

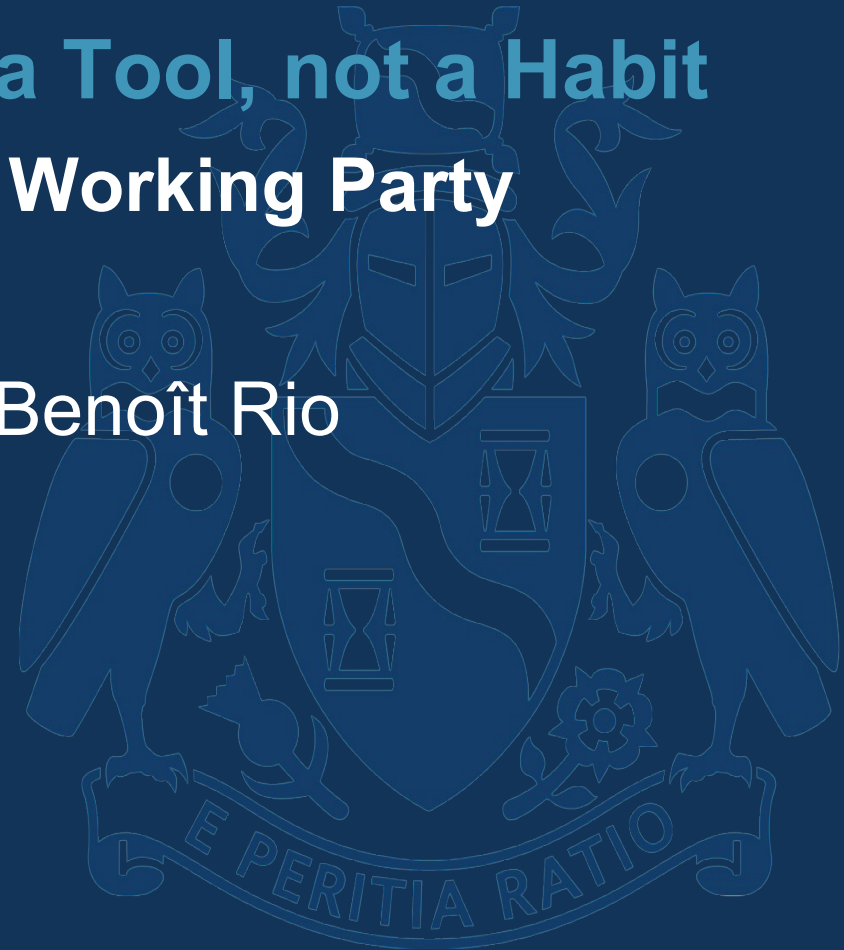


Institute
and Faculty
of Actuaries

Reinsurance should be a Tool, not a Habit

Life & Health Reinsurance Working Party

Speakers: Greg Solomon & Benoît Rio



Introduction - background

- Reinsurance is commonly used by life & health (“L&H”) insurers to manage their risk & capital, and to access certain services provided by third party reinsurers
- The Life & Health Reinsurance Working Party (“ReWP”) was established in early 2014, leaving the members to decide the purpose and scope of work
- It was quickly agreed not to duplicate what can be found in the actuarial literature and not to write a theoretical exploration of L&H reinsurance
- Instead, ReWP’s ambition is to be a source of knowledge and expertise with the IFoA on matters relating to reinsurance, and its current goal is build information on the value that reinsurance can provide to insurance companies
- As a starting point, we have started our research to better understand how reinsurance decisions are being made
- This includes the impact from changes to insurance regulation, capital markets, direct insurance market; as well as the economic, demographic, social and technology

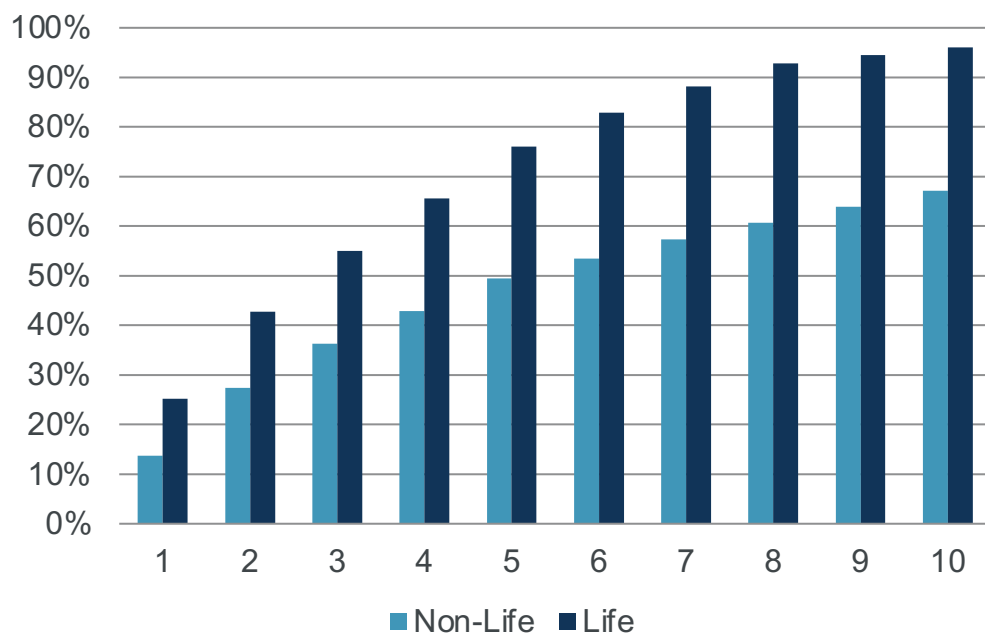
Working Party – Terms of Reference

- We aim to challenge habitual thinking & approaches, and present alternative perspectives
- More specifically:
 - Assess how different environments and regulatory regimes treat L&H reinsurance. Consider how this has affected how reinsurance is currently structured, implemented and purchased, and identify future trends
 - Consider qualitative factors affecting reinsurance decision making, and how these differ over time, between countries, etc.
 - Develop case studies around innovative and non-traditional reinsurance approaches
- While scope is limited to L&H, within that we kept it as broad as possible:
 - protection, pensions, savings, health and personal accident businesses
 - global application including the UK, the European Union and outside the EU
 - internal and external reinsurance
 - traditional and non-traditional reinsurance

