

sigma

Strategic reinsurance and insurance: the increasing trend of customised solutions

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Executive summary

Insurers are becoming much more sophisticated in their reinsurance purchasing.

Reinsurance and insurance markets are changing rapidly. Insurers around the world have become increasingly sophisticated in managing their capital and risks. Consolidation, evolving solvency regulation and the spread of enterprise risk management are driving a trend of centralized re/insurance buying by insurance companies and large corporations, tailored to enable growth and steer group-wide risk appetite across all types of risks.

Strategic reinsurance solutions can optimise risk transfer, enhance capital efficiency and support strategy.

Strategic reinsurance programs are customised to provide more efficient risk protection, and to help insurers optimise their capital structures in order to improve capital returns and minimise capital costs. Increasingly, reinsurance is integrated into insurers' long-term strategy and growth plans. Challenging circumstances, such as a mergers and acquisitions, changes in regulatory regimes, or market dislocations, require event-specific solutions.

Customised reinsurance solutions can be more efficient, targeted and flexible than traditional capacity.

Structured protection and risk transfer solutions are tailored to increase the efficiency of re/insurance programs by combining multiple risks and/or interdependent triggers. As part of an integrated enterprise risk management process, risk transfer is focused on the joint distribution of all risks. Another aspect is the integration of alternative capacity in order to provide large lines of catastrophe capacity.

Strategic reinsurance programs increasingly address capital management considerations.

Corporate finance-focused reinsurance programs address capital management considerations. Cost-of-capital and capital efficiency have become increasingly important in the current and ongoing low-yield, low-growth environment, and reinsurance can substitute balance sheet capital and boost profitability. Such corporate-finance driven solutions include non-life retrospective covers and life in-force monetisation with the goal of releasing trapped capital and monetizing future expected cash flows on long-term business.

Reinsurance solutions can focus on enabling strategy and growth.

Reinsurers also engage in long-term partnerships to enable the strategic and growth objectives of the ceding insurer. In the life sector, reinsurance contracts can be geared toward helping an insurer fund high acquisition expenses and negative cash flows associated with growth of new business. In non-life, growth support via reinsurance is more focused on flexible, on-demand capital relief and on enhancing capital efficiency. Cedents can also benefit from a reinsurer's technical and market expertise.

Reinsurance can serve as an efficient, targeted and flexible capital substitute.

Insurers can use reinsurance as a capital substitute, and to manage solvency. Reinsurers are able to provide access to their balance sheets at costs below insurers' capital costs because their portfolios are diversified across a broader range of geographies and risks. Also, reinsurance does not assume all the risks of equity capital (such as asset and operational risk), meaning that the capital costs can be lower than traditional capital. Reinsurance is more flexible than traditional capital and has the added benefit of privacy.

The best strategies for success are based on long-term alignment between all stakeholders.

The use of customised structures as tools for achieving longer-term corporate finance and strategic goals is often a multi-year process. Success is guided by close alignment among all parties, which can include insurer, reinsurer, broker and regulator. A number of factors contribute to a successful strategic reinsurance agreement, including clear objectives, senior executive sponsorship within the cedent, experienced deal teams, large risk capacity, long-term relationships, and adherence to best practice in accounting, tax and regulatory compliance. Transparent communication among all stakeholders on objectives, options and future implications is a necessary underlying principle from the outset.

Introduction

This *sigma* covers strategic or customised reinsurance.

The use of non-traditional or customised reinsurance is not new but has become more prominent.

Reinsurance buying has become increasingly centralized, leading to larger and more complex deals.

Excess capacity has put a focus on reinsurance quality.

The motivations for non-traditional reinsurance include protection, capital efficiency and growth.

The reinsurance and insurance markets are becoming increasingly bifurcated, trending in two directions: commoditisation and increased retention of standard re/insurance risks; and increased utilisation of larger and more strategically-motivated reinsurance solutions. Drivers of this development are consolidation of the insurance industry, globalisation of risks (eg, cyber, contingent business interruption), technological innovations (eg, risk models, data analytics), the growth of alternative capital such as *insurance-linked securities (ILS)*¹, and regulatory reforms.

This report focuses on the evolution of solutions that integrate re/insurance programs into a broader risk management and/or corporate finance strategy. The use of customised (ie, non-traditional) re/insurance has become more prominent in recent years, and the purpose underpinning reinsurance are continuously evolving.² Furthermore, an insurer's concept of risk determines the combination of risk protection and financial efficiency that the structured solution must target, as well as the types of experience, capacity and diversification required of the reinsurer.

The trend of global insurers to centralise the purchase of reinsurance across lines of business and territories has led to higher limits and higher retentions, substituting local contracts with more complex and larger solutions. The spread of risk-based capital (RBC) and economic (ie, market value-based) capital models for rating agency purposes and solvency regulation has also increased the sophistication of reinsurance buying.

Excess capacity has coincided with a “flight to quality” with the outcomes that: (1) first-tier reinsurers tend to be the preferred partners on larger and more complex reinsurance programs; (2) rating agencies put value on size and diversification; and (3) syndicated reinsurance panels shrink in favour of the larger reinsurers.

Non-traditional reinsurance contracts allow insurers to address a wide range of needs. The main motivations for customised structures can be clustered into three broad categories:

1. **Structured protection and risk transfer.** The focus of such solutions is to increase the efficiency of insurance programs, expand the insurability of difficult-to-insure risks, and provide large amounts of capacity for catastrophic risks. The latter can be a challenge for smaller re/insurance carriers.
2. **Corporate-finance driven.** Here the objective is more financial, such as releasing trapped or redundant capital and/or lifting return on equity (ROE). The aim of these solutions is to optimise an insurer's capital structure to achieve a broader set of financial objectives. Reinsurance can substitute for traditional capital and also reduce the cost of paid-in capital by reducing volatility.
3. **Enabling strategy and growth.** These solutions emphasise the dynamic benefits of reinsurance structures. Insurers and reinsurers partner to accomplish the long-term strategic objectives of the insurer. The relationship involves multi-year solutions focused on aligning the reinsurance program with the long-term strategic plans of the client.

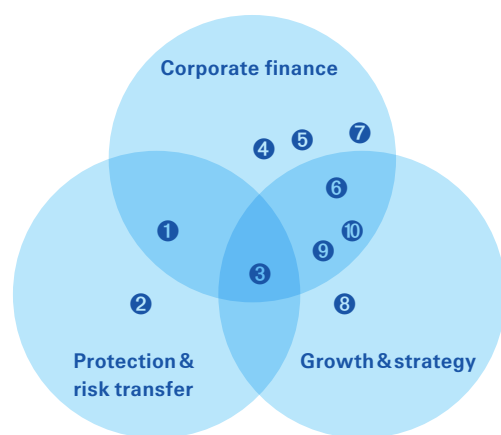
¹ A glossary at the end of this report provides a definition of technical terms used in this edition of *sigma*. The first reference use of these terms appears in blue italics throughout the report.

² See P. Jarzabkowski, *Charting change in the global reinsurance landscape: strategies for differentiation*, Cass Business School, City University London, 2014.

The motivations are not mutually exclusive and can be addressed through multiple solutions.

The three categories each describe a dominant motivation for the purchase of reinsurance, but they are not mutually exclusive. For example, large catastrophe (cat) programs may straddle all three categories. Figure 1 maps the relationship of 10 different customised reinsurance solution types to the three motivation areas. All those reinsurance solutions involve significant risk transfer, but are customised in a way that allows cedents to target certain specific strategic business needs.

Figure 1
Mapping of strategic/customised reinsurance solutions types to three motivation areas



		P&C	L&H
1	Holistic covers	✓	
2	Parametric solutions	✓	
3	Cat covers – ILS	✓	
4	Solutions supporting capital efficiency	✓	✓
5	Retrospective covers	✓	
6	Life in-force solutions		✓
7	Solutions mitigating regulatory changes	✓	✓
8	Solutions supporting growth	✓	✓
9	Solutions for mutual insurers	✓	✓
10	Solutions facilitating M&A	✓	✓

Source: Swiss Re Economic Research and Consulting.

This *sigma* covers solutions used in 10 different application categories.

This report covers the above-listed strategic reinsurance solution categories:

1. **Holistic earnings and capital protection covers.** These structures allow insurers and corporations to combine multiple risks and/or interdependent triggers. The premium and claims payments reflect the joint losses from these risks, and the joint volatility is less than the sum of the volatility of the individual risks.
2. **Parametric solutions.** Pay-outs are based on indices rather than actual losses. These structures are used to enhance insurability of difficult-to-insure risks, such as weather-related, commodity and non-damage business interruption risks.
3. **Catastrophe risk solutions.** These are large programs where the sheer size of risks is challenging. They usually involve panels of reinsurers and, increasingly, combine traditional programs with alternative capital like ILS.
4. **Solutions supporting capital efficiency and relief.** Increasingly, reinsurance is being used in corporate capital management programs. The goals of such programs include enhancing capital returns and reducing capital costs and can be achieved by, for example, the addition of non-life retrospective covers and life in-force monetisation.
5. **Retrospective covers.** Liabilities from past underwriting years absorb capital and administrative or analytical resources. Retrospective solutions transfer legacy underwriting risks, allowing an insurer to focus resources on current and future business.

6. **Life in-force monetisation.** These solutions bring forward cash flows and release of capital from in-force books. The capital can be used more efficiently in other businesses and improve overall returns. The solutions can also be used in transformational situations, such as an exit from discontinued lines or products.
7. **Solutions mitigating regulatory changes.** The impact of new capital rules, including Solvency II for European insurers and the China Risk Oriented Solvency System (C-ROSS), are significant. Reinsurance solutions can be used to mitigate the potential costs of regulatory changes.
8. **Solutions supporting growth plans.** Most reinsurance solutions play a role in supporting an insurer's growth plans including expansion into new markets or the launch of new products. The growth initiatives require upfront funding or capital relief, but the reinsurance solutions package can also involve broader support, for example in managing market and regulatory risk or other expertise.
9. **Solutions for mutual insurers.** Mutuals face limitations in their ability to access capital. Also, many mutuals have a focused client base and a less-diversified portfolio. New regulatory capital standards could put some mutual firms at a competitive disadvantage compared to highly diversified insurers. Reinsurance can provide mutuals with increased financial flexibility to cope with unexpected losses, grow their business and compete with other types of insurers.
10. **Solutions facilitating mergers and acquisitions (M&A).** M&A are transformational situations which entail significant changes to funding and risk transfer needs. There is heightened investor scrutiny of the quality of the acquired portfolio, and there is also execution risk in successfully integrating an acquired entity. Reinsurance solutions can be used to strengthen or relieve pressure on insurers' balance sheets and earnings statements, either as a preparatory step before a sale or in the aftermath of an acquisition.

