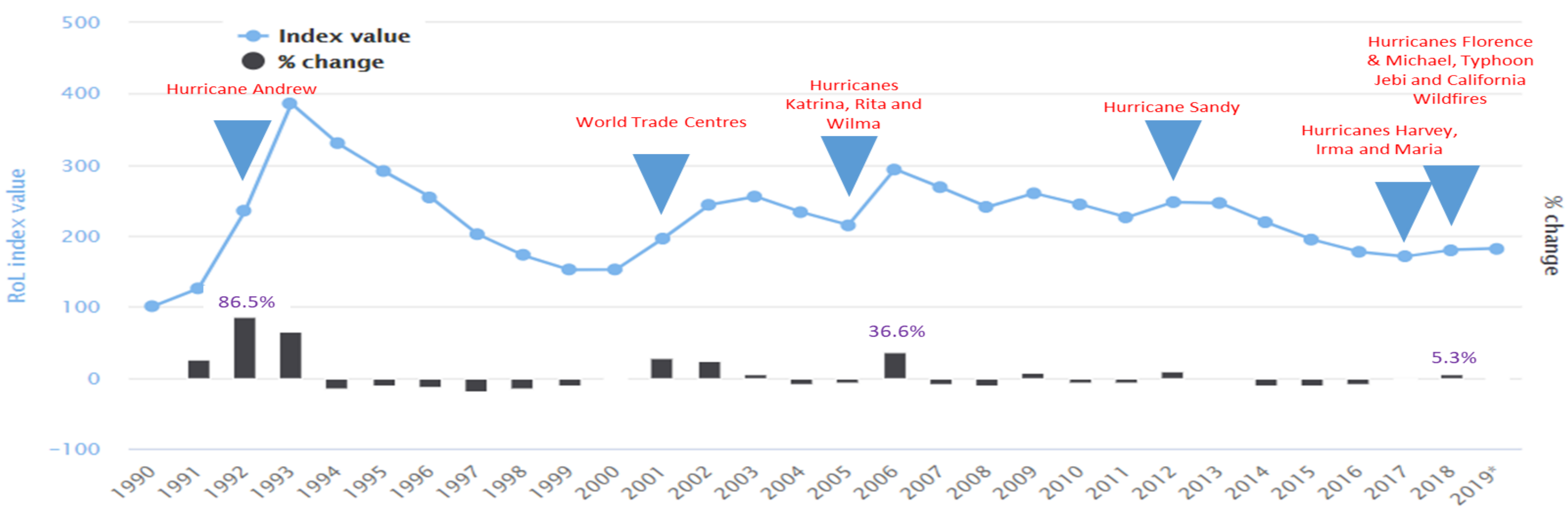
The emergence of third-party (or “alternative”) capital entering the reinsurance market through the use of insurance linked securities (“ILS”) has put a ceiling on reinsurance rates.

This has led to a flattening of the reinsurance cycle, whereby large insured catastrophes no longer result in spikes of reinsurance prices. This is evidenced by the muted response to the losses at 1/1/18 and 1/1/19 renewals where significant rate increases were limited to loss affected lines.

On the other hand, alternative capital providers are increasing their appetite for insurance risks, accessing more lines of business and primary insurance risks.

Reinsurers are responding by cutting their expense ratios and repositioning themselves as strategic partners to Chief Risk Officers, aiming to achieve differentiated pricing through the provision of services to support a holistic risk management proposition. Examples include data analytics, proprietary risk models and automated underwriting systems.

Property Catastrophe Reinsurance Price Index



Source: Data from Guy Carpenter, presented by Artemis.bm

Alternative Capital Opportunities for Insurers

Insurers that exploit the benefits of ILS can gain a competitive advantage

ILS Market

The ILS market is experiencing a period of rapid expansion; total alternative reinsurance capital has doubled in the last 5 years, and is now estimated at over $100bn.

As investors become more comfortable with insurance risk as an asset class, the structures of ILS issuances are evolving beyond simple cat bonds and into new structures, such as collateralised reinsurance vehicles and sidecars.

On the other hand, pressures on the reinsurance rates continue on even after two successive years of major catastrophic losses. As a result, re/insurers are thinking about ways to enhance their positioning in the market and recognising the benefits of utilizing third-party capital to support their strategic ambitions.

Traditional reinsurers are setting up their own 'Alternative Capital' Divisions or subsidiaries. Mergers and Acquisitions activity is expected to further drive a convergence in the traditional re/insurance market and the ILS market.

Exploring Alternative Risk Transfer provides traditional re/insurers with a means to enhance their top line and bottom line in an underwriting cycle that is not willing to improve.