Working Party – because L&H is different

- From the annual AM Best report into global reinsurance, we see that life & non-life are very different in terms of how the reinsurers fill up the top 10:

Cumulative premium share of global volumes



We see that the top 10 non-life reinsurers only make up 2/3 of the global non-life reinsurance premium volumes, whereas for life reinsurance it only takes seven reinsurers to come close to 90% market share

Not only does this concentration reflect how reinsurance decisions have been made in the past, but it of course also affects how reinsurance decisions will be made in future

Working Party – who we are

Members are reinsurers, reinsurance brokers, consultants and insurers, all of whom work in a role that involves reinsurance:

- Greg Solomon (chairman) 
- Benoît Rio 
- Abhik Ja
- Craig Gillespie
- Henri Blanckenberg 
- Jug Parmar
- Niall Kavanagh 
- Peter Mannion 
- Rushika Dheir 
- Tom Keel 
- Vincent Regnier 

Members are based around the world (UK, HK, France, Switzerland, SA)

Diversity means that members' views might sometimes differ on specific aspects.

IFoA contacts:

- Torsten Kleinow (Life Research Committee Rep)
- Jennifer Chapin (Life Practices Manager)

Agenda for today's Workshop

- Present the ReWP and our Terms of Reference
 - Provide initial views on key findings & conclusions, with research still ongoing
 - Seek input and feedbacks on early findings
 - Present potential future developments and identify other areas of interests
 - Current Streams of Research:
 1. Insurance regulatory frameworks (excluding accounting and tax)
 2. Reinsurance market considerations and qualitative influences
 3. Case studies
 - i. Catastrophic reinsurance protections
 - ii. Capital-motivated reinsurance
 - iii. Intra-group reinsurance
 - iv. South Africa
 - v. Australia
 - vi. India
-

Stream 1: Regulatory frameworks

Reinsurance under EU SII and non-EU regulations

- Many key markets have or are currently revamping their regulatory frameworks:
 - Solvency II in the European Union
 - SAM in South Africa
 - C-ROSS in China
 - SST in Switzerland
 - RBC in Australia
 - etc.
 - RBC in the USA
 - RBC in Hong Kong
- All these frameworks position risk management at the center of both strategic thinking and day-to-day decision making
- As a risk mitigation tool, reinsurance is key in the risk management system
- Reinsurance also provides opportunities for capital management & access to services
- The purpose of *Stream 1* is to investigate how reinsurance is allowed for across various jurisdictions and how it changes the way insurers use and structure reinsurance
- The ReWP is performing a detailed analysis of the regulatory frameworks on the dimensions impacting reinsurance and derived key insights

Stream 1: Regulatory frameworks

Reinsurance under Solvency II



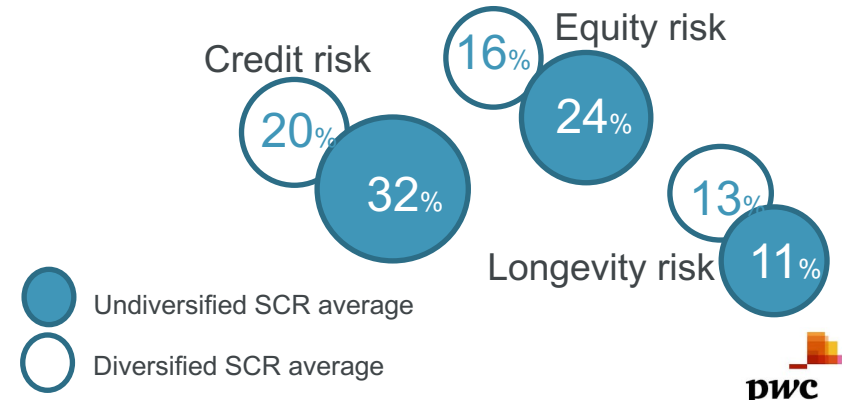
Stream 1: Regulatory frameworks

eg. SII diversification credit impact on reinsurance

Under Solvency II, each key risk exposure leads to a risk capital requirement, which can affect the risk exposure ranking and inform the risk appetite agenda

From a risk capital charge, a number of risks were considered immaterial by all PwC UK SII Risk Capital Survey 2014 participants, namely: mortality, morbidity, property and inflation risks

These risk capital charges benefit from the diversification credit under SCR (with potential knock-on impact on Risk Margins).



SII Standard Formula correlation matrices:

Corr. Life	Mortality	Longevity	Disability	Lapse	Expenses	Revision	Cat	Corr. BSCR	Market	Health	Default	Life	Non-Life	Intang.
Mortality	1	-	-	-	-	-	-	Market	1	-	-	-	-	-
Longevity	-0.25	1	-	-	-	-	-	Health	0.5	1	-	-	-	-
Disability	0.25	0	1	-	-	-	-	Default	0.75	0.25	1	-	-	-
Lapse	0	0.25	0	1	-	-	-	Life	0.25	0.75	0.25	1	-	-
Expenses	0.25	0.25	0.5	0.5	1	-	-	Non-Life	0.25	0.25	0.25	0.25	1	-
Revision	0	0.25	0	0	0.5	1	-	Intang.	0	0	0	0	0	1
Cat	0.25	0	0.25	0.25	0.25	0.25	0							

In theory this could affect how much reinsurance is bought. **That said, insurers are investigating whether reinsurers could help them manage their new risk agenda (eg. lapses, long term guarantees)**

Stream 1: Regulatory frameworks

Reinsurance under SII and other frameworks

General approach to treatment of reinsurance is quite similar across various regulatory regimes

Regulatory frameworks in Stream 1 have similar key principles:

- Risk-based
- Economic B/S as starting point
- Focus on risk management and governance
- Own assessment of risk and solvency
- Enhanced reporting transparency

Full credit awarded for reinsurance, but non-proportional arrangements problematic

Counterparty risk allowed for based on credit ratings

Restrictions/criteria on collateral admissible as mitigant

Liabilities calculated gross, with reinsurance recoverables as asset

Regulatory status and location of reinsurer affects recognition of credit

Stream 1: Regulatory frameworks

Impact of regulatory changes on prudential capital benefits of reinsurance will be company- and territory-specific

For Solvency II firms:
Choice of capital model
(e.g. SF vs IM vs USP)
affects reinsurance
credit

Quality and nature of
collateral has impact on
credit charge

Extent of diversification
credit determines capital
benefits of reinsurance

Discordance between
local tax, statutory
accounting and
policyholder protection
rules may drive
structure of reinsurance