Customised structures are created to address specific situations, and they draw on the reinsurance toolbox.

The strategic reinsurance solutions toolbox includes various types of reinsurance concepts that can be modified, combined and sometimes enhanced with innovative features to address the specific needs of a client. There are as many forms of customised solution as there are client situations, and it is not possible to provide a comprehensive product list. Instead, this *sigma* uses case studies to demonstrate the utility of the 10 different customised solutions types described above in specific situations. The report closes with a discussion of the factors and capabilities required to guide a successful solution.

Strategic reinsurance and insurance solutions

Re/insurance programs have traditionally been offered on a line-of-business basis.

However, even large companies are concerned about the occurrence of different types of events in close succession ...

... which is where holistic coverage is useful. It reduces portfolio volatility by packaging together different risk classes.

A special form of holistic cover is the dual-trigger contract, which combines an insurance loss trigger with a non-insurance loss trigger.

Holistic earnings and capital protection covers

Currently, most reinsurance and commercial insurance is purchased on a line of business basis, with several types of risk (eg, property, motor and marine) insured separately. Liability insurance is also covered separately, often split into several sub-lines such as workers' compensation, professional liability, employment practices and product liability. As emerging risks develop, new risk classes (eg, cyber risk, supply chain risk) are sometimes separated from existing covers in order to provide policies with specific wordings, limits, retentions and prices tailored to the particular risk.

Increasingly, however, insurers and large corporations expect integrated comprehensive solutions rather than traditional modular covers. The focus of re/insurance buyers is more on bottom-line risk, not line of business. The motivations behind holistic or integrated re/insurance solutions are (1) that many companies are concerned about the combination of several serious loss events in close succession; and (2) that these "hits" may not necessarily arise from traditionally insurable exposures. Holistic solutions provide a unified limit of coverage over multiple lines.

Holistic covers are usually multi-year, and are appropriate where multiple large losses in consecutive years are unlikely. Furthermore, various risk classes are packaged together, including traditional (eg, property and casualty) and also political, financial or even business-related exposures. The overall volatility of a portfolio made up of several uncorrelated risks is smaller than the sum of single-class volatilities.

Dual-trigger contracts are a special form of holistic cover. Their defining feature is that they only pay in the event of an insurance loss (eg, a property loss) in combination with a non-insurance loss (eg, loss from currency devaluation in a country where the company generates a substantial part of its revenues) occurring in the same period. The insurance loss is the first trigger, and the non-insurance loss the second.

Structured multi-year reinsurance to reduce earnings volatility

One insurer used a multi-line, multi-year aggregate excess loss cover to decrease earnings volatility.

Background. A medium-sized insurer with a balanced book of business (life and non-life) had a history of volatile results in non-life lines. The company was negatively impacted by the financial crisis and was struggling to meet profitability targets.

Insurer objectives. The insurer sought to reduce volatility of the non-life business, optimise its reinsurance costs and protect against a deteriorating combined ratio.

Reinsurance solution. The reinsurer provided a multi-line, multi-year *aggregate excess loss (XL)* cover. The effectiveness of the structure was supported by extensive risk modelling.

Benefits. The probability of the combined ratio exceeding 100% fell substantially, reducing earnings volatility. The insurer benefited from internal diversification, stable reinsurance capacity and more budget certainty.

Multi-year structured earnings protection for a US regional insurer

A smaller regional insurer used a multi-year structure to reduce earnings volatility at an important time for its ratings outlook.

Background. A small regional US insurer with an A- rating from A.M. Best and a negative outlook is located in a region subject to volatile losses resulting from severe convective storms (which include hail, powerful wind and heavy rain storms, and tornadoes).

Insurer objectives. The insurer needed earnings and capital protection from aggregate retained losses. Among other benefits, this would help the insurer maintain its credit rating.

Reinsurance solution. The solution was a multi-year program with term aggregate limit and premium structure that afforded the insurer an opportunity to share in the ceded profits of the program if the underlying business ran favourably for the reinsurer. Irrespective of the loss experience, the insurer received the benefit of a multi-year capacity commitment at consistent pricing levels. Further, the program included the option for the insurer to terminate the remaining years under certain conditions.

Benefits. The multi-year capacity offered profit sharing and cancellation features that provided more consistency to earnings streams for the insurer. The solution served to complement the company's traditional reinsurance program with a lower *working layer*, the volatility of which had previously had been a concern for the insurer.

Holistic protection requires in-depth awareness of total enterprise risks and objectives.

With holistic covers, companies typically benefit from cost savings by combining multiple risks and/or interdependent triggers. The premiums reflect the joint losses from these risks. That said, holistic covers require in-depth awareness of enterprise risks on the part of both the insured and the reinsurance provider. Only when the risks are well understood and quantified can overall risk tolerance be determined.

With this understanding, the cost of risk transfer can be reduced.

Cedents and corporations with substantial capital can self-insure small-to-medium-sized losses, and pursue more tailored re/insurance solutions to manage the interactions between multiple risks. A key benefit of holistic protection is that it allows insurers, and large corporations, to customise an integrated risk management strategy. Efficient risk transfer results from a focus on joint distribution of all risks.

Parametric solutions

Insurable risks tend to satisfy a set of criteria for risk pricing and pooling.

Insurable risks typically satisfy a common set of criteria: they have a measurable probability of occurrence; they have estimable exposures; vulnerability and associated loss exceedance probabilities; premium rates are acceptable to both insurer and insured; and there is adequate capacity in the market to cover the total risk. These criteria allow re/insurers to price and pool risks into diversified portfolios.

Risks with probabilities that are difficult to assess challenge the bounds of insurability.

Given the criteria for insurability, it is challenging for re/insurers to provide sufficient and affordable covers for exposures where proof of loss is costly or complicated, such as disaster relief, public infrastructure cover, energy production or micro-insurance protection against flood and drought. The same is true where vulnerability and losses are difficult to assess, such as for business interruption or supply chain risks. In particular, man-made risks like terrorism and cyber risk push the boundaries of insurability because they are difficult to model, there is less historical data available for pricing, and they can result in a large accumulation of losses.

Index-based insurance can enhance insurability when a reference index correlates well with losses.

Index-based or *parametric insurance* solutions can make unique or difficult risks more insurable. Unlike indemnity-based insurance, which pays claims based on individual loss occurrences when a loss report is submitted by an insured after an event, index-based insurance pays claims based on a parametric trigger such as when rainfall or wind speeds reach a pre-determined level. Because the index-based risk transfer relies on an external parameter reference, the solution only works when the reference index is highly correlated with actual losses.

Index-linked contracts can reduce moral hazard, adverse selection and claims assessment costs.

Index-linked contracts reduce moral hazard because pay-outs are based on an independent metric rather than an insured's reported losses. For example, the use of an industry loss index reduces moral hazard because a company typically cannot influence industry losses related to a certain event, whereas its underwriting behaviour can directly influence its own losses. Index-linked instruments also reduce adverse selection since payments are based on information that is widely available. There are no informational asymmetries and risks can be calculated more easily and priced more accurately, without depending on information provided by the insured party. Parametric insurance can also reduce the costs involved in underwriting and claims administration because there is less need for in-person risk or loss assessments.

Index-based innovations can be applied to different sectors.

Innovative index-based structures have been used in renewable energy, agro-risk, electricity market re-design cover, and natural disaster risk scenarios, among others.

Power company insures joint drought and oil price risks

An index-based solution created drought cover for hydro-electric production in Uruguay.

Background. The hydro-power operations of a utility company in Uruguay depend on water levels in two river systems: the Rio Negro and the Rio Uruguay. When the water levels in the reservoirs that feed the power plant fall because of lack of rain, the utility uses thermal energy to generate electricity which is more expensive, especially when the price of oil is high. This impacts consumers and also the national budget, given that the state provides financial support to the company.

Insurance solution. Acting with the World Bank, the state-owned utility signed a deal giving it 18 months insurance protection against drought and high oil prices, both of which had negatively impacted its financial results in the past. The first deal provided USD 450 million in cover.

Drought risk was measured by rainfall at 39 weather stations spread along the two river basins. Rainfall data was collected daily, and if rain levels fell below a trigger point, the contract would have paid up to USD 450 million. The size of the pay-out depended on the severity of the drought, and on the price of oil. When oil prices were high, the pay-out was larger to offset the high cost of fuel purchases.

Benefits. The insurance solution protected consumers against the risk of high and volatile electricity costs.

Business interruption and cyber vulnerabilities are key risks for corporations.

BI insurance traditionally covers expenses when business is interrupted by the occurrence of an insured loss event.

Non-damage business interruption coverage could become a more important tool in risk management.

Insuring non-damage business interruption

Business interruption (BI) is the top business risk among global corporations in 2016, for the fourth consecutive year. According to the Allianz Risk Barometer, 38% of respondents cited BI as a top 3 risk.³ BI losses account for a growing proportion of overall losses due to the rising interconnectivity of risks. Currently the major causes of BI are traditional risks (eg, natural catastrophes, fire and explosions, and supplier failure). However, risks related to technology, globalisation and social change are expected to become ever more important drivers of BI risk in the coming years.

Traditionally, BI insurance is complementary to a property policy, covering extra expenses or losses incurred when business is interrupted while damages are being repaired. However, standard BI cover is only triggered in the event of an insured property loss, such as if property is damaged by an insured peril. Contingent business interruption (CBI) risk, meanwhile, is linked to the property risks of a third party, such as a supplier or a client. CBI insurance kicks in when property damage at a third party's physical premises causes BI for the insured party.

Demand for BI cover that is not contingent on property damage is rising. Non-damage business interruption (NDBI) policies aim to fill the insurability gap between actual and insurable costs. Some examples of potential NDBI events are a withdrawal of regulatory approval or product licenses (eg, due to quality problems or safety issues), electricity blackouts, political events such as strikes, organized blockades or government actions, failure of internet access, software errors and mistakes, and business interruption at a key supplier.

³ Allianz Risk Barometer: Top Business Risks 2016, Allianz Global Corporate & Specialty, 2016.

Index-based triggers can facilitate the creation of NDBI covers.

However, there is no standard solution because of the difficulty in properly assessing exposures. The disconnect of NDBI risk from traditional property risk gives rise to asymmetric information and a lack of data, often making it impossible for an insurer to underwrite and price the risk. Here parametric products can be used to facilitate NDBI covers. A prerequisite is the ability for the solution provider to model the respective indices used for the trigger, and also a sufficiently high correlation of the index with an insured's loss scenarios.