Types of Alternative Reinsurance Capital

Investors can use a range of structures to get access to insurance risk

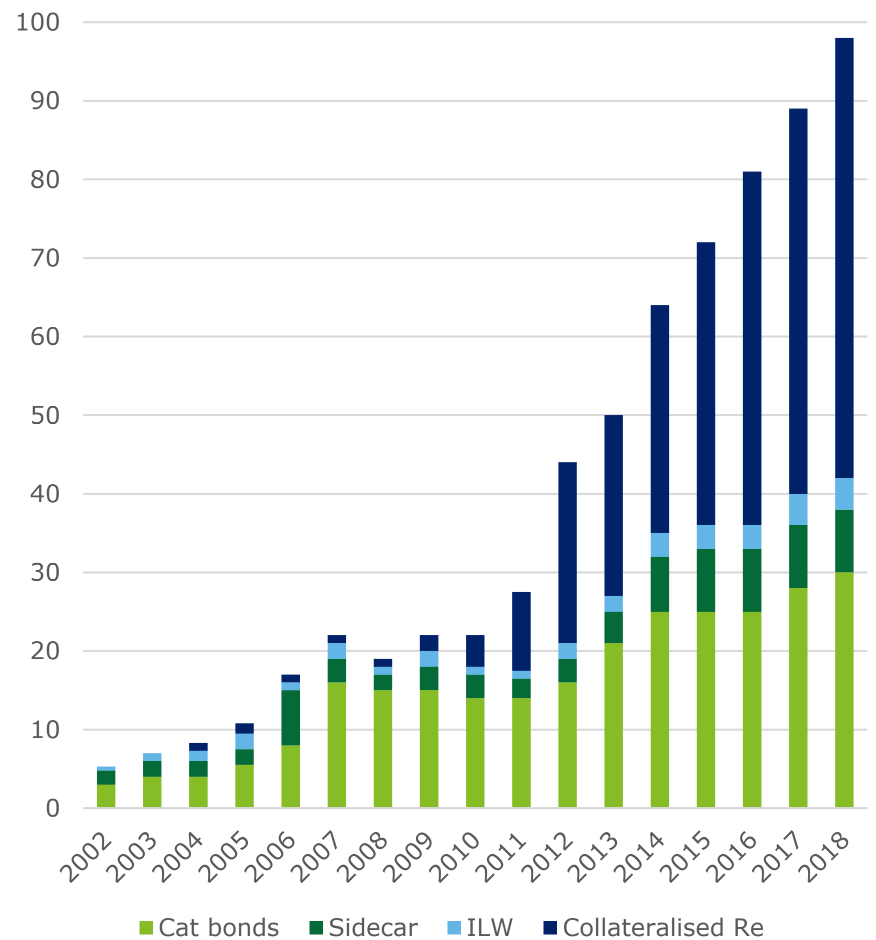
Catastrophe ("Cat") Bonds
The "original" form of securitised insurance risk. Consists of a Special Purpose Vehicle ("SPV") which transforms reinsurance premiums from an insurer into bond coupons for an investor. If a "trigger event" occurs (e.g. covered losses exceeding a certain threshold), the bond defaults and the principle is passed to the insurer.

Industry Loss Warranties ("ILWs")
Similar to a cat bond in substance, the "trigger" in this instance is if total insured losses from a named peril rise above a certain threshold. Some basis risk (e.g. less than perfect correlation between industry losses and own losses) for the insurer, however increases transparency and hence breadth of investor appetite.

Sidecars
Insurance companies pass a share of a specific book of business to an investor through a quota share contract. The insurer typically receives an overrider and profit commission to compensate for the administrative costs and acquisition expenses involved in writing the business.

Collateralised Reinsurance
Reinsurance contracts where the capital provided is fully collateralised up to the reinsurance limit of the contract minus premiums. Allows institutional investors to directly participate in reinsurance risk. This can take the form of excess of loss or quota share reinsurance.