Regulators' view on
certain reinsurance
structures may not be
aligned across territories

For UK firms: what Pillar
was biting under
Solvency I

- **Conclusion**

- New regulatory frameworks offer more flexibility for reinsurance usage and put increased focus and public attention on risk management techniques
- Insurers are becoming more 'risk conscious', partly because of the new risk based solvency frameworks, but this might also be affected by economic fundamentals (low growth, low interest rates, increased asset volatility), social (digital, internet), and demographic (increased longevity, aging) environments

Stream 2: Market considerations

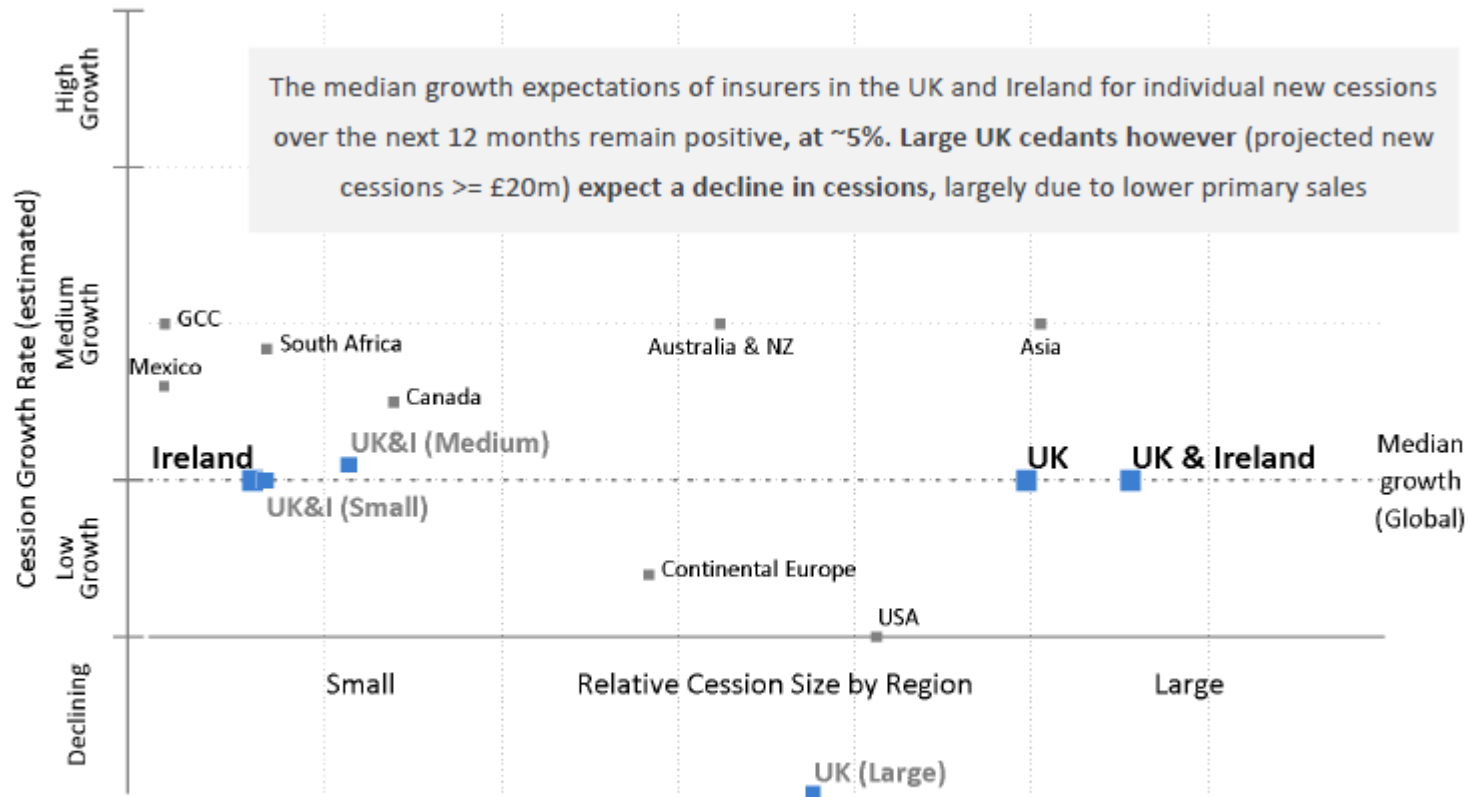
Our thinking

- The ReWP decided not to do its own research by interviewing individuals who contribute to reinsurance decisions – as we are not resourced to do so
- We have relied on information and/or research made available by consulting firms specialising in this area
- The ReWP would like to offer its thanks to **Redmayne Consulting** and **NMG** who have kindly given us access to some of their consumer research into reinsurance buying decisions, and for allowing us to publish them as part of this work

Stream 2: Market considerations

Changing cession rates by country / region

Expected median cession growth rates – individual new cessions (2014)