NDBI cover for a railway company

A European railway company used a multi-peril contract to protect against non-physical damage business interruption risk.

Background. While doing a thorough risk analysis, a railway company discovered that it ran substantial BI risks not covered by its standard property insurance policy. Several risk scenarios that could have resulted in core businesses being interrupted for several days or even weeks (so-called "black swan" events) were analysed. These scenarios could have had significant negative impact on earnings and/or cause significant additional expenses.

Company objectives. Protection against loss of income and/or additional expense due to events that were not insurable under standard property policies.

Insurance solution. The rail company purchased a multi-peril and multi-year NDBI cover. The coverage scope was for BI due to: (1) imminent natural catastrophes; (2) non-performance of information systems (cyber risk); and/or (3) regulatory decreed (partial) shutdown of operations. The policy extended over three years with an aggregate term limit of CHF 100 million. The policy was structured as a catastrophe excess-of-loss cover with the company's in-house captive insurer.

Benefits. The rail operator was protected against a risk not covered by a standard insurance policy. To come up with a viable commercial solution for both the company and the syndicate of insurers, a thorough assessment of the company's needs and extensive scenario modelling was required. This involved insights from various expert areas, in particular underwriting, structuring, actuarial, contracts and claims. Another benefit for the rail operator was to receive a policy document in the local language.

NDBI covers for airlines and airports against multiple risks

Airlines and airports can use NDBI coverage to protect against multiple types of event.

Background. Airlines and airports are exposed to disruptive incidents such as natural catastrophes (eg, volcano eruptions, harsh winters, severe hurricanes, floods) and others. The incidents can cause BI and also distress to passengers.

Company objectives. An airline wanted protection against loss of income and/or additional expenses in the event of a natural disaster or other circumstances. Consequences of such an event included reduced revenue, lack of aircraft at specific high-demand airports, reputational damage and higher operational costs. For example, passengers would need compensation, hotel accommodation and flight re-bookings.

Insurance solution. The cover was based on defined events. There were two main types of NDBI cover: one triggered after a certain number of days of airport closure (eg, the “7 excess 7 days” cover, which would have been triggered on the seventh day of closure. The insured would then have been covered for the next seven days with an option for an extra seven days). A second NDBI cover would have been triggered when the number of cancelled flights reached a pre-defined threshold. The exact details of coverage was structured according to customer need and risk profile.

Benefits. The airline was able to protect itself against losses arising from multiple situations in the case of a BI event. Airport operators could take out the same kind of NDBI coverage.

Parametric solutions help to improve insurability.

Parametric solutions help to provide insurance cover where historic claims or exposure data about the insured is not available. Using independent indices allows insurers to determine probability distributions as a basis for underwriting. However, since the indices are not perfectly aligned with the actual exposure of the insured party, the use of parametric triggers involve *basis risk*. With increasing experience in handling and covering such risks there is often scope for the reinsuring and insured parties to further reduce basis risk, for example by combining parametric- and indemnity-based pay-outs. Parametric triggers can also complement traditional underwriting in holistic insurance programs.

Catastrophe risk solutions

Catastrophe coverage is a key concern for property insurers.

Cat exposure is a key motivation for every property insurer to buy reinsurance. Property catastrophe programs target the accumulation risk arising mainly from natural catastrophes. An insurance company's willingness to offer disaster coverage is often determined by the availability of corresponding reinsurance.

Globally, natural catastrophe exposures have risen, increasing demand for coverage.

Several trends have altered the property catastrophe reinsurance market in recent years. Globally, property exposure to natural catastrophe risk has risen. A root cause for increasing disaster costs is the global trend towards urbanization and the accumulation of assets in many cities with high exposure, particularly in coastal areas.⁴ There is still a significant protection gap in property risk⁵ and demand for natural catastrophe covers is increasing.

Insurers have become more sophisticated in reinsurance buying, and are seeking higher global limits.

There has also been a trend among global insurance companies to centralise reinsurance buying, retaining more business while buying higher global limits. This is in part due to the widespread implementation of RBC models.⁶ By centralising their reinsurance buying, insurers can make use of their own internal diversification capacities and so increase *attachment points* of their Cat XL covers. The result is a shift towards higher severity in reinsured portfolios, necessitating large catastrophe coverage.

Structuring a global catastrophe risk reinsurance program

A P&C group used a centralized program to exploit its inherent diversification potential and manage its natural catastrophe exposure.

Background. A leading global P&C insurer wanted to make its purchases of natural catastrophe (nat cat) cover more efficient by linking its risk transfer activities to its global risk profile.

Insurer objectives. The insurer wanted to actively manage its overall exposure to natural catastrophes by exploiting the inherent diversification in its global portfolio.

Reinsurance solution. The solution was to channel the reinsurance needs of the insurer's local subsidiaries through the in-house reinsurer, and to centralise catastrophe cover for the whole group. The group cover included a non-US nat cat cover for peak risks of up to EUR 2.5 billion, and separate covers for US and non-peak risks. Group retentions ranged between EUR 100 million and more than EUR 500 million depending on scenarios. In addition to the Cat XL cover, there was a top *umbrella layer*.

Benefits. The centralised program allowed the insurer to benefit from the group's own diversification potential. Group retention was increased, and the centralised nat cat buying was closely linked to the insurer's risk profile.

The supply of alternative capital has grown over the past decade.

Furthermore, the supply of catastrophe reinsurance has changed significantly over recent years, with *alternative capital (AC)* gaining importance as a source of capital for rare but high-severity risk layers, in particular for US peak perils. AC mostly consists of ILS and collateralised reinsurance.⁷ A catastrophe (cat) bond provides re/insurance protection by transferring the risk to bond investors.

⁴ See for example, *Mind the risk: A global ranking of cities under threat from natural disasters*, Swiss Re, 2014.

⁵ *sigma* 5/2015: Underinsurance of property risks: closing the gap, Swiss Re, 2015.

⁶ Jarzabkowski op. cit., p 5.

⁷ For an overview on ILS and other forms of AC, see *Best's Review*, June 2016, pp 50-70.

Insurers and reinsurers issue catastrophe bonds (cat bonds) to the securities market through an issuer, otherwise known as a special purpose reinsurance vehicle (SPRV), set up specifically for the role of issuing the bonds. SPRVs collect the premiums from the sponsor and the principal from investors, and hold them in a trust in the form of highly-rated (fixed income) assets. Premiums and investment income are used to pay the interest on the notes. Cat bonds pay higher interest rates to compensate for the higher risk relative to risk-free instruments. If a predefined trigger event occurs, investors may lose the interest, and even the principal, depending on the structure of the bond, both of which may be used to cover the sponsor's disaster losses.

Primary insurers are increasingly using cat bonds to diversify and increase their financial flexibility.

Cat bonds have come to be increasingly based on *indemnity triggers*, partly because investors are becoming accustomed to these triggers, and because accounting treatments are more favourable for many insurers. Other triggers are either parametric (eg, storm wind speed or earthquake magnitude), or based on industry losses. Indemnity triggers, however, generally better suit the cedent's needs because no basis risk is involved.

Cat bonds complement reinsurance in peak risk areas.

Cat bonds complement traditional reinsurance for peak risks where the depth of capital markets can support the re/insurance industry to mitigate the financial burden of large natural disasters. The traditional model of re/insurance, based on diversification across large pools of risks, operates very efficiently for relatively small, mostly uncorrelated risks. However, when confronted with mega cat scenarios, the correlation of risks and magnitude of loss potential make diversification challenging, even for the largest re/insurers. As risk diversification benefits decline in the case of mega cats, the cost of capital required to maintain acceptable solvency levels becomes less economical. In these scenarios, ILS comes into play by passing risks of tail events on to the broader capital markets. Table 1 lists the largest ILS solutions publicly known to date.

Table 1:
Largest ILS solutions

Cedent / SPRV	Risks covered	Size in USD millions	Date
Citizens Property Insurance/Everglades Re	Florida hurricanes	1500	May 2014
State Farm/Merna	Multi-peril	1100	July 2007
Allstate/Sanders Re	US named storms, US earthquakes, severe thunderstorms	950	May 2014
Swiss Re/Successor	US hurricanes, US earthquakes, Japan earthquakes, European windstorms	950	June 2006
Texas Windstorm Insurance Association (TWIA) / Alamo Re	Named storms in Texas	700	May 2015
Everest Re/Kilimanjaro Re	US, Canada, Puerto Rico, named storms and earthquakes	625	December 2015
USAA/Residential Re	US hurricane, US earthquake	600	June 2007

Source: Artemis

Cat bonds are collateralised: no credit risk, but also no reinstatement of cover.

Another characteristic of cat bonds and other forms of AC is collateralisation, as a means to mitigate credit risks towards the provider of coverage. The principal of the bond is locked in a trust fund, either paid back to the investor upon maturity in case of no loss, or triggered and paid out to the cedent. As such, there is no *reinstatement* after a loss occurrence. The cedent either has to buy second event coverage from the traditional reinsurance market or issue a new cat bond.

The legal and regulatory burden can be carried by the reinsurer.

So too can issues related to the risk transformation, such as basis risk and lack of reinstatements.

Structuring an ILS involves extensive legal agreements. Sponsoring a cat bond takes more time (especially the first time) and there are more disclosure requirements than in a traditional reinsurance deal. A transformer structure can be an alternative where the insurer does not get directly involved with setting up an SPRV and issuing notes, but writes a reinsurance contract with a reinsurer, the latter using ILS to pass the risk on to the capital markets.

A variant of the transformer concept is when the reinsurer assumes the risk of the insurer and retrocedes parts of the initial cession via a cat bond. The deviation can include different triggers (index vs. indemnity), different retentions and limits, etc. The reinsurer retains any basis risk and bridges the gap between the features aligned with the insurer's interest and those preferred by AC investors.

Transformer cat bond for a US insurer

A transformer cat bond structure helped an insurer gain additional reinsurance capacity with pricing and diversification benefits.

Background. In past years, an insurer had refrained from obtaining a cat bond because of several structural features related to the loss settlement process, and the basis risk that is a part of parametric-trigger cat bonds. Additionally, the insurer did not feel comfortable directly facing an SPRV.

Insurer objectives. Following regulatory changes, the insurer needed additional reinsurance capacity. A debut cat bond provided a source of AC that helped the insurer diversify its existing reinsurance panel and served as a strategic alternative to traditional reinsurance.

Reinsurance solution. Cat bond structure: (1) the insurer entered into an agreement with a reinsurer, eliminating the concerns outlined above. The new contract was seamlessly integrated into the insurer's reinsurance program and encompassed a *top-and-drop* feature mirroring its traditional terms. (2) The reinsurer consequently ceded the risk via a *retrocession* agreement to an SPRV that issued notes to investors. The notes had a three-year risk period and provided protection against named storms and severe thunderstorms in Florida.