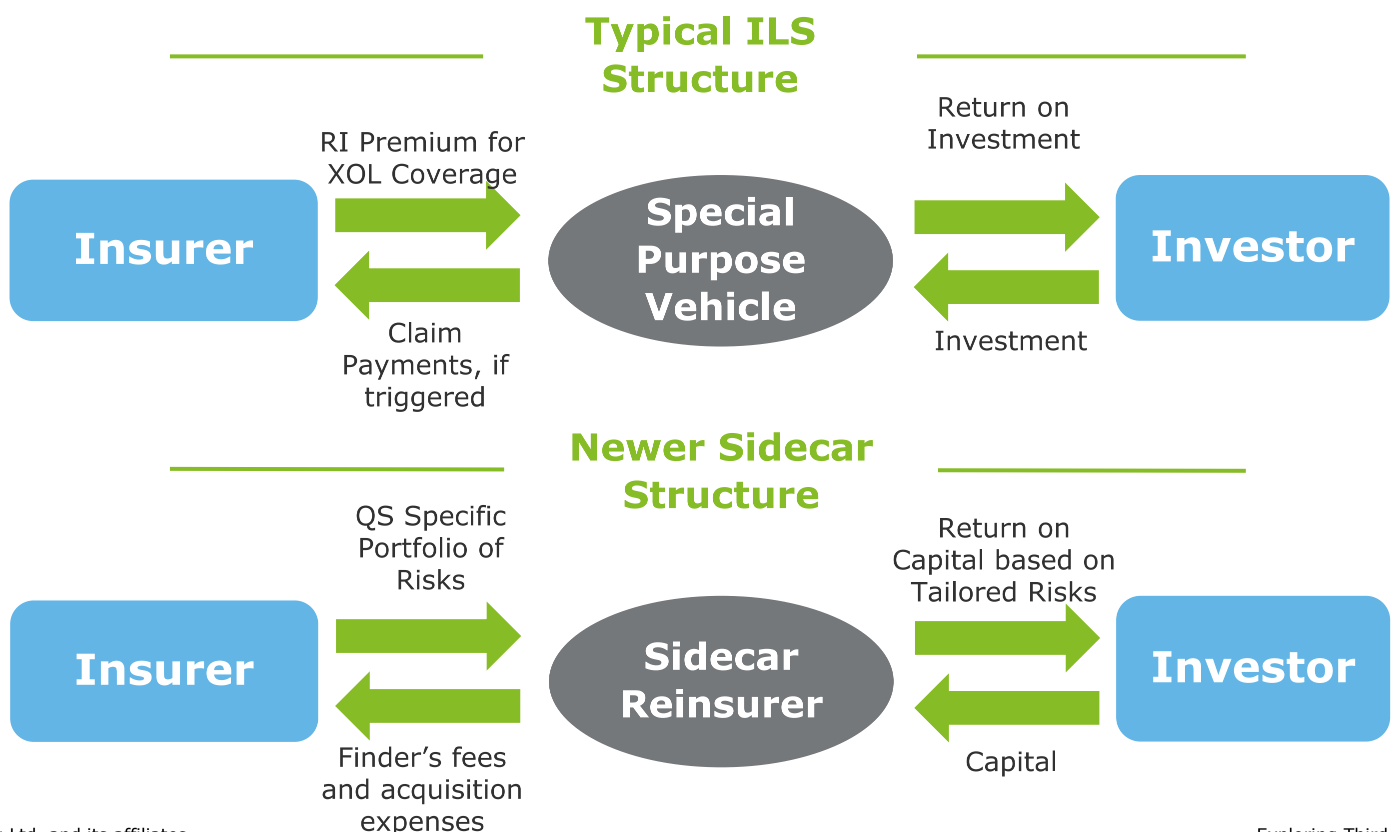
Total estimated alternative (re)insurance capital



Insurance Linked Securities

Facilitating the transfer of (re)insurance risk to the capital markets

- ILS issuance predominantly started off in Bermuda, but in recent years, US, UK and Switzerland have gained a significant portion of the market, with some activity in the Cayman Islands, Ireland and more recently Singapore. Personnel involved in ILS issuances are typically in Bermuda, London, New York and Zurich.
- ILS investors provide collateral which is used to back reinsurance contracts. To do this, an SPV is set up to transform reinsurance premiums into bond coupons.



Key Differences Between ILS and Traditional Reinsurance

Costs

ILS is typically cheaper than traditional reinsurance for three reasons:

- ✓ ILS investors are typically pension funds and hedge funds which appreciate the **lack of correlation of insurance risk** with other assets.
- ✓ ILS typically covers "peak" risks such as natural catastrophes which are funded by investors that have a lower cost of capital requirement compared to **traditional reinsurers**.
- ✓ Availability of Third Party Capital is many multiples that of traditional reinsurance, making it a "**buyers market**".

Traditional Reinsurance on the other hand does not have upfront setup costs to deal with every time a new contract is written.

Relationship and Expertise

- ✓ Traditional Reinsurance market relies on building long term relationships.
- ✓ This means that the insurer can be virtually certain of coverage (capital) availability even after a couple of bad years in terms of losses.
- ✓ Reinsurers typically also provide technical expertise and market insight and are therefore better suited for newer, complex risks and for exploring new markets.
- ✓ The ILS market is building its knowledge on specific risks as the market grows and matures.
- ✓ As of today, it has mastered the coverage of peak risks of property catastrophe and has started to look at widening the coverage to other layers and lines.