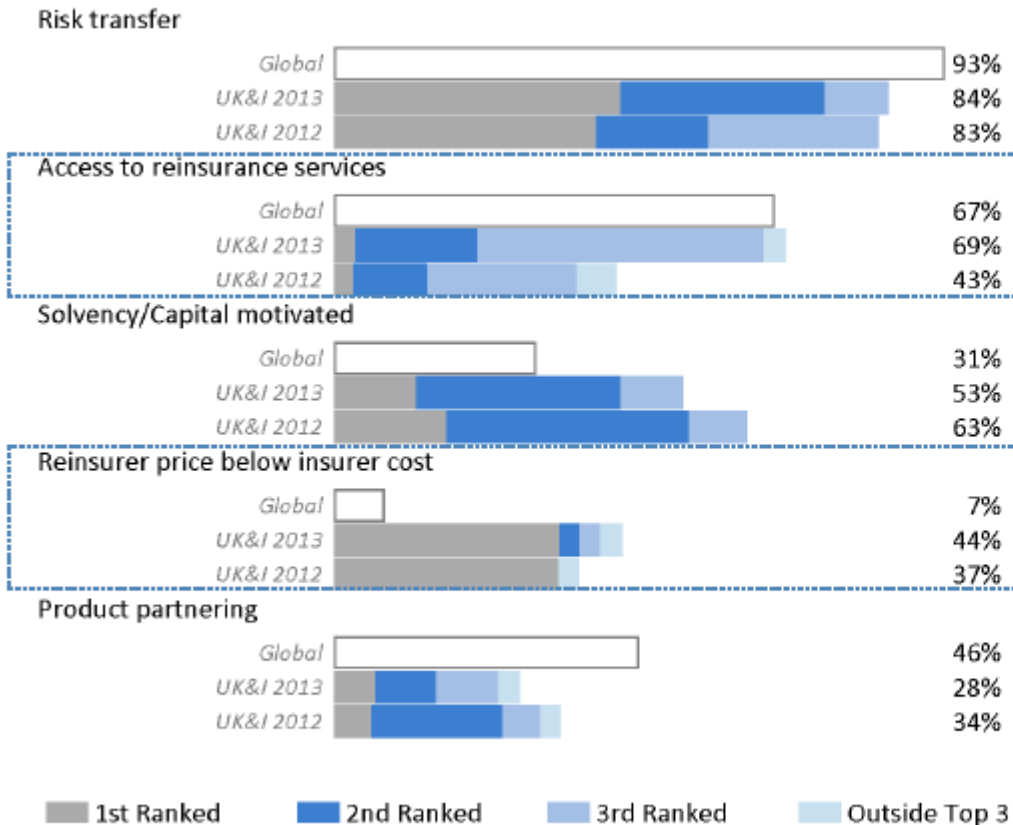


Source: NMG UK&I Life & Health Reinsurance Programme, 2013

Stream 2: Market considerations

Principal motivations for using reinsurance

Principal motivations for reinsurance usage - key decision makers



Note: only factors cited by more than one Key Decision Maker are shown

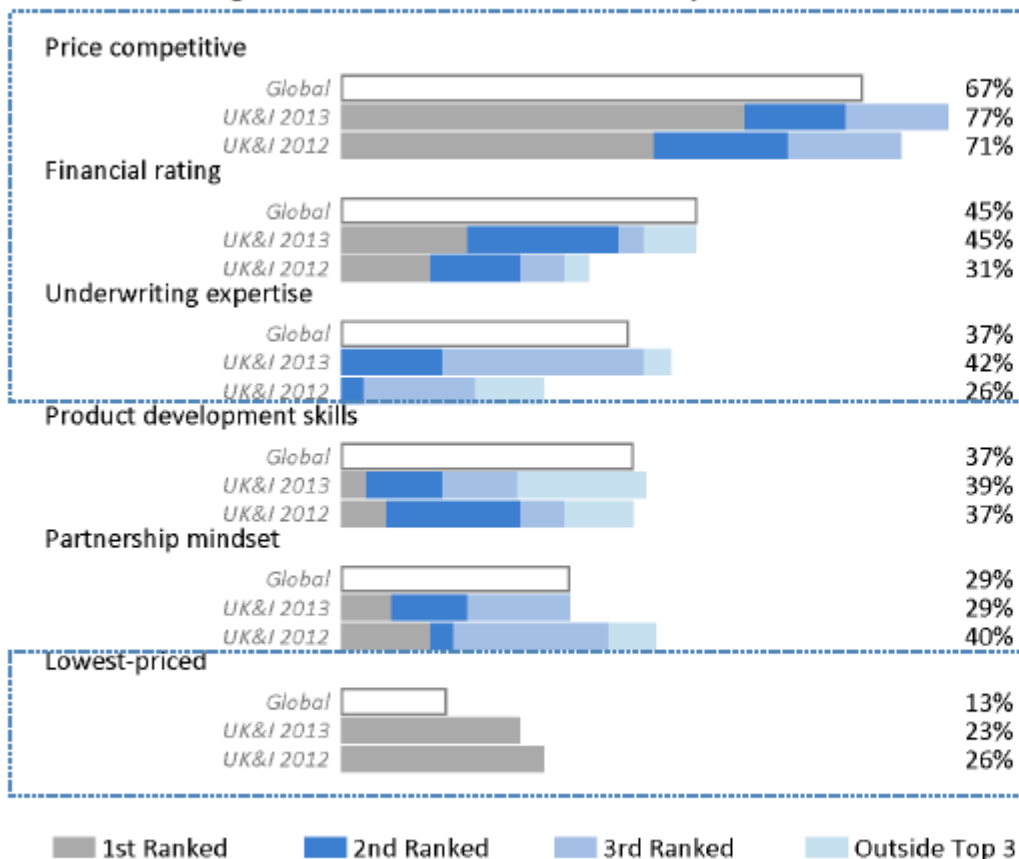
Source: NMG UK&I Life & Health Reinsurance Programme, 2013

- Besides basic risk transfer, the level of reinsurance rates relative to insurers' views of expected claims costs notably ranked as the most important rationale for 2-in-5 decision makers, reflecting the continued preference of UK&I insurers for 'outsourced' risk models
- Access to reinsurer services however, lifted markedly in importance year-on-year as a motivation for reinsurance usage
- Solvency & capital motivations continue to feature more prominently in the reinsurance rationale for UK&I insurers than their global counterparts, despite attracting fewer citations in 2013