Benefits. The structure offered the insurer a capital market product that minimised basis risk and was closely aligned with traditional reinsurance terms, while providing capital market pricing and diversification benefits.

Large insurers' cat programs are increasingly combining traditional reinsurance solutions and AC.

Driven partly by recent regulation and resulting changes to the way they manage their capital, primary insurers (especially large global firms) tend to centralize their buying of property cat reinsurance with higher limits and deductibles, and a smaller panel of reinsurers. Their programs additionally include AC such as cat bonds. For those with significant property cat exposures, the property cat reinsurance program can become a core element of an insurer's capital structure and growth strategy.

Reinsurance can be used as a capital substitute, enabling insurers to hold less capital while still maintaining solvency.

Insurers have improved decision-making by considering the opportunity cost of capital.

Figure 2:
Overview of capital management solutions

Solutions supporting capital efficiency and relief

An insurance company’s capital base is its buffer against unexpected claims and financial losses. Insurers have two options to manage their solvency, given a certain portfolio of business. One way to reduce solvency risk is by adding capital to the balance sheet, but this incurs additional capital costs. A second option for insurers is to de-risk their balance sheets by reinsuring parts of their insurance liabilities. In doing so, they use reinsurance as a substitute for traditional capital. Reinsurers can provide access to their capital at costs below insurers’ capital costs because their portfolios are diversified across a broader range of risks and geographic regions. Also, reinsurance does not assume all risk positions as equity capital does. For example, it excludes asset risk and operational risk, meaning that capital costs can be lower.

The cost of capital is the rate of return insurers must pay for the capital they use. The rate demanded depends on demand and supply of capital in general and the risk the insurer’s business entails. This is another link between capital and risk management: reinsurance affects the cost of capital by also reducing risks to an insurer’s earnings stream. Insurers have improved their decision-making in recent years by including the opportunity cost of capital in portfolio steering and performance measurement.

		Flexibility	Privacy	Breadth	Term
Capital	Equity	Inflexible	Low	Broad	Long
	Hybrid equity/debt	Inflexible	Medium	Broad	Long
	Debt	Inflexible	Low	Broad	Long
Re/insurance	Contingent capital	Flexible	High	Broad	Medium
	Catastrophe excess of loss	Flexible	High	Specific	Short
	Quota share	Flexible	High	Medium	Short
	Retrospective reinsurance	Flexible	High	Flexible	Flexible

Source: Swiss Re.

Reinsurance solutions can be more targeted, flexible and private than traditional capital.

Corporate finance-driven deals aim at improving free cash flow and ROE.

Figure 2 compares some of the main capital management tools available to insurers. Traditional capital (eg, equity, debt or hybrid) bears all of a company’s risks, while reinsurance can target very specific underwriting risks. Traditional capital is usually long term to comply with regulatory and rating agency requirements. Reinsurance cover is usually short term and offers more flexibility. Raising capital in public markets is a complicated and expensive process, given regulatory and compliance issues. In contrast, reinsurance is much more flexible and also brings the added benefit of privacy.

Another aspect of corporate finance that has gained relevance for global insurers relates to their ability to upstream sufficient cash-flow and excess capital to the holding company level in order to pay attractive dividends to shareholders and/or buy back shares. In sum, reinsurance is also a capital management tool for insurers to optimise free cash flow and boost ROE.

Improving capital efficiency for an insurer in Latin America

An insurer in Latin America combined prospective and retrospective reinsurance to gain capital relief and reduce earnings volatility.

Background. Shareholders in a Latin American composite insurer had high ROE expectations. The insurer wanted to enhance capital efficiency by leveraging reinsurance to: (1) upstream capital to support dividend policy and share buybacks; (2) further fine-tune ROE opportunities; and (3) safeguard against ROE volatility.

Insurer objectives. (1) Capital relief to allow upstreaming of capital; (2) ceding more business in segments where the returns were less than investors' ROE expectations; and (3) reducing earnings volatility.

Reinsurance solution. (1) Prospective *quota share* combined with retrospective *Loss Portfolio Transfer (LPT)* to achieve capital relief. (2) High excess non-proportional covers. (3) Aggregate excess of loss cover.

Benefits. Optimization of ROE by using insurance as a tool for enhanced capital efficiency. In addition to the ROE uplift, reinsurance contained downside risk scenarios. This was complemented with capital upstreaming to finance share buybacks and group dividends.

Efficient capital management for a Japanese book of health insurance

An insurer in Japan used a quota share with coinsurance to reduce the reserves requirements on its long-term health business, boost its solvency margin ratios and free up capital.

Background. Statutory reserve and solvency margin requirements for some health insurance products are higher in Japan than elsewhere. This tied up funds of an international life & health insurer in its Japanese subsidiary.

Insurer objectives. The insurer wanted to reduce the regulatory reserve and solvency margin requirements on its long-term health business in Japan, boost the solvency margin ratio for its subsidiary there, and also free up capital for alternative use.

Reinsurance solution. The insurer entered into an in-force quota share agreement with a reinsurer which had a full-risk transfer *coinsurance* structure. Under Japanese regulations, an insurer must reinsure all risks to qualify for statutory reserve relief.

Benefits. (1) The transaction boosted the company's Japanese solvency margin ratio and freed up capital. (2) It also accelerated profit growth in Japan by releasing economically redundant statutory reserves. (3) The capital released helped support dividend payments and share buybacks at the group level.

Reinsurance is a capital management tool.

Strategic reinsurance solutions can enable better capital management. They can be used to optimise capital structure in order to achieve a set of financial objectives, including enhancing capital returns and reducing capital costs. Reinsurance is a flexible substitute for balance sheet capital and reduces the cost of capital by dampening earnings volatility. The following chapters cover two sub-categories of this theme: non-life retrospective covers and life in-force monetisation.

Retrospective reinsurance provides cover for liabilities arising from past insurable events.

Loss portfolio transfers enable insurers to cede claims reserves in exchange for a fixed reinsurance premium.

LPTs reduce capital requirements for reserve risk and increase cedents' statutory surplus.

Adverse development covers reduce reserve risk without ceding reserves.

Retrospective covers

Retrospective reinsurance is used to transfer the economic risk of portfolios of losses that have already occurred, whether the losses have fully emerged or not. The most common retrospective solutions are LPTs and *adverse development covers (ADCs)*. For both, the reinsurer provides protection against losses that may exceed an insurer's claims reserves, in return for a fixed premium.

Loss Portfolio Transfer. The insurer cedes liabilities for all remaining unpaid losses associated with a previously incurred insurance liability to the reinsurer. The transfer may include known and unknown claims reserves (*incurred but not enough reported, IBNER, and incurred but not yet reported, IBNR*). The transferred reserve risk usually involves the timing of claims payments and their amounts up to the policy limit. The original policy issuer remains responsible to policyholders should the reinsurer fail to honour its obligations.⁸

The cedent typically pays a premium that reflects the net present value of reserves it has set aside to cover the transferred liability, plus compensation for the risk associated with the transferred liability. Main motivations for the cedent can include ring-fencing legacy risks to improve market valuations, the reduction of capital requirements (regulatory and/or rating agency) for reserve risk, and freeing up resources tied to the administration and analytics of non-core operations. Another benefit, under statutory accounting regimes, is that the cedent's surplus increases by the difference between the premium and the amount that had been reserved, improving solvency. These solutions are less attractive in a low interest rate environment.

Adverse Development Cover. The reinsurer indemnifies the ceding company for a portion of a loss on a previously incurred liability that exceeds the cedent's current reserves or an agreed retention level (excess-of-loss reinsurance). There is typically no cession of the liabilities or the associated reserves, at least for short-tail lines of business. As a result, ADCs do not reduce net reserves to the same extent as LPTs. Instead, the reinsurer agrees to reimburse the insurer if claims on the designated insurance portfolio exceed the attachment point to a defined limit.

Loss Portfolio Transfer for a London market insurer in run-off

Transferring loss reserves from divested businesses to release substantial capital.

Background. An insurer in London had not underwritten new policies since 2005. The run-off book was mainly made up of commercial casualty policies written on both a direct and an assumed basis.

Insurer objectives. The insurer sought to release and repatriate capital back to its parent company by transferring liabilities from the group's non-core business in run-off. The parent planned to divest non-core businesses and release capital.

Reinsurance solution. The reinsurance structure was an LPT, followed by a portfolio transfer under the Part VII statutory mechanism.⁹ The outcome was the transfer to the reinsurer of reserves of approximately USD 1 billion.

Benefits. The deal freed up USD 360 million of capital over time, and enabled the winding up of the legal entity. Coverage for policyholders was unaffected by the transaction as the original policy terms and conditions continued to apply.

⁸ This contrasts with a *novation* agreement whereby legal responsibility to policyholders is transferred to a third party, which could also be a reinsurer.

⁹ The Part VII transfer provides a mechanism for UK insurers to transfer the contractual obligations with a set of policyholders to another insurer by way of a court-approved novation. This provides finality for the original insurer.

Fast exit from a foreign market with a branch office

A European-based insurer accomplished a rapid exit from an unprofitable foreign branch by transferring the run-off book.

Background. A Europe-based insurance carrier had operated in a mature foreign market for several years through managing general agencies. In 2008, it gained approval from the local regulator to open a branch and operate directly in the territory. However, the branch did not meet growth targets, and was eventually deemed inviable and put into runoff.

Insurer objectives. The insurer wanted a “fast exit” from the market, finding a partner immediately rather than running the book off for several years before selling it. The move was part of a broader strategy to partner with third-party capital providers, manage shareholders’ capital responsibly, and to return excess capital through dividends and share repurchases.

Reinsurance solution. The solution was reinsurance followed by an LPT. The reinsurer took full economic and operational control of the book, including claims handling.

Benefits. The insurance company was able to fully divest the line of business. Like many insurers, the company had expanded into high-growth markets over the past decade. The reinsurance and LPT solution provided the insurer with flexibility to adjust its strategy to changes in the market environment.

Maximising capital efficiency and relief, in multiple iterations

A Bermuda-based insurer maximised capital efficiency through renewable ADC, allowing the deployment of capital for growth.

Background. A Bermuda holding company underwriting risks globally wanted to improve solvency and maximise capital, both for rating purposes and to facilitate growth.

Insurer objectives. The insurer wanted to maximise capital efficiency and boost growth through the deployment of third-party capital.