Greater Security

ILS contracts can be structured to provide the required level of security:

- ✓ **Full collateralization** up to the ultimate net loss of the reinsurance contract.
- ✓ This eliminates **reinsurer counterparty credit risk** on the part of the cedant.
- ✓ ILS also opens up the possibility of purchasing reinsurance from a much wider pool of capacity providers, **diversifying exposure** away from any individual provider.
- ✓ Collateral is held in **highly liquid** cash and cash equivalents, making it readily available to pay reinsurance claims once a claim is verified.

Market Landscape

Key Players and Market Participants

Many PE firms and other institutional investors are attracted to the insurance market as a source of uncorrelated earnings. A snapshot of notable sidecars offered by top global reinsurers is provided below.

HISCOX
HISCOX RE ILS

Arch
WATFORD RE

SOMPO HOLDINGS
BLUE CAPITAL Management Ltd.

EVEREST
Mt. Logan Re.

CHUBB
ABR Re

AXIS
Harrington

BRIT
A FAIRFAX Company
Versutus

AXA XL Insurance Reinsurance
NEW OCEAN CAPITAL MANAGEMENT

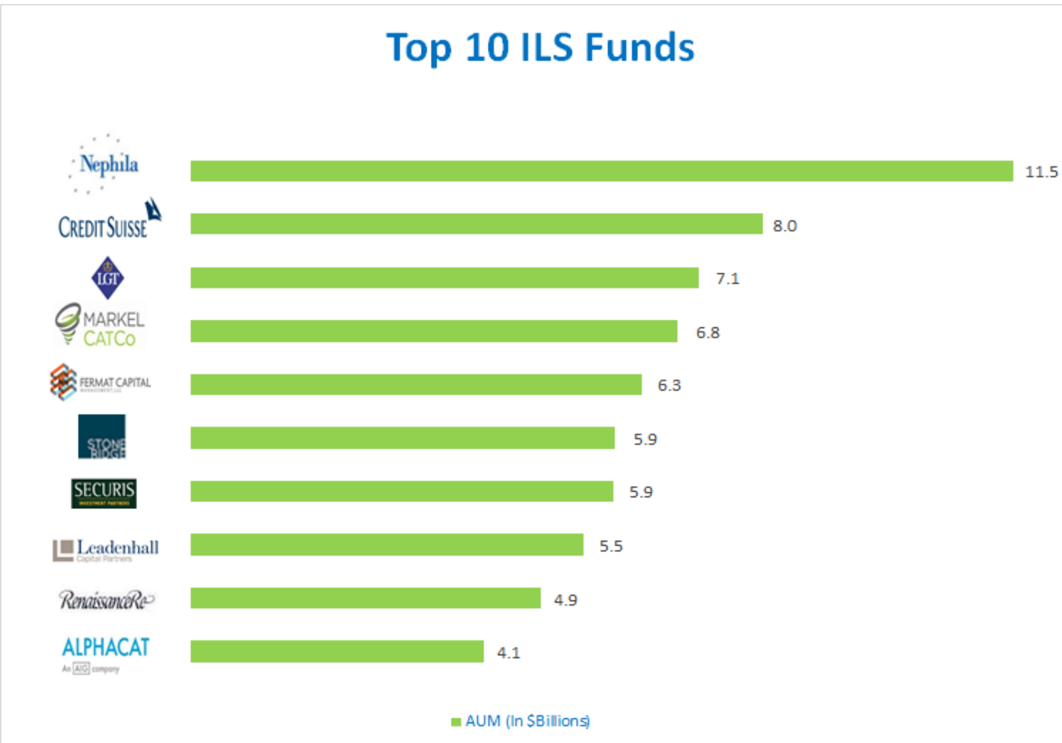
PartnerRe
Lorenz Re

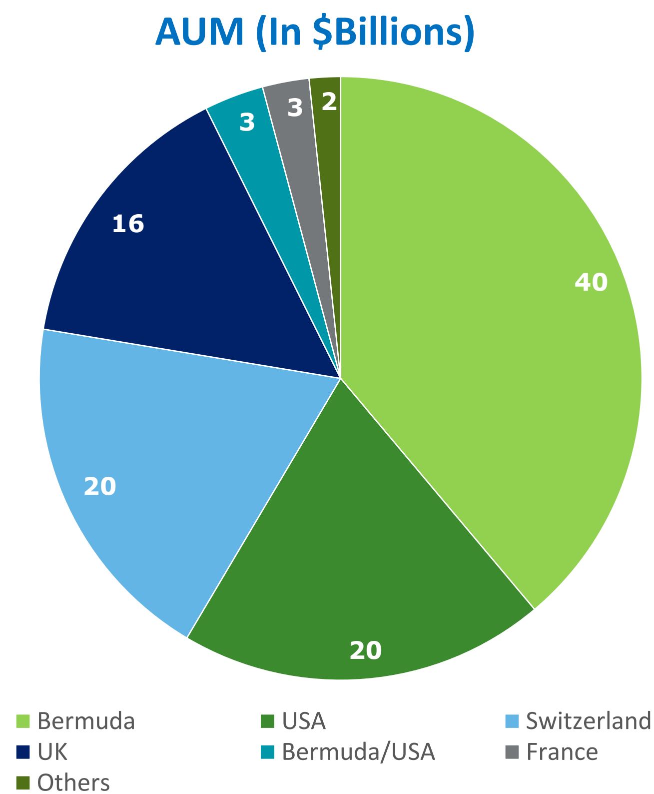
RenaissanceRe
Upsilon
Fibonacci
DaVinci REINSURANCE
Vermeer

ILS assets under management (AUM)

The total AUM of the 51 insurance linked securities investment managers stands at $103.4B.

The top 10 funds along with their AUM are mentioned below.





Source: www.artemis.bm

Latest catastrophe bonds and ILS in 2019