Stream 2: Market considerations

Leading factors for reinsurer selection

Leading factors for reinsurer selection – key decision makers



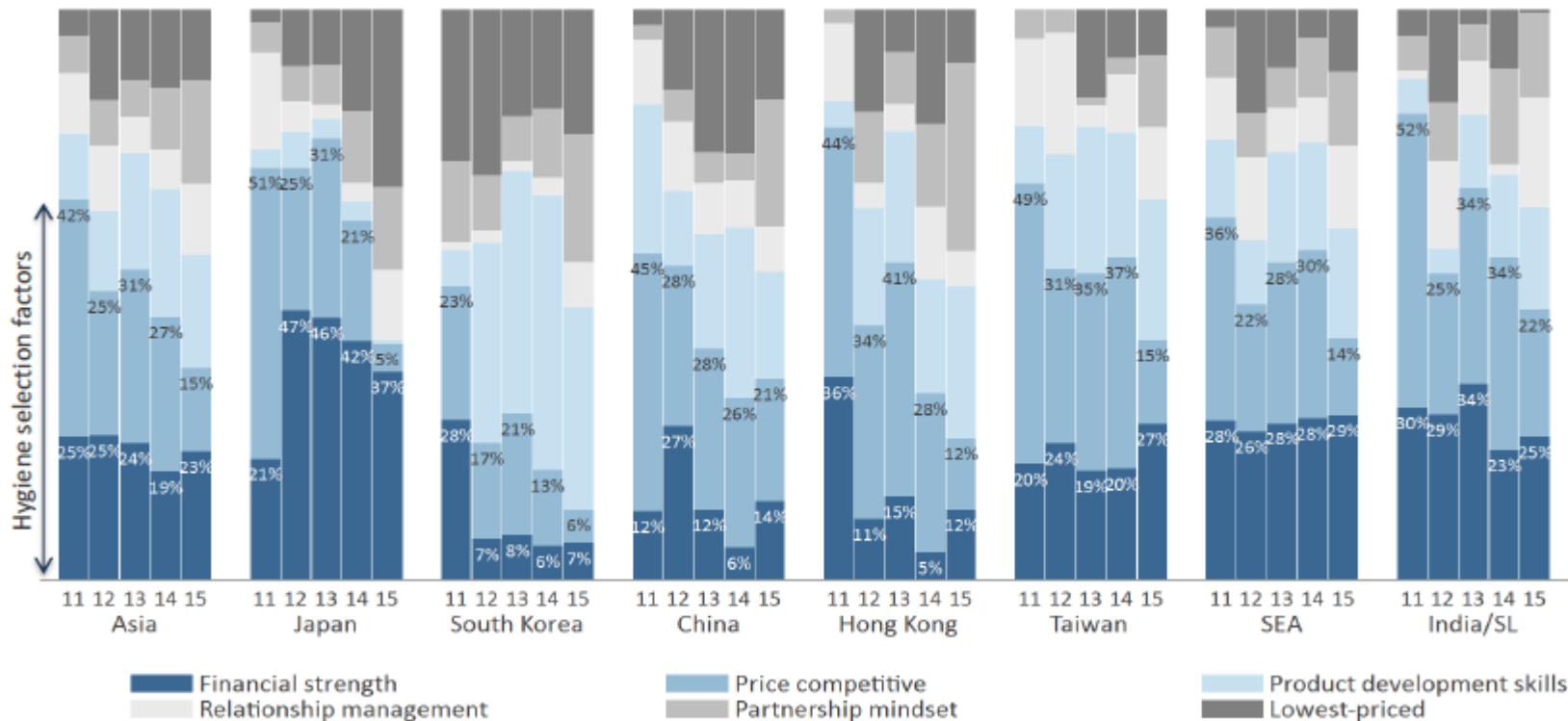
Note: only factors cited by more than one Key Decision Maker are shown
 Source: NMG UK&I Life & Health Reinsurance Programme, 2013

- An expanded proportion of decision makers indicated that price competitiveness was the 'most important' selection factor
- In addition, nearly 1-in-4 decision makers made selections on the basis of solely being lowest priced, which combined underlines the dominance of relative pricing in the selection process in the UK&I (globally, without a peer)
- Non-price factors drive selection once price requirements are met. Reinsurers' underwriting expertise (as a 2nd and 3rd ranked factor), and reinsurers' product development skills, rank as the most important non-price factors. Claims expertise ranks relatively lowly

Stream 2: Market considerations

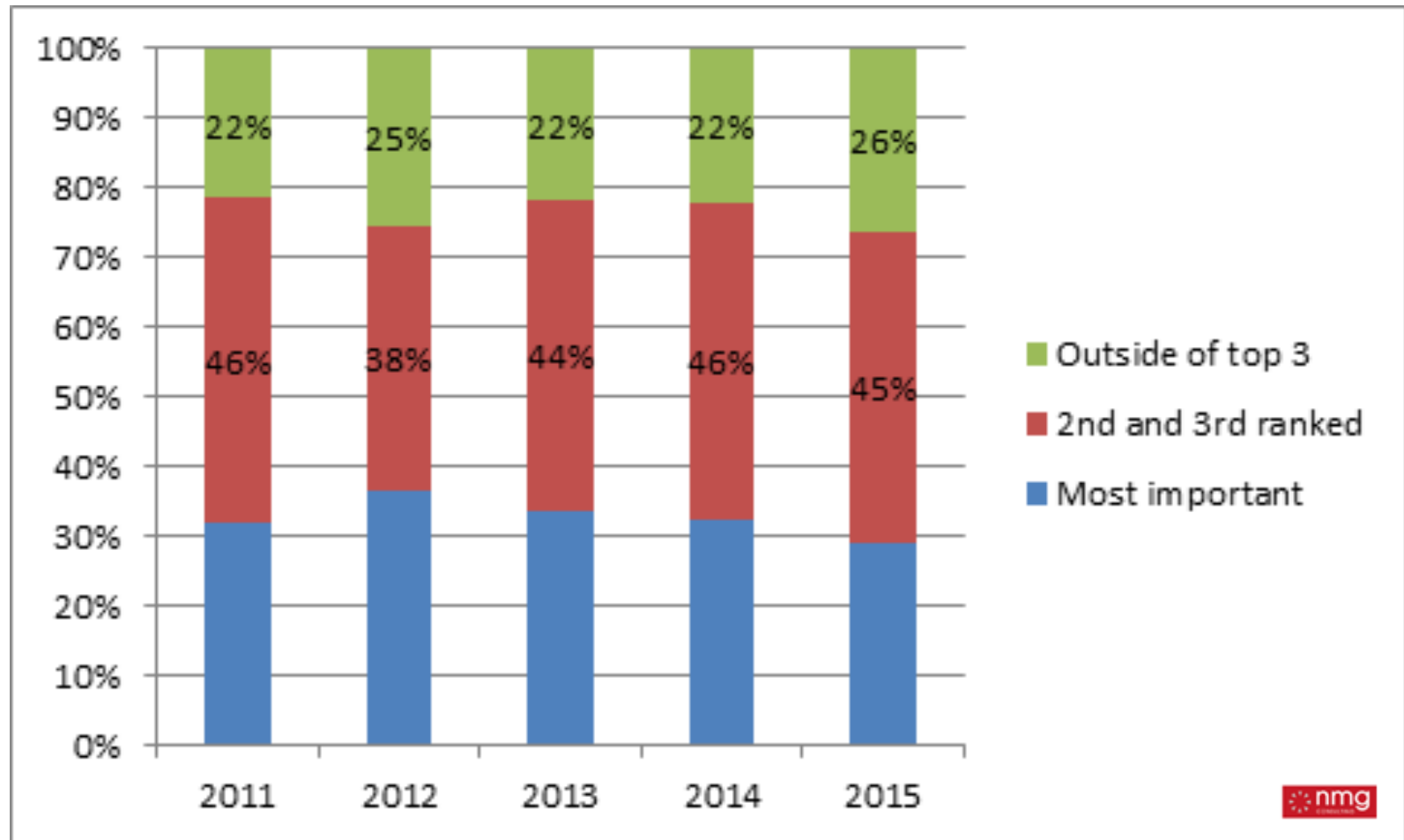
Companies vs countries vs regions

Leading selection factors for reinsurance usage
(2011 - 2015)