Reinsurance solution. The answer was a whole account worldwide ADC across all group entities with the insurer maintaining 20% coinsurance. There were various features to the customised solution including profit commission, an interest credit rate, and specified incentives for *commutation*. The agreement was subsequently renewed many times over several multi-year contracts.

Benefits. The insurer maximised capital efficiency by using reinsurance as third-party capital. The level of capital relief was maintained over several years through repeated cancellation and renewal of the contract.

Retrospective reinsurance allows insurers to focus resources on ongoing business.

Retrospective covers can be used to manage legacy liability issues. LPT or ADC solutions are customised to the needs of an insurer, which can reduce capital requirements and bring finality to their exposure. LPTs can also be used to extract value from run-off liabilities. A similar set of motivations applies to value-in-force solutions for life insurers, as demonstrated in the next section.

Reinsurance can be used to monetise value-in-force profits.

Life in-force solutions

In life insurance, the value of existing long-term savings and protection policies often embeds significant expected future profits from the premiums to be received over the life of the contract – the so-called *value-in-force (VIF)*. Reinsurance can be used to monetise these profits, with a reinsurer paying an upfront *ceding commission* in exchange for rights to the future cash flows under the contracts. Depending on the exact structure of the solution, the insurer and reinsurer may require collateral to safeguard against counterparty risk. VIF reinsurance has become prominent in Europe over recent years (see Table 2). Pressures on balance sheets in the aftermath of the financial crisis prompted banks to look for solutions that realised embedded value in their life insurance subsidiaries.¹⁰

Table 2:

List of VIF reinsurance solutions, in USD million

Cedent	Year	Size in USD million
Banco Sabadell (Mediterráneo Vida)	2014	110
BES Vida	2013	200
BBVA	2013	840
Santander	2012	630
CaixaBank	2012	670
AEGON (Portofinos)	2007	180
Bank of Ireland (Avondale)	2007	500
Friends Provident (Box Hill)	2004	730
Barclays Life (Gracechurch Life)	2003	720

Source: Towers Watson, Swiss Re Economic Research & Consulting.

Along with the underlying risks, responsibility for policy administration can be transferred to the reinsurer.

Similar to the situation where existing policies are sold outright to a third party, risk transfer via reinsurance may also entail the reinsurer assuming responsibility for policy administration. This has been a feature of some past deals involving the leading closed-book life consolidators such as Resolution Life, Phoenix and Swiss Re's ReAssure. These arrangements can support a seller's overall disposal strategy and help the seller focus on core business.

VIF deals are less common in the non-life sector.

VIF solutions are less common in the non-life than life sector given the typically much-shorter duration of contracts in P&C.¹¹ An exception is long-term fire policies in Japan.

¹⁰ For details on VIF monetisation through reinsurance, see box "Value-in-force reinsurance" in *sigma* 3/2015: M&A in insurance: start of new wave?, Swiss Re, 2015.

¹¹ For a non-life insurer, coverage and premium guarantees do not usually extend beyond one year. The business in force is therefore the run-off of the unearned premiums and associated claims, expenses and investment income on the premiums already written, together with the investment income on the claim (and expense) reserve run off. Collectively these are sometimes referred to as the value of future earnings on reserves.

Reducing life insurance exposure while maintaining distribution activities

A large bank stabilized earnings, released capital and improved ROE from its life insurance business.

Background. A large bank with a life insurance arm sought to improve the ROE of its life insurance business. Under country regulator guidelines, only full risk transfer agreements qualified for capital relief.

Company objectives. The parent bank wanted to focus on its core business and so looked for options to streamline the capital usage of its non-core life insurance business. The goal was to stabilize group earnings and improve ROE while continuing to distribute life insurance products.

Reinsurance solution. The solution was a quota share agreement with full risk transfer of in-force and new life insurance business.

Benefits. The solution freed up capital, reduced earnings volatility, improved ROE and allowed the bank to re-focus on its core business while maintaining its distribution role in life insurance. The parent subsequently sold a large proportion of the life insurance arm.

Transfer of in-force life book to access capital and improve returns

Transfer of in-force book to shift business mix and increase return on capital.

Background. Over previous years, an insurer had shifted sales of individual life insurance to less capital intensive, higher-return products, such as indexed life insurance.

Company objectives. The insurer wanted to improve returns in its ongoing business while freeing up excess capital. The aim was to execute on growth and capital initiatives to drive improvement in operating profitability, creating shareholder value.

Reinsurance solution. The result was a reinsurance contract on an in-force block of more than 100 000 term life insurance policies written between 2008 and 2011. The insurer continued to administer and service the policies.

Benefits. The agreement created excess capital, reduced local statutory capital allocated to the company's individual life business, and achieved an approximately 10-20 basis point increase in operating return on capital for the individual life segment and the ongoing business.

Reinsurance monetises expected future profits on long-term life business.

VIF monetisation solutions accelerate expected future profit streams. This can immediately benefit the balance sheet and the liquidity position of a company and reduce capital requirements. These solutions are often used to release capital tied up in legacy books, which can then be used to develop new business elsewhere and so improve the company's growth and profitability.

Many solvency reforms match capital to risk more closely.

Rating agency model changes can also increase capital requirements.

Changing solvency regimes have global impacts, including in Latin America.

New risk-based requirements will likely lead to rules for higher capital and changing business mixes.

Reinsurance can be used to adjust to the new solvency regimes.

Solutions mitigating regulatory changes

Regulation impacts the capital costs of an insurer. Globally, common elements of many solvency reforms are more comprehensive capital requirements for insurers.¹² RBC requirements have significantly improved the capital efficiency of regulation in many countries by more closely matching capital to risk. Previously, insurers did not have to hold capital against market risk and credit risk. Spearheaded by the evolution of the European Solvency II regime, momentum for economic, risk-based solvency regulation with additional focus on identification, measurement and management of risks, is growing. For many insurers, these reforms mean increased capital requirements and a re-assessment of regulatory capital costs for various asset classes and lines of business. Insurers can relieve the pressure on capital and benefit from a more stable profit stream through the strategic use of reinsurance to move risks off their balance sheets.

Furthermore, rating agency models have an important impact on capital requirements. For example, A.M. Best is updating its capital adequacy model (BCAR) calculation methodology from pre-defined risk factors to probability-based modelling.¹³ The changes are expected to be implemented over the next two years and will likely increase capital requirements, particularly in the US and Asia. The new probability-based modelling will shift focus to individual company diversification and business risks. Typical concerns range from a concentration in certain lines or geographies to an over-exposure to particular perils. As tail risk will receive a greater focus in the new model, stronger-rated companies are expected to have more tail-risk reinsurance coverage, especially for their catastrophe business. Regional property catastrophe writers with limited financial flexibility and volatile earnings are expected to be affected most by the changes.

Insurance solvency reforms across Latin America

In Latin America, as of 1 January 2016 Mexico has implemented a Solvency-II type economic RBC regime. Brazil and Chile are expected to adopt frameworks of similar design over the next one to three years. Colombia, Costa Rica and Peru are laying the groundwork for comprehensive regulatory reform while simultaneously incorporating RBC requirements in a piecemeal fashion. The remainder of the countries still operate on Solvency Margin regimes, which are akin to the EU's Solvency I framework.¹⁴

The impact of the regulatory changes will vary from country to country depending on the final model designs. But some general inferences can be drawn from current trends and past precedents:

- The addition of risk-based charges is likely to lead to higher overall capital requirements.
- Insurers will likely adjust their product and business mix in order to optimise their regulatory capital consumption.
- Smaller mono-line insurers will struggle under the new rules, since they are less diversified and lack economies of scale. Such pressures are expected to result in increased mergers and acquisitions in the region.
- Efforts to achieve capital savings are also likely to generate increased demand for reinsurance.

There is a trend of leveraging reinsurance as a regulatory capital management tool in Latin America, because it can offer significant capital relief under new solvency regimes. Reinsurance is traditionally considered within the risk mitigation context, but can also be used as a corporate finance tool to complement other sources of capital.

¹² *Regulation: A World View*, Guy Carpenter, 2015.

¹³ *A.M. Best's proposed criteria changes: How might the rules of the road be changing?* Willis Tower Watson, June 2016.

¹⁴ *Insurance solvency regulation in Latin America: modernizing at varying speeds*, Swiss Re, 2015.

Capital relief for new solvency regulation in a high-growth market

An insurer gained capital relief to satisfy new reserve requirements.

Background. New reserve regulation was passed with a two-year implementation period in the insurer's regulatory jurisdiction. All companies had to implement an IBNR strengthening which triggered an unfavourable impact on the regulatory solvency ratio.

Insurer objectives. For the insurer, the new regulation triggered a drain in regulatory capital adequacy ratios because it had to strengthen its reserves. The company needed capital relief after using retained earnings to strengthen reserves.

Reinsurance solution. A 50% quota share agreement on the main line of business achieved the desired relief. A *sliding-scale commission* allowed the insurer to benefit from favourable loss ratios while maintaining unchanged downside risk protection.

Benefits. A customised quota share was an effective instrument to achieve capital relief. It allowed the insurer to reduce the capital requirements for prospective business over the next few years. The regulatory capital adequacy remained above the comfort level (including a safety cushion towards the regulatory minimum) for the transition period.

There are solvency reforms in many Asian countries.

Asia-Pacific is strengthening solvency regulations¹⁵

The regulatory approach to solvency in Asia has become more mature in recent years. A wide range of countries are taking steps to build more robust regulatory and solvency frameworks. Most notably, a number of regulators are either introducing RBC or revisiting their existing RBC frameworks.

- Hong Kong and Sri Lanka are moving toward RBC models.
- Singapore and Thailand are developing second-generation RBC frameworks, while South Korea, Taiwan and Malaysia are enhancing their current RBC regimes.
- Japan is moving toward an economic value-based solvency regime.
- Australia, Japan, Singapore and Malaysia have implemented Own Risk and Solvency Assessment (ORSA) or Internal Capital Adequacy Assessment Process (ICAAP) as part of regulatory efforts to enhance prudential supervision.
- In Australia, Indonesia, Japan, the Philippines, Taiwan and New Zealand, there are specific catastrophe risk-related capital requirements.
- China is implementing its three-pillar C-ROSS framework.

Insurers face new costs and challenges in their efforts to manage the changing regulatory landscape. There are calls to implement or improve enterprise risk management processes, and tightened capital requirements add further pressure to adjust and optimise capital management.

¹⁵ See for example *Risk-based capital and governance in Asia-Pacific: emerging regulations*, Ernst and Young, 2015, and *Asia-Pacific Solvency Regulation: Non-Life Solvency Calculations for Selected Countries/Regions*, AON Benfield, 2015.

Solvency II allows for an internal capital model to be used to calculate SCR.