The total issuance of catastrophe bond and Insurance linked securities in 2019 has been more than $7.7billion.

January	February	March	April	May	June	July
Jungfrau IC Limited 2019	Radnor Re 2019-1 Ltd.	Merna Re II Ltd. (Series 2019-1)	Bellemeade Re 2019-2 Ltd.	Atlas Capital UK 2019 PLC (Series 2019-1)	Northshore Re II Ltd. (Series 2019-1)	Eclipse Re Ltd. (Series 2019-04A)
Alpha Terra Validus III	Orchard ILS Pte Ltd	Sanders Re II Ltd. (Series 2019-1)	FloodSmart Re Ltd. (Series 2019-1)	Home Re 2019-1 Ltd.	Radnor Re 2019-2 Ltd.	Eclipse Re Ltd. (Series 2019-05A)
Dodeka XX	Cape Lookout Re Ltd. (Series 2019-1)	Bellemeade Re 2019-1 Ltd.	Eclipse Re Ltd. (Series 2019-01A)	Integrity Re Ltd. (Series 2019-1)	Cerulean Re SAC Ltd. (Easton 2019-1)	Oaktown Re III Ltd.
Dodeka XIX	Baltic PCC Limited (Series 2019)	Bowline Re Ltd. (Series 2019-1)	Eagle Re 2019-1 Ltd.	Alamo Re Ltd. (Series 2019-1)	Matterhorn Re Ltd. (Series 2019-1)	Cerulean Re SAC Ltd. (Series 2019-1)
Dodeka XVIII	Atmos Re DAC	Dodeka XXI		Manatee Re III Pte. Ltd. (Series 2019-1)	Cape Lookout Re Ltd. (Series 2019-2)	Dodeka XXIV
Vitality Re X Ltd. (Series 2019)		Dodeka XXII		First Coast Re II Pte. Ltd. (Series 2019-1)	Dodeka XXIII	Bellemeade Re 2019-2 Ltd.
Seaside Re (Series 2019-22)				Residential Reinsurance 2019 Limited (Series 2019-1)		Eclipse Re Ltd. (Series 2019-03A)
Seaside Re (Series 2019-22)				Armor Re II Ltd. (Series 2019-1)		
Resilience Re Ltd. (Series 1912A)				Resilience Re Ltd. (Series 1912A)		