Stream 2: Market considerations

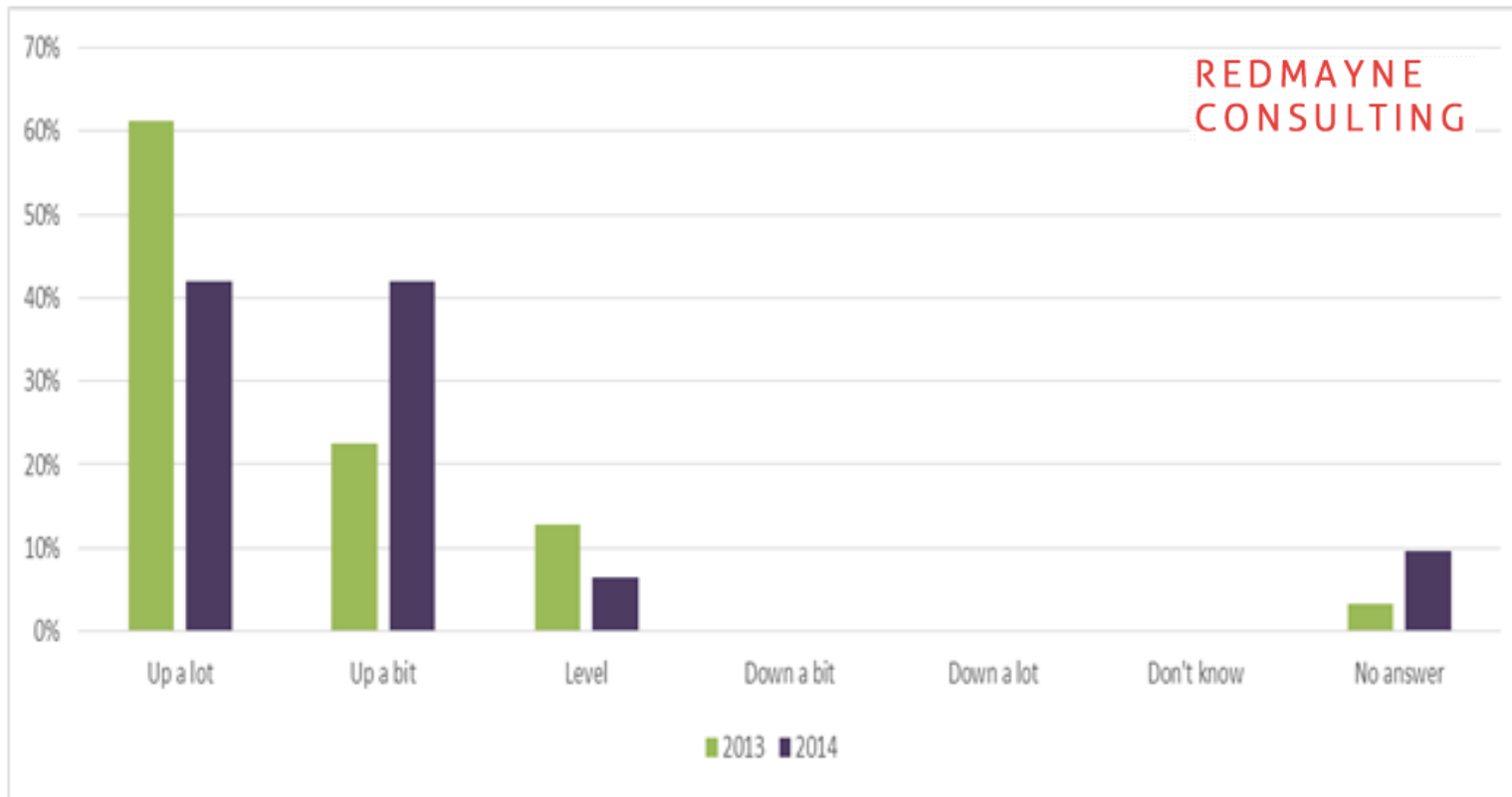
Are 'less important' reinsurers gaining foothold?



Stream 2: Market considerations

Expectations for reduced reinsurance in UK/Ireland?