So far, only 40 companies or groups have received approval to use internal models.

Solvency II has made reinsurance more attractive for some insurers.

Smaller, poorly diversified insurers are disadvantaged under the Standard Formula.

Solvency II introduces comprehensive risk assessment.

Solvency II finally gets implemented in Europe

After years of delay, the new economic Solvency II regime came into force in the EU at the beginning of 2016. Under Solvency II, insurance companies may calculate the required solvency capital either with the Standard Formula, a full internal model or a partial internal model.¹⁶

Take-up/application of internal models was not as high as expected, even though using an internal model can significantly improve the Solvency II ratio by reducing the Solvency Capital Requirement (SCR) compared to the Standard Formula. So far, only 40 companies have received approval by national regulators to use their (partial) internal models. They include mainly the leading European reinsurers and international primary insurance groups.

Generally, non-life reinsurance has become more attractive for insurers under Solvency II, since it better reflects the risk mitigating effect of reinsurance. However, not all types and variations of reinsurance covers are adequately considered under the Standard Formula, and therefore the risk mitigating effect of reinsurance is not always fully reflected.

Also, many smaller non-life insurers are often overweight in motor given that motor third-party liability is the largest line in most markets, and they cannot fully benefit from the diversification benefits the Standard Formula provides. Therefore they have higher capital requirements compared to more balanced competitors. A quota share could improve their net portfolio split and hence provide diversification, and in addition allow capital relief.

For life insurers, Solvency II provides less opportunities with respect to structured reinsurance solutions because based on the economic framework, an insurer can already recognise some value of future profit. The new regulation aims at capturing all relevant risks related to business activities of insurance companies either in the form of an internal model or under the Standard formula. For life insurers, market risk (or investment risk) is by far the most significant, followed by underwriting risk. And within underwriting risk, it is potentially not the mortality risk that affects insurance companies most, but lapse and longevity risks. Typically, the lapse risk scenarios are the drivers of lapse risk capital under the Standard Formula.

Solvency II standard formula capital relief solution for the mass lapse scenario in the life book of business

A large national composite insurer optimised its solvency ratio with a structured multi-year extreme lapse protection reinsurance solution.

Background. The situation involved a large national composite insurer with one-third L&H and two-thirds P&C business.

Insurer objectives. The insurer was seeking to optimise its Solvency II ratio with a simple and quickly-implementable solution.

Reinsurance solution. The solution was a non-proportional structure covering the loss of an extreme lapse event in the life book of business, with a pay-out trigger formula as a function of the lapse rate. The risk sharing arrangement benefited from the diversity of the underlying book.

Benefits. The result was significant capital relief and an increase in the insurer's Solvency II ratio.

¹⁶ *Solvency II: A closer look at the evolving process transforming the global insurance industry*, KPMG, 2016.

Capital reallocation through a combined prospective and retrospective cover

An insurer used a combination of retrospective and prospective reinsurance structures to gain capital relief in line with solvency regulations.

Background. An insurer in the UK with well-established business in both L&H and P&C intended to use the company's internal solvency model, but was subject to the Standard Formula under Solvency II in the transition period to prepare for regulatory approval. Capital was needed at the group level to finance new ventures.

Insurer objectives. The insurer wanted to grow its life business. By reducing the capital requirement for its general insurance portfolio, it wanted to free up capital to be able to allocate more resources to different areas such as the life book.

Reinsurance solution. A unique feature of the reinsurance structure was the provision of seamless coverage across all years of retrospective and prospective business, with a 20% retrospective quota share (ie, an LPT) and a 20% prospective quota share on the P&C book. The solution was facilitated by prior reinsurance contracts on the same portfolio, leading to familiarity with the business.

Benefits. The advantage of the combined retrospective and prospective structure was the provision of stable capital relief over many years, as the capital relief of the retrospective LPT alone would decline over time. The solution left full operational and claims handling control with the insurer for its P&C book, while at the same time financing the desired growth in the life book.

Changes in regulation trigger adaptive behaviour by insurers to the new regime, and can impact their reinsurance buying strategies.

The impact of new capital rules, including Solvency II for European insurers and C-ROSS for Chinese insurers, can imply significant changes to the ways that insurers manage their capital. Some reforms result in significant increases in the capital requirements for certain asset classes or lines of business. Reinsurance can be an important element of corporate strategy by aligning an efficient capital structure with an insurer's risk portfolio. Reinsurance can also be used to transition into a tighter solvency requirement by providing temporary capital relief.

Reinsurance can help fund growth plans, such as new product launches.

Solutions supporting growth plans

Insurance companies looking to expand into new markets or launch new products require upfront funding for commissions, marketing and acquisition costs, especially for long-term life business. The financing is of particular value in the initial stages of building up a life portfolio, since high expenses often exceed the premium income, resulting in technical losses in the year the business is written. A similar need can also arise on the P&C side, for example when launching a telematics-based motor product with high upfront investments and an initially small portfolio. As partners, reinsurers can offer insurers means to pre-fund new business by establishing multi-year structured contracts that assume higher marketing and distribution costs in the early years of a product launch, and participating in the earnings flow in later years.

Reinsurance can provide flexible capital support.

Growth of new business implies commensurate backing by regulatory and rating agency capital, which is especially relevant in the more capital-intensive non-life sector. Reinsurance can be used as a flexible tool to provide capital as required by the actual growth of the new portfolio. After the initial phase, the cedent has the option to scale down if desired, as opposed to other capital sources where exit options are often less flexible. As reinsurance can be targeted to take only specific positions in comparison to equity capital funding, capital costs can be lower. This means that reinsurance can be an ROE-efficient capital management tool.

Reinsurers can also provide underwriting expertise necessary to generate stakeholder confidence in the move into a new market.

In addition to funding, with strategic collaboration an insurer can benefit from a reinsurer's experience and underwriting expertise when launching a new product or entering a new market. Additionally, balance sheet and actuarial support from an experienced reinsurer may give stakeholders (customers, shareholders, regulators and rating agencies) more confidence in a new market. These solutions are supported by long-term strategic partnerships between insurer and reinsurer.

Funding new life business opportunities with reinsurance

A life insurer used a reinsurance quota share with initial commission to support new business expansion.

Background. The new business of an insurer created initial capital and liquidity strain because of upfront commission payments to distribution networks. The insurer could not capture profitable growth opportunities due to the negative impact on P&L and its capital position.

Insurer objectives. The insurer wanted to support growth by mitigating the new business strain and optimising its deployment of capital.

Reinsurance solution. The new business was reinsured through a quota share with an initial commission. The ceding commission followed the commission payments of the written policies. The reinsurance premiums consisted of the risk premium and an amortising component to participate in the value of the new business in subsequent years. After amortisation, the quota share treaty continued to provide traditional mortality risk transfer.

Benefits. The solution provided capital and funding to finance new business production, doing so without additional financial leverage.

Transfer in-force legacy book to finance new business

In Japan, an in-force long-term fire policy quota share reinsurance contract was used to finance new business development.

Background. A Japanese non-life insurer was looking to increase sales of new products to keep/expand its market share in its highly concentrated home market, and needed additional capital for pre-financing.

Insurer objectives. The insurer wanted to transfer part of the unearned premium reserves from its long-term fire business to a reinsurer. It also wanted to use the ceding commissions received to finance new business.

Reinsurance solution. The solution was a quota share treaty to assume a substantial portion of the future liabilities for the insurer's in-force long-term fire policies. The quota share treaty covered multi-year original policies with a coverage period up to 36 years.

Benefits. (1) The transaction generated capital that could be reinvested to grow new business, while reducing earnings volatility. (2) It also helped the insurer significantly reduce its exposure to nat cat risks.

Strategic reinsurance can support an insurer's growth ambitions.

Reinsurance can be used to support an insurer's strategic growth initiatives. Life financing reinsurance contracts are quota share treaties, additionally geared toward helping an insurer finance the high first-year expenses and negative cash flows associated with growth of new business. In the more capital intensive non-life insurance sector, growth support via reinsurance is more focused on flexible, on-demand capital relief and capital efficiency. In addition, the insurer may benefit from the reinsurer's technical and market knowledge.

Solutions for mutual insurers

Mutual insurance companies are owned by policyholders and have a different capital structure than shareholder-owned firms.

Mutuals mostly rely on retained earnings for capital growth.

The limitation in raising equity capital restricts the flexibility of mutuals to expand their business.

Mutuals can use alternative tools to increase available capital or reduce required capital.

Mutual insurance companies are owned by their policyholders. In general, the goal of mutual insurance is to provide member-owners coverage at or near cost. Any profits earned by a mutual insurance company are rebated to policyholders in the form of dividends or retained to support future business.

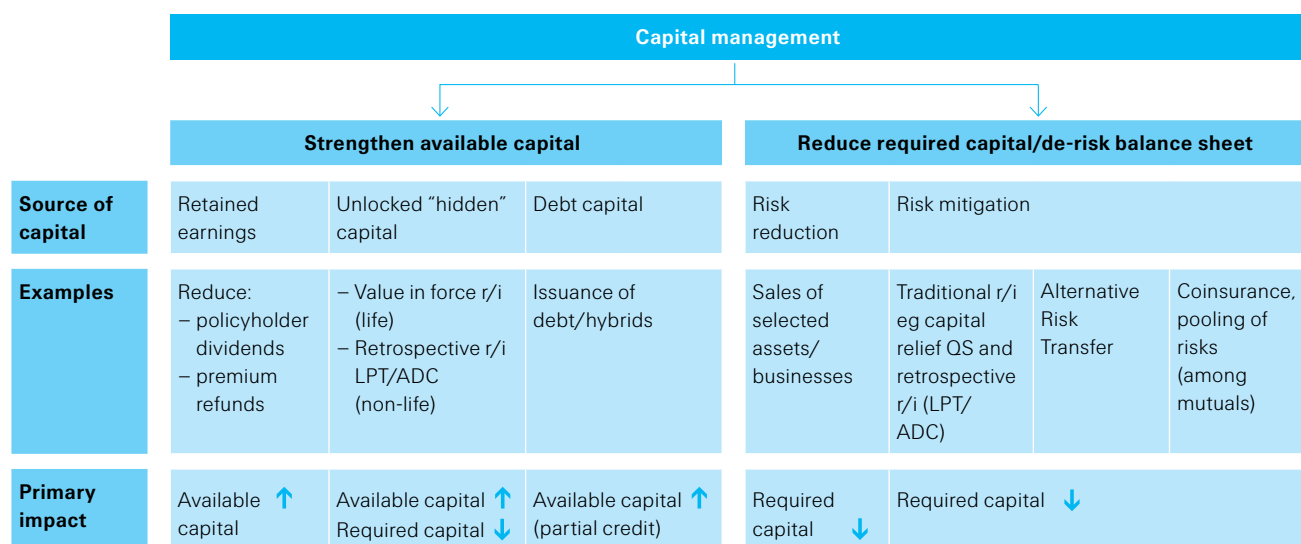
Mutuals rely principally on retained earnings to expand their capital bases.¹⁷ In most countries, they can issue participation certificates or subordinated debt, but only to a limited extent. They lack the ability to raise capital by issuing equity as stock companies can.