Potential Business Models

How to Exploit the Emergence of Alternative Capacity

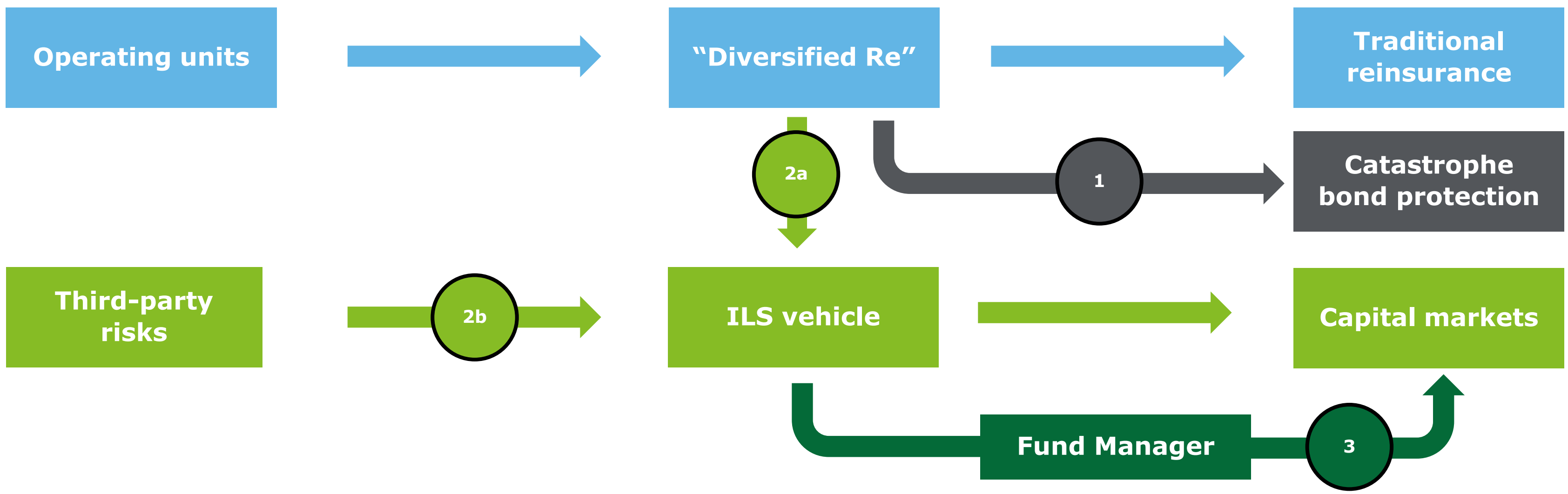
There are three stages of utilizing alternative capacity

	1	2a	2b	3
	Catastrophe Protection	**Intragroup ILS Vehicle**	**Intergroup ILS Vehicle**	**ILS Fund Manager**
Use	Cat bonds issued or collateralised reinsurance purchased as a means of protection against over exposed peak risks.	Peak risk cession combined with quota share retrocession on selection of risks from within the group, charging a fee to cover acquisition costs and underwriting for the quota share.	As well as retroceding risks from within the group, writes (re)insurance business from third-parties which is passed straight through to investors.	Structures insurance risk into investment packages for investors, earning management fees. Ultimately will tailor packages to investors' risk / return requirements, duration etc.
Benefits	ILS investors have lower cost of capital requirements – Cheaper capacity for reinsurance purchase compared to traditional reinsurers. Reduces capital requirements.	Provides access to "zero capital" fees as % of premiums ceded, creating arbitrage opportunity. Allows insurers to grow top line and recognise scale efficiencies, or balance portfolio to maximise diversification. Flexibility of "fourth lever" in capital management framework. Reduces capital requirements.	Leverages already existing reinsurance underwriting expertise for enhanced "zero capital" fees at little marginal cost. Increases diversification of the ceded portfolio, making it more attractive to investors and maximising potential income.	Earns management and performance fees of fund as well as overriders and profit commissions on insurance result. Bespoke packaging of risks will provide competitive advantage for fund beyond other capital markets vehicles.

Capital Revenue Risk

Evolution of Alternative Capacity Utilization

What it might look like for a particular company



1

Diversified Re purchases catastrophe / peak risk protection to benefit from cheaper reinsurance pricing on peak risks.

This reduces Diversifed Re's capital requirements and leads to a more favourable terms on its remaining reinsurance purchase.

2

Peak exposures above a specified size are passed directly to a new ILS capital markets vehicle, alongside risks where there is a strategic benefit to ceding (capital / acquisition cost arbitrage, scale benefits).

Diversified Re's reinsurance purchase continues to benefit from favourable terms. There is now a "fourth lever" in the company's capital management framework.

"Zero capital" fees are earned against risks ceded to the vehicle as overrider commission, worth % of premiums.

Over time the vehicle expands and (re)insures third-party risks, directly transforming risks into ILS investments, maximising "zero capital" earnings.

3

Over time the ILS vehicle evolves into a Fund Manager, earning management and performance fees.

Ultimately it develops the ability to structure risks according to the bespoke requirements of institutional investors.

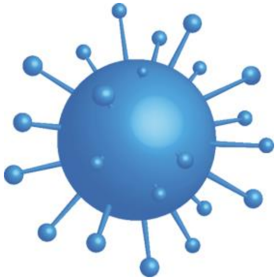
Expansion of Third Party Capital

Property Catastrophe and Beyond…

As Third Party Capital continues to explore more lines, it will act as a dual edged sword for reinsurers. In some cases, they will benefit by having supplemental capital to support white-space risks; in other cases, they will face the same competitive threat they faced with property catastrophe. Some possibilities are:

- Government Covered Risks – Certain risks that the traditional market finds too risky or expensive to cover (such as terrorism, flood pools) and are currently been covered by Government Plans may find a buyer in Third Party Capital. These markets in the US offer over $10 billion in potential annual premiums.