Expected change in volumes reinsured over the next 5 years

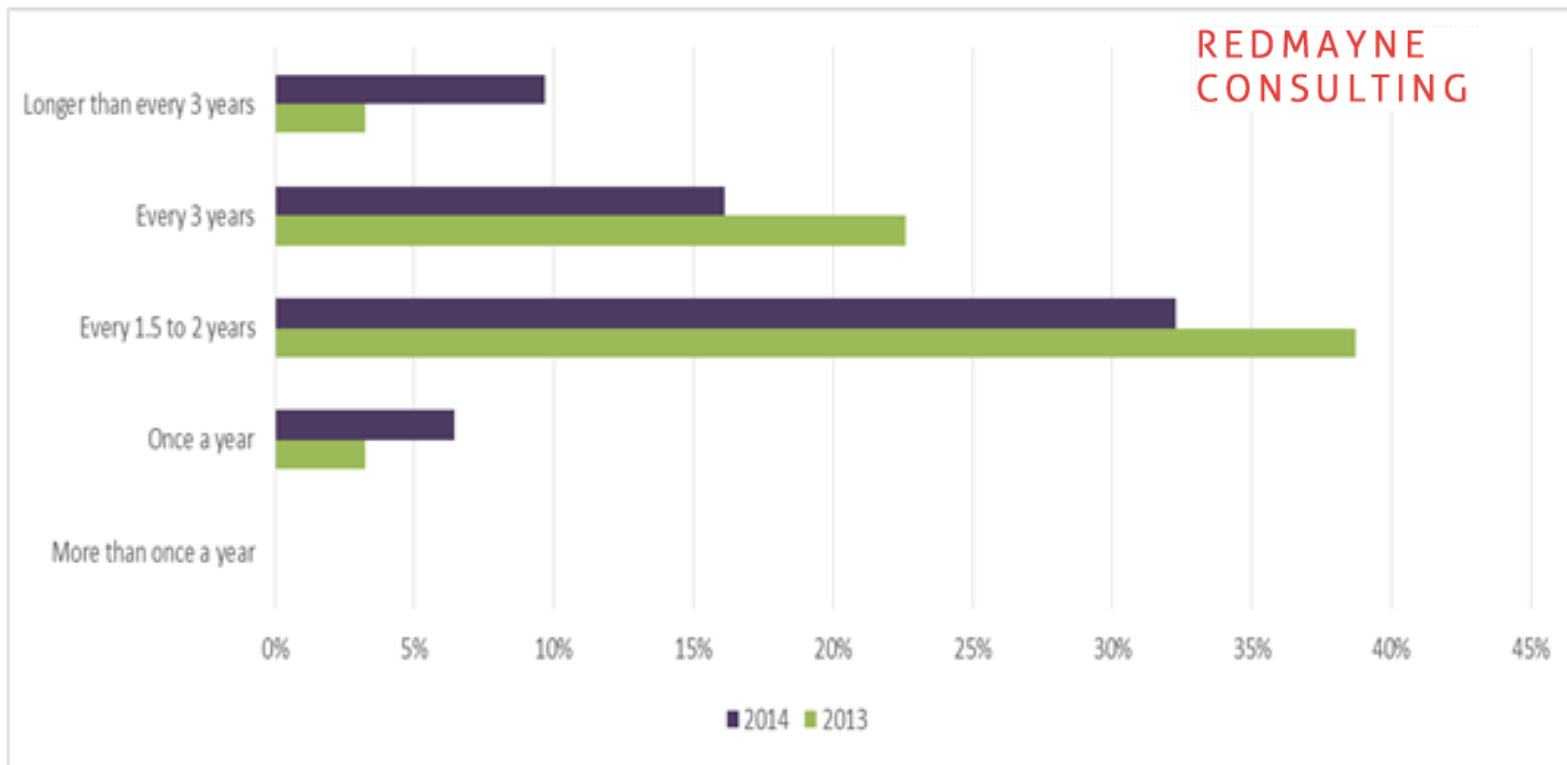


UK & Ireland only; mainly traditional reinsurance; commercially syndicated research thus limited & generic findings available

Stream 2: Market considerations

Are UK/Ireland reinsurance tenders slowing down?

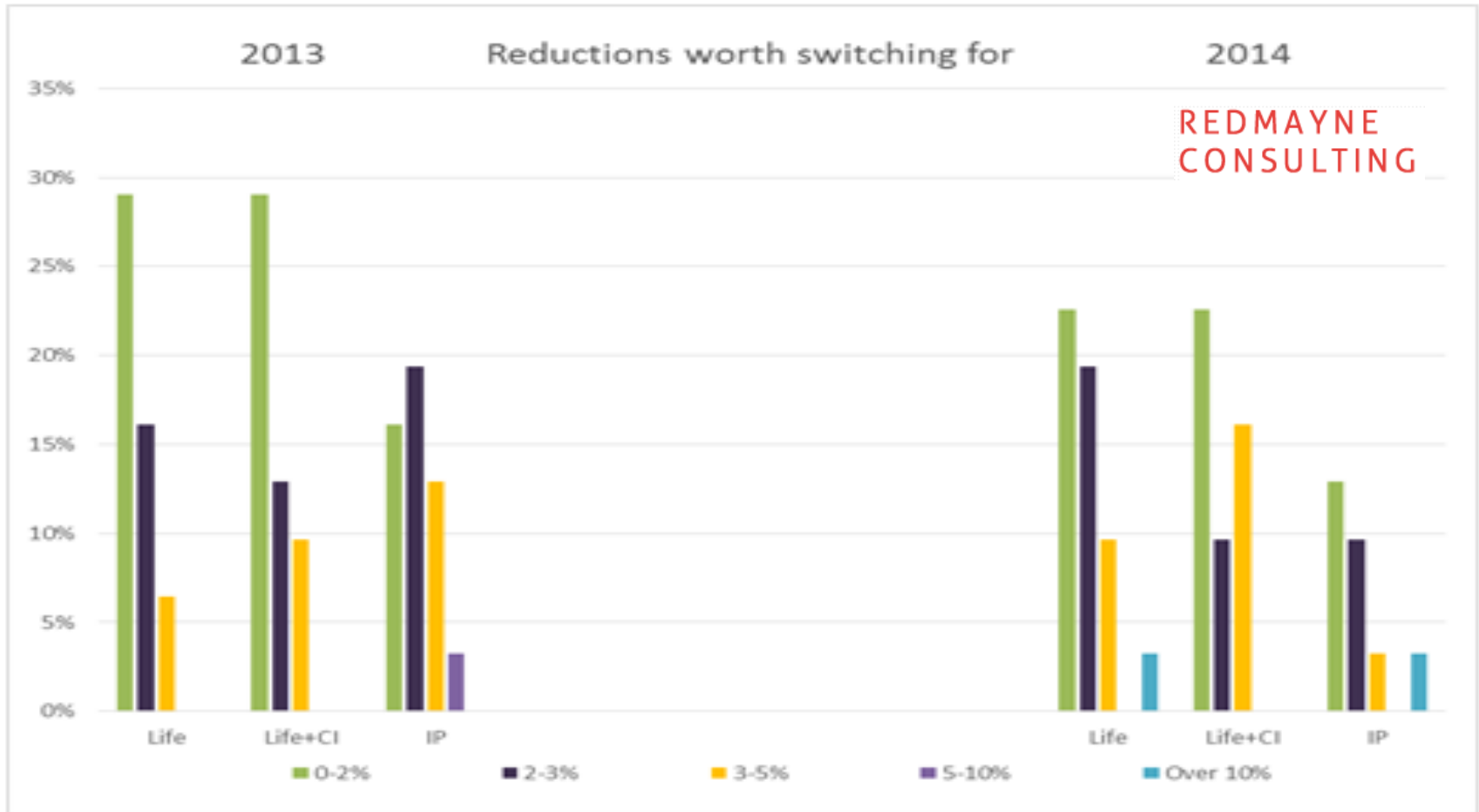
Frequency of re-tendering



UK & Ireland only; mainly traditional reinsurance; commercially syndicated research thus limited & generic findings available

Stream 2: Market considerations

Reinsurance tenure becoming more secure again?