The lack of access to external capital leaves mutual insurers with fewer options to address regulatory/rating pressures should they need to re-build capital quickly in the event of significant losses. The difficulty in raising large sums of capital may also restrict the flexibility of mutuals to expand their business. In particular, mutuals cannot enter new geographies as easily as stock companies. The latter also find it easier to acquire other companies because their shares provide a convenient and cost-effective acquisition currency. Mutuals, by contrast, must usually spend cash to make acquisitions, which in some countries has the disadvantage of triggering immediate capital gains taxes for shareholders of the acquired firm.

Mutuals can use other forms of capital management to support their corporate finance goals. Most options increase available capital and/or reduce required regulatory capital, allowing restructuring of balance sheets and a more efficient capital structure (see Figure 3 below). Many of the tools applied by mutual insurers are also relevant to stock companies, but mutuals are more dependent on these since they have fewer options in terms of raising equity or hybrid capital.

Figure 3:

Alternative solutions for mutuals to manage risk and capital



Source: Swiss Re Economic Research & Consulting

¹⁷ *sigma* 4/2016, Mutual insurance in the 21st century: back to the future?, Swiss Re, 2016.

Reinsurance is part of the toolkit available to a mutual company to reduce required capital.

Reinsurance can help mutuals manage their balance sheets and steer their business, which may be especially helpful in a market that is consolidating. By ceding some of the underwriting, reserves and market risks, a mutual insurer can reduce its solvency capital requirement under Solvency II, for example. The reinsurance program reduces the risk exposure, freeing up capital that can be redeployed elsewhere in the mutual business. At the same time, risk transfer through reinsurance safeguards against threat scenarios that could cut into the capital base.

Contingent access to capital

With reinsurance, a composite mutual group could access additional capital, providing reassurance in the face of more systemic risks.

Background. A composite mutual insurance group had a relatively high financial leverage ratio. Enterprise Risk Management (ERM) threat scenarios indicated a few situations in which senior management would have been more comfortable knowing the mutual could access additional capital if needed. These threat scenarios were specific events, but could also be situations of more systemic nature (eg, another financial market crisis, or dislocation in the home market).

Insurer objectives. Directly protecting against the identified threat scenarios did not seem feasible. Any negative impacts on available capital needed to be offset. The management of the mutual insurer wanted to have different vehicles in place to expand the set of strategic options available in the event of a threat scenario.

Reinsurance solution. The solution was a privately-placed flexible quota share agreement, complementing the mutual insurer's existing non-proportional reinsurance programs. The quota share reduced the systemic exposure because the cession rate increased along with the cedent's premium-to-surplus ratio. A hit to the capital base would have led to an increased cession rate later on, bolstering the capital relief.

Benefits. The program leveraged reinsurance as an additional indirect source of capital next to debt and retained earnings. It provided comfort to senior management and also demonstrated strategic risk management planning, which rating agencies appreciate even without a threat scenario occurring. It also expanded the strategic options for different scenarios, including supporting potential additional excess capital in growth scenarios (post-event or post-market dislocation), and readiness for potential M&A situations.

Capital relief after demutualisation

A large life insurance company gained regulatory closed block debt relief and liquidity support after de-mutualising.

Background. A number of medium to large mutual companies have demutualised since the 1990s. Managing the change in capital structure can require additional financing. Demutualised life insurers are required to set up a separate regulatory closed block (RCB) of assets and liabilities for participating policyholders. The RCB is meant to ensure that all policyholder obligations and dividend expectations are met.

Insurer objectives. A large L&H insurer established an RCB after demutualising. However, at inception the allocated asset amount was less than liabilities, creating a negative surplus because of conservative statutory reserves. The insurer needed RCB debt relief and liquidity support.

Reinsurance solution. The insurer entered into a decade-long *modified coinsurance structure* with several reinsurers. Later the company chose a multi-decade *contingent surplus notes* facility, which could be issued at any time to meet the statutory surplus requirement if liabilities exceeded assets.

Benefits. The insurer achieved favourable RCB treatment with regulatory approval and favourable surplus relief. Structured reinsurance provided surplus relief at competitive pricing compared to traditional forms of capital financing such as bonds or letters of credit.

Reinsurance can provide mutuals with increased financial flexibility.

A lack of access to equity and certain types of hybrid capital can present financial and operational challenges for mutual insurers. One specific challenge for mutuals relates to M&A situations. Customised reinsurance solutions can provide them with increased financial flexibility to cope with unexpected losses, grow their business and compete with other types of insurers.

Solutions facilitating mergers and acquisitions

Reinsurance can facilitate mergers and acquisitions.

The recent trend of M&A in (re)insurance may continue as companies with excess capital pursue growth in the current low-growth, low interest rate environment. Reinsurance offers a significant value proposition to both buyers and sellers in an M&A deal, and can attract firms to opportunities that they might not be able to consider if relying on traditional forms of financing alone. Reinsurance has brought value to numerous M&A deals in three key areas: enabling transaction financing and capital efficiency, managing risk, and building stakeholder support.¹⁸

Reinsurance can provide efficient capital for transaction financing.

Enabling transaction financing: reinsurance can provide efficient and flexible capital with no increase in leverage and immediate capital relief for reserve risk. The reinsurance can be a bespoke structure executed at the time of the closing of an M&A transaction, or designed in such a way as to provide flexible capital relief (eg, a variable quota share executed prior to the deal, scaled up at the time of closing).

Customised reinsurance manages risk and investors' expectations in M&A.

Managing risk and investors' expectations: reinsurance can support risk management in M&A transactions in several forms, including by:

- carving out or minimising unattractive risks in the target portfolio. Strategies and risk appetites are usually not perfectly aligned in an M&A situation. A buyer can use reinsurance to prune an acquired portfolio of its non-core business, or a seller can prune unattractive or non-strategic business prior to sale.
- protecting future earnings and dividend capacity from adverse reserve development. Here a reinsurance structure can be particularly helpful to bridge objectives between the seller and buyer, and provide an effective alternative or supplement to representations and/or warranties.
- providing ongoing risk management to support performance post transaction. A buyer can transfer peak risks through reinsurance and optimise capital, reserve financing and carrier management. Additionally, by entering into the acquisition with a reinsurance partner, the acquirer gains a better understanding of the risk profile through shared due diligence and protects future earnings by sharing the risk.

The backing of a strong reinsurance partner can improve stakeholder confidence in the acquisition.

Strengthen stakeholder confidence by signalling: the use of a reinsurance partner in due diligence can gain buy-in from key stakeholders (eg, shareholders, rating agencies and regulators) by providing confidence that best practices were used in the transaction. The financial commitment from a reinsurer can provide further comfort, demonstrating the reinsurer's backing for the deal. A reinsurance structure put in place to maintain target capital ratios after a transaction can also gain stakeholder buy-in as it provides confidence in the combined entity's ability to manage ongoing risks successfully.

¹⁸ *sigma* 3/2015: M&A in insurance: start of a new wave?, Swiss Re.

Preventing negative surprises from an acquired book

A buyer protected an unwanted portion of an acquired book against negative surprises by purchasing a tailored reinsurance solution.

Background. A company wanted to grow its mid-market P&C commercial business through an acquisition. However, during negotiations it became clear that a seller indemnity for the target business was unavailable.

Insurer objectives. The insurer wanted to avoid potential negative surprises that could still materialise from the acquired book in the future.

Reinsurance solution. As a result, the company executed an adverse development cover at the time of closing of the deal, attaching above the acquired reserves.

Benefits. The reinsurance cover purchased by the insurer contained the acquired legacy risks for a one-off price included in the cost of the acquisition. It also reduced the capital requirements needed to run the integrated book.

Protecting franchise value post M&A

In a merger between two large P&C insurers, a customised reinsurance solution protected against earnings volatility and reassured investors.

Background. Two large P&C insurers merged to leverage economies of scale and to improve diversification on a growing portfolio. After closing, investors scrutinised the post-merger company to monitor whether the goals of the acquisition played out as intended. With an existing strong capital base, a possible loss scenario was easily digestible. But a negative surprise during the delicate post-merger integration phase could have led to a drop in the share price, which could potentially have been a multiple of the actual loss.

Insurer objectives. The insurers sought to contain any surprises and restrict earnings volatility during investor reporting cycles. Ultimately, they wanted to protect the franchise value and the key performance indicators of a successful merger.

Reinsurance solutions. The solution was reinsurance of the nat cat sub-layer for a few peak perils within the combined portfolio. In addition, reinsurance protection was provided on a quarterly basis, geared to the maximum digestible earnings volatility.

Benefits. The nat cat sub-layer protected against accumulation scenarios in the combined portfolio, mitigating stakeholders' concerns about unforeseen risk accumulation. Over time, the placement of this cover was reduced as investors became familiar and comfortable with the larger portfolio with greater exposure to nat cat risk. The quarterly protection initially contained earnings volatility, which had been a long-term key rationale for the merger in the first place.

Flexible quota share providing stand-by capacity for M&A

With reinsurance, a large P&C insurer gained capital flexibility in preparation for an acquisition.

Background. A large P&C insurer operating in a mature market had few organic growth opportunities. Acquisition-led growth was part of the insurer's short-to-medium-term strategy, and it was actively looking for potential targets. Any acquisition was to be funded through a combination of debt and existing excess capital (ie, cash) to avoid dilution of stock.

Insurer objectives. The insurer wanted to increase capital in excess of the targeted capital adequacy ratio (from a rating or regulatory perspective). It needed a flexible solution with minimal upfront costs, one that could be accessed at short notice and without distracting management resources during the due diligence of the M&A.

Reinsurance solution. The solution was a dynamic quota share on an existing large personal lines book of business. The insurer agreed all terms and conditions (including commission) of the reinsurance contract ahead of the M&A. The cession rate of the quota share depended on the capital adequacy ratio within a defined range, which adjusted dynamically during the term on a prospective basis.