- Pandemics – The Centre for Disease Control and Prevention projects that a severe influenza pandemic could result in 1.9m deaths. While life and health insurers would currently bear the cost of this risk, there is a secondary risk of business interruption which is currently in the white space. Considering the 'peak peril' nature of these risks, third party capital would be the ideal first choice to support these coverages.

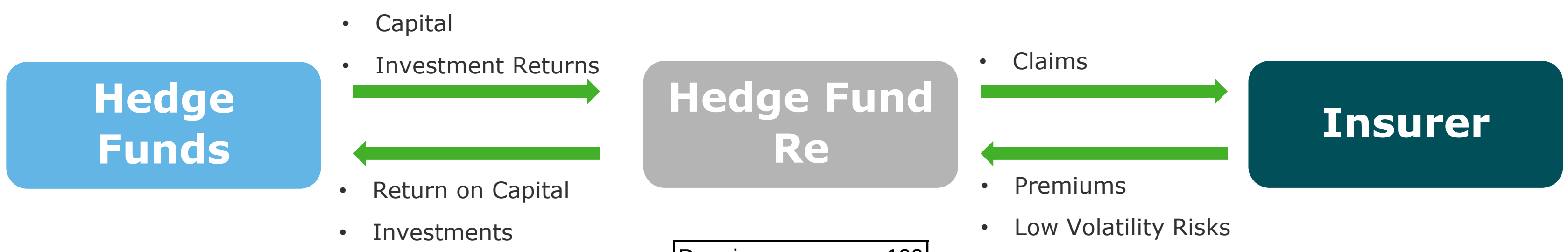


- Liability – The global liability reinsurance market is twice the size of the property catastrophe market, yet third party capital is limited in the field. This is primarily due to the excess capacity within the traditional market and the difficulty in structuring securitized products for these long-tail lines. Given the size of the market and the thirst of third party capital to access ILS for higher yields and diversification, this might be the line where we see growth in the future.

Expansion of Third Party Capital
Property Catastrophe and Beyond…

Hedge Funds are now also setting up fully capitalized reinsurance companies in which the bulk of the returns are generated by the return on assets rather than relying on underwriting profits. These companies aim to access large asset portfolios that accumulate in the form of low-volatility reinsurance premiums which can then be used to employ more aggressive investment strategies to generate an overall profit. The key distinction here is the focus on low volatility risks as opposed to the peak catastrophe risks that third party capital widely targets.

Typical Structure



Premiums	100
Claims	80
Expenses	20
UW Profit	0
Investment Return	10
Net Profit	10

Regulatory Processes

Regulatory updates from key ILS markets

Bermuda and the UK regulators have both recently issued or are in the processing of consulting on regulatory guidance around commonly used SPVs in their respective markets. These new regulations will enable more transparent transaction formats, and enhance overall market breadth and efficiency.

Bermuda regulatory update

- Industry task force on SPI regulation currently underway, with new BMA guidance note expected to be issued this year.
- Key topics include clarity on key collateralized reinsurance concepts, such as fully-funded definition, rollforward/reinstatements, limited recourse, limitations of clawbacks, etc.
- General theme goes toward ensuring sufficient contract certainty.

Singapore Regulatory Update

- The Monetary Authority of Singapore is offering an ILS grant scheme to boost their ILS market.
- The scheme funds 100% of the upfront costs (up to US$1.5m) involved with issuing cat bonds in Singapore, once the following criteria are met:
  - Transaction size greater than SG$50m;
  - Tenure of at least 3 years;
  - Notes listed on Singapore Stock Exchange at least as a dual listing; and
  - % of the costs involved paid to Singapore companies.

European regulatory update

UK

- The UK ‘Risk Transformation Regulations’ were enacted in December 2017.
- Once Protected Cell Companies are set up, there is a comparable process to setting up new cells to other jurisdictions, although the process to initially set up a PCC is slower.
- The UK is likely to be seen as an alternative to Bermuda, especially for attracting capital which is limited in the extent it can be invested ‘offshore’.
- The PRA has stated that it will determine applications within six months of receipt.

Guernsey

- Guernsey has been actively marketing itself as an ILS hub seeking to attract European/non North American investors and cedants.
- Guernsey has recently introduced a collateral grace period in recognition of the difficulties involved in moving money across trust accounts between ILS contracts.
- Although similar to other jurisdictions in requiring cells to be fully collateralized, Guernsey allows for cells to be capitalized with letters of credit and guarantees, thus allowing some leverage of capital provided for an investor.