UK & Ireland only; mainly traditional reinsurance; commercially syndicated research thus limited & generic findings available

Stream 3: Case studies

- Whether for traditional or non-traditional reinsurance, we believe there are interesting insights to be obtained by considering other markets, innovative and/or alternative risk mitigation and capital management approaches, and any other perspectives on L&H reinsurance
- We do not claim that any particular case study is representative of other companies whom we did not interview. Instead, the fact that at least the companies we spoke with have this particular understanding & opinion was in our belief already an interesting insight
- Current cases studies:
 1. Catastrophic reinsurance protections
 2. Capital-motivated reinsurance
 3. Intra-group reinsurance
 4. South Africa
 5. Australia
 6. India

Stream 3: Case studies

CS1: Traditional cat reinsurance protections

- Usual motivations to purchase reinsurance:

- Protect solvency ratios
- Limit impact of too large or too many claims
- Reduce volatility of earnings or key indicators
- Optimise profitability / RoC and capital efficiency
- Reduce uncertainty on new / specific risks

In the annual financial statements of many insurers, they state they manage business according to the following criteria & priorities:

1. Will not take risks that threaten their solvency
2. Aim to maximise profitability
3. Manage volatility

- Many insurers say they are sufficiently large that catastrophic events would not threaten their group solvency ratio and would have limited impact on the volatility of their earnings

⇒ so they buy no/limited life cat reinsurance from third party reinsurers

What is the cost of cat cover vs cost of capital for retained cat events?

A cat event would directly impact on their P&L results in that year!

What other risk metrics (perhaps from internal risk & capital model) should be taken into account in making decisions like this? (eg. correlation between cat events and financial market falls)

Stream 3: Case studies

CS2: Capital-motivated reinsurance ('fin re')

Improve capital position or efficiency (depends on regulations)

- Includes both reserves and risk capital
- From financing new business strain through to supporting M&A activities
- Monetise future profits (to the extent they're not already recognised, for example extending beyond the SII contract boundaries)
- Capital support can be either cash or 'cashless'

Improve profit recognition

- Accounting bases can distort view of profitability
- Internal profitability metrics may be improved (e.g. IRR or break-even points)

Improve funding metrics

- Cost of reinsurance can be cheaper than raising debt or equity issue
- Unleveraged source of funding with limited impact on the overall economic value
- Contingent structures can liquidate the VIF in certain stress scenario

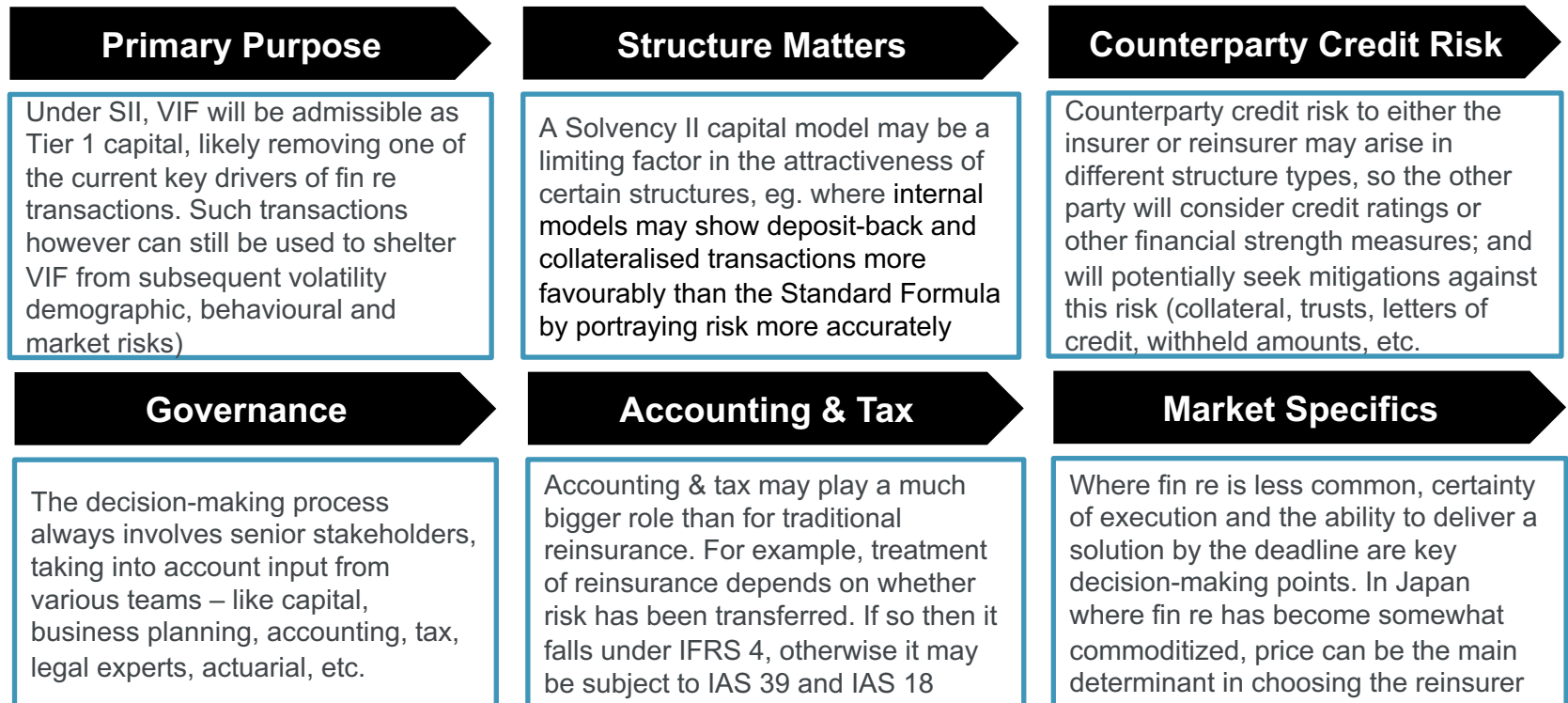
Fund business in a quick and efficient way

- Reinsurance can be very flexible and quick to implement
- Potentially lower implementation costs
- Can leverage existing relationships and arrangements

Stream 3: Case studies