Benefits. The outcome was a cost-efficient increase of capital through a quota share. With the customised reinsurance solution in place, it kicked in automatically with the closing of the acquisition, without further design or negotiations. The dynamic cession rate stabilized the solvency ratio and responded automatically to an actual "hit" to the available statutory capital base following the acquisition, which was particularly valuable because any goodwill paid reduced the regulatory capital base. Upfront expenses were minimal because the quota share started with a minimum cession rate, then stepped up as and when more capacity was needed. Management was able to focus resources fully on the acquisition target, and to consider additional safeguards for the acquired portfolio only if needed.

Reinsurance can support M&A situations with funding and risk transfer needs.

Following an acquisition, or sometimes during the process of purchasing a company or a block of insurance business, the acquiring firm may uncover risks in the portfolio previously unseen or relating to legacy business that the acquirer may not wish to retain. Reinsurance is a way to transfer such exposures. Likewise, the seller may use reinsurance to restructure the risk profile of an entity before putting it up for sale, to make it more attractive to potential buyers. As well as providing protection against unforeseen risks, reinsurance can absorb some of the heightened operational or transactional risks associated with M&A. Reinsurance can be an effective tool to manage capital adequacy by reducing liabilities following an M&A transaction. Acquiring companies can release capital from their own portfolios or free funds tied up in the acquired entity. Finally, reinsurance can also be used to directly finance M&A solutions or as a complementary source of finance to traditional market capital.

Strategies for success

The use of reinsurance is shifting toward serving a broader set of goals.

In the current economic and risk environment, there is a growing trend toward more holistic and customised use of reinsurance. This has shifted the focus of reinsurance programs from solving very specific risk transfer problems to risk transfer coupled with an alignment of reinsurance-based corporate finance tools to support an insurer's long-term strategic and growth ambitions.

Implementing a comprehensive strategic reinsurance structure is often a multi-year process.

The use of customised structures for achieving longer-term corporate finance and strategic goals can be a multi-year process. For instance, over the course of a decade, one insurer started out with a standard program of catastrophe reinsurance and step-by-step built up a more comprehensive reinsurance structure. Expanding the structure to support a broader set of goals helped management reassure investors, not only about protection against specific losses, but also by reducing uncertainty around financial performance, lowering the cost of capital and increasing ROE, while enabling growth.

There are key steps for success based on close alignment among all interested parties.

Successful transactions are based on close alignment among all stakeholders, which can include insurer, reinsurer, broker and regulator. The common experiences from the cases analysed in this report reveal a number of key steps toward the successful completion of a customised reinsurance agreement. This includes a clear objective, experience, capacity, relationships, best practice standards and transparent communication strategies.

A successful deal is supported by a clear sense of purpose and senior sponsorship.

A clear business purpose and sense of urgency on the insurer's side greatly enhances the probability of finalising a customised reinsurance transaction. It is often more difficult to build consensus for bigger picture transactions in organisations since they involve larger sums, change the cedent's financials more significantly and are not as easy to implement as commodity placements. The insurance company must have a decision maker who understands the economic benefit and added value of the solution and who, as deal sponsor, actively promotes the transaction internally. In addition, the insurance firm needs to have prepared all necessary data and be able to free up resources to execute the agreement.

The deal teams on both sides must have experience in executing transactions.

Second, the experience of the deal teams of both parties is paramount to success. On the structurer side, capabilities in underwriting, structuring, catastrophe modelling, claims, operations, due diligence, and project management are key. After contract signing, both parties must ensure that the transaction is properly handled over the duration of a book of business. The amount of operational complexity – and with that the knowledge required – depends on the structure of the deal. In some cases the reinsurer also takes on the administration of policies and claims. When the reinsurer fully takes over a book of business, such as when a client insurer wants to exit a market, the administration aspect becomes key and can even involve the setting up of a designated company.

Due diligence must include an assessment of regulatory and accounting implications.

Third, best practice standards in accounting, legal and compliance must be followed so that all parties have the correct guidance and support. Solutions affecting global companies such as the repatriation of capital, can require harmonisation with accounting standards and regulatory requirements in multiple jurisdictions. Due diligence on every transaction should assess the impact from a regulatory and accounting perspective, sometimes including technical workshops to ensure alignment among all parties. Ideally, experts are brought into the initial structuring discussions to advise on the options and set expectations.

Large, complex or innovative solutions require large capital capacity.

Fourth, strategic reinsurance solutions are usually transacted with one or a few reinsurers on an exclusive basis. To cope with the potential size, balance sheet strength is needed to back large structures. Greater capacity allows reinsurers to cover the larger limits required by globally centralized reinsurance contracts. In addition, diversification across a larger pool of risks allows a reinsurer to take on more complex or interdependent risks and potentially lower cost of capital.

Strong long-term relationships and alignment between all parties are crucial.

Fifth, strong relationships between all parties guide alignment of interests. The steps and timeline of the cedent's internal approval process must be transparent to the reinsurer so that the planned inception date of the transaction and expected impacts on regulatory and financial reporting are realistic. Communicating with the regulator at an early phase of conceptualization can help clarify the objectives and options well before it comes time to seek regulatory approval. Moreover, when insurers build long-term relationships with reinsurers, brokers and regulators, this more comprehensive mutual understanding can be helpful once the opportunity for a complex transaction arises. Strong relationships can foster innovation as stakeholders with well-established reputations can collaborate more easily in developing pioneering ideas or new structures.

Transparent communication is the final key ingredient for success.

Finally, transparent communication is critical to successful execution of a customised structure. Bundling risk into aggregated multi-territory covers may be efficient, but it also increases the complexity of reinsurance solutions and could reduce the transparency of the underlying data and underwriting process. Open communication among all stakeholders on objectives, options and future implications must be an underlying principle from the outset.

Glossary

Term	Definition
Adverse development covers (ADC)	A form of retrospective reinsurance in which the insurer cedes the claims development risk associated with policies from past underwriting periods. The reinsurer assumes the risk that the existing claim liabilities are deficient. Existing reserves remain with the ceding insurer.
Aggregate excess of loss	A form of excess of loss (XL) reinsurance, also known as “stop-loss”, which indemnifies the ceding company against the amount by which the aggregated incurred losses exceed an agreed attachment point during a specific period.
Alternative capital (AC)	A source of insurance capacity which is based on investors directly investing into certain reinsurance risks including cat bonds, collateralised reinsurance, side cars and ILS.
Attachment point	The loss level at which excess reinsurance protection comes into effect. It is the retention under an excess reinsurance contract.
Basis risk	The risk that a parametrically-triggered payment does not cover actual losses because the index parameter is not perfectly correlated with the actual loss.
Ceding commission	Remuneration paid by the reinsurer to the insurer, for costs in connection with the acquisition and administration of insurance business.
Coinurance	A form of reinsurance, also known as “original term reinsurance”, under which the ceding company shares its premiums, claims and other product features (eg, surrender benefits, dividends, and policy loans) with the reinsurer, and the reinsurer pays a commission to reimburse the ceding company for a share of its expenses.
Commutation	An agreement between the ceding insurer and the reinsurer that terminates all obligations between the parties under reinsurance contract.
Contingent capital	A financial instrument that allows a corporation/insurer to raise equity or debt capital at pre-determined terms upon the triggering of pre-agreed events (eg, natural catastrophe, solvency margin, stock market index).
Contingent surplus notes	A subordinated debt instrument issued by an insurance company.
Excess of loss (XL)	A form of non-proportional reinsurance. The reinsurer indemnifies a ceding company for losses that exceed a specified retention (attachment point). This attachment point can apply per risk or per event (ie, cat XL).
Incurred but not (enough) reported (IBN[E]R)	The loss reserve value established in anticipation of payments on losses which have occurred but have not yet been (enough) reported at the balance sheet date. Reserves are set aside in addition to the known case reserves. It is anticipated that an event will affect a number of policies, although no claims have been made so far, and is therefore likely to result in liability for the insurer.
Indemnity trigger	A trigger related to the actual incurred loss of a re/insurance company. While insurance policies are traditionally indemnity based, there exist alternative insurance solutions and derivatives which have indexed or parametric triggers.
Insurance-linked security (ILS)	Security for which the payment of interest and/or principal depends on the occurrence or severity of an insurance event. The underlying risk of the security is a peak or volume insurance risk.
Loss portfolio transfer (LPT)	A form of retrospective reinsurance in which the insurer cedes the risk associated with policies from past underwriting periods. The reinsurer assumes the entire book of existing open and future claim liabilities, resulting in an economic transfer of the insurer's loss reserves. The administration of the outstanding claims also moves to the reinsurer.
Modified coinsurance (ModCo)	A coinsurance contract under which premium is withheld by the ceding insurer. The arrangement includes a compensation for foregone investment income for the reinsurer. The primary purpose of this is to reduce or eliminate the need for an unauthorised reinsurer to post collateral.
Novation	An agreement to replace one insurer with another, which assumes all liabilities from the entire coverage period. The novated contract replaces the original policy or agreement.

Term	Definition
Parametric insurance	A type of insurance that does not indemnify the actual loss but makes a payment upon occurrence of a pre-defined trigger. The trigger can be a market-loss index, or a weather-related index, for example on rainfall or temperature.
Quota share (QS) reinsurance	A form of reinsurance in which the ceding company transfers an agreed percentage of every risk and premium insured within the contract. A ceding commission is paid to the ceding insurer to offset acquisition, administration and loss adjustment expenses. QS can be applied to a specified portfolio or to the overall portfolio of the ceding company.
Reinstatement	When the amount of reinsurance coverage provided under a contract is reduced by the payment of loss as the result of one occurrence, the reinsurance cover is automatically reinstated, generally subject to the payment of a specified reinstatement premium. Reinsurance contracts usually provide for a limited number of reinstatements.
Reserve risk	Reserve risk concerns the liabilities for insurance policies covering prior years, often simply referred to as the risk in the claims reserve.
Retrocession	A reinsurance solution where a reinsurer cedes all or a part of the reinsurance risk to another reinsurer (retrocession).
Sliding-scale commission	A form of a ceding commission that varies inversely with the loss ratio under the reinsurance agreement, allowing a more customised loss sharing arrangement.
Top and drop cover	An XL excess of loss reinsurance contract to cover as the top layer on an excess of loss program or to act – when a lower layer is exhausted – as a reinstatement on the lower layers.
Umbrella cover	A policy which provides cover when the limits of the underlying policies have been exhausted. It is designed to provide protection for contingencies which are not covered under other policies.
Value in-force (VIF) monetisation	A contract that allows insurers to exchange expected future profits for a lump-sum payment of the reinsuring party today. VIF is the present value of the profits that will emerge from a block of life insurance policies over time.
Working layer	The working layer is the first reinsurance layer program above the insurer's retained losses. It is subject to a high frequency of losses.

Source: Swiss Re Economic Research & Consulting.

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