Bermuda sidecar incorporation and licensing process

Formation of a reinsurance sidecar in Bermuda is a relatively streamlined process. The Bermuda Monetary Authority ("BMA") is responsible for licensing and supervision of insurance entities, and commercial applications are reviewed by the Insurance Licensing Advisory Committee ("ILAC").

Incorporation timeline

3-6 months prior to ILAC: Prepare application, including: drafting relevant documents; identifying management and service providers; and producing pro-forma financial and solvency analysis.

1 month prior to ILAC: Contact ILAC to confirm application requirements are complete.

1 week prior to ILAC: Reserve company name with Registrar; obtain registration permit and pre-incorporation form.

Monday: Application due by 5PM for weekly ILAC meeting.

Wednesday: Pre-committee meeting to discuss application, issues and request additional information from applicant.

Friday: Application is approved, approved with conditions, deferred, or declined. Approved applicants are notified.

1 week post ILAC: Confirmation with Registrar; capital contributed and relevant government fees paid; license granted; statutory meeting may be initiated to commence operations.

Early contact with service providers and BMA is recommended to ensure submission contents are complete and ILAC is comfortable with the proposed business operations. This is usually an iterative process and the BMA is known to be very accessible to and collaborative with new market entrants.

Submission contents

- ✓ Business plan
- ✓ Legal documents
- ✓ Acceptance letters
- ✓ Financial projections
- ✓ Policies & governance

ILAC Assessment

- ✓ Compliance with Insurance Act
- ✓ Viability of business plan
- ✓ Appropriate corporate governance, management team, operating model, infrastructure and outsourcing
- ✓ License class determination
- ✓ Confirmation of capital adequacy for proposed business operations

Next Steps

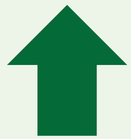
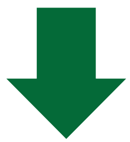
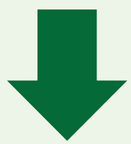
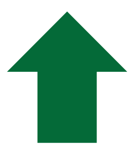
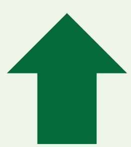
Requirements for an ILS Vehicle

A number of conditions would need to be met for an ILS vehicle to be viable

Requirement	Explanation
Access to a diverse pool of attractive risks	Following HIM there is a renewed focus on obtaining diversification of ILS risks beyond the original home of Florida hurricane. An insurer with a wide geographic spread would provide it with access to diversifying catastrophic property risks which would be very appealing to investors.
Expertise in packaging and pricing (re)insurance contracts	Any ILS vehicle will need to demonstrate to investors that it has the ability to effectively price a book of risks and package them into a diversified portfolio to achieve an attractive risk-adjusted return. A standardised approach to pricing risks will help identify the most attractive risks and create differentiated returns.
Comprehensive back office systems support from a business partner	An ILS vehicle will benefit from an ability to leverage the expertise of Management, reinsurance modelling tools, underwriting expertise and risk management systems.
Strong relationship with rated reinsurer	Leveraging the capabilities of an established rated reinsurer enables an ILS vehicle to access a wider pool of risks – Such as where a cedant would rather deal with a rated reinsurer, where a reinsurer is required to provide "wrap around" products or assume a tail risk beyond the collateralised ultimate net loss.
Reputation for underwriting quality	A strong reputation for underwriting quality is necessary to attract investors, as well as access to risks with clients and brokers who recognise the benefits of a sustainable (re)insurance relationship.
Scale	A vehicle would need sufficient scale to make itself worthwhile. As a rule of thumb, the principle of a cat bonds is typically at least $100m, so this is a reasonable proxy for the scale required for total equity raise needed in an ILS vehicle.

Impact on Key Metrics

Utilizing alternative capital can have a positive impact on key metrics

Metric	Impact of ILS utilization	Explanation
Gross Written Premium		By ceding a portion of the risks that it writes, an insurer is able to retain a greater share of top line and maintain relevance with the market.
Loss Ratio		Purchasing excess of loss (cat bonds / ILWs) protection will pass catastrophic losses on to a reinsurer, reducing loss ratio. Quota share reinsurance should not impact the loss ratio (excluding commissions).
Expense Ratio		Overrider commissions paid by alternative capital providers should provide income that compensates for the acquisition and administration costs of writing business, reducing the expense ratio (quota share reinsurance).
ROAE		Reinsurance reduces solvency capital requirements, freeing up capital which can be returned to shareholders. This reduces the “E” part of the ROAE equation. Fee income and overrider / profit commissions can maximise returns.
Dividends per Share		Capital freed up by ceding risks away can be returned to shareholders as dividends. Freed up capital can also repurchase shares ensuring future income is apportioned between fewer shares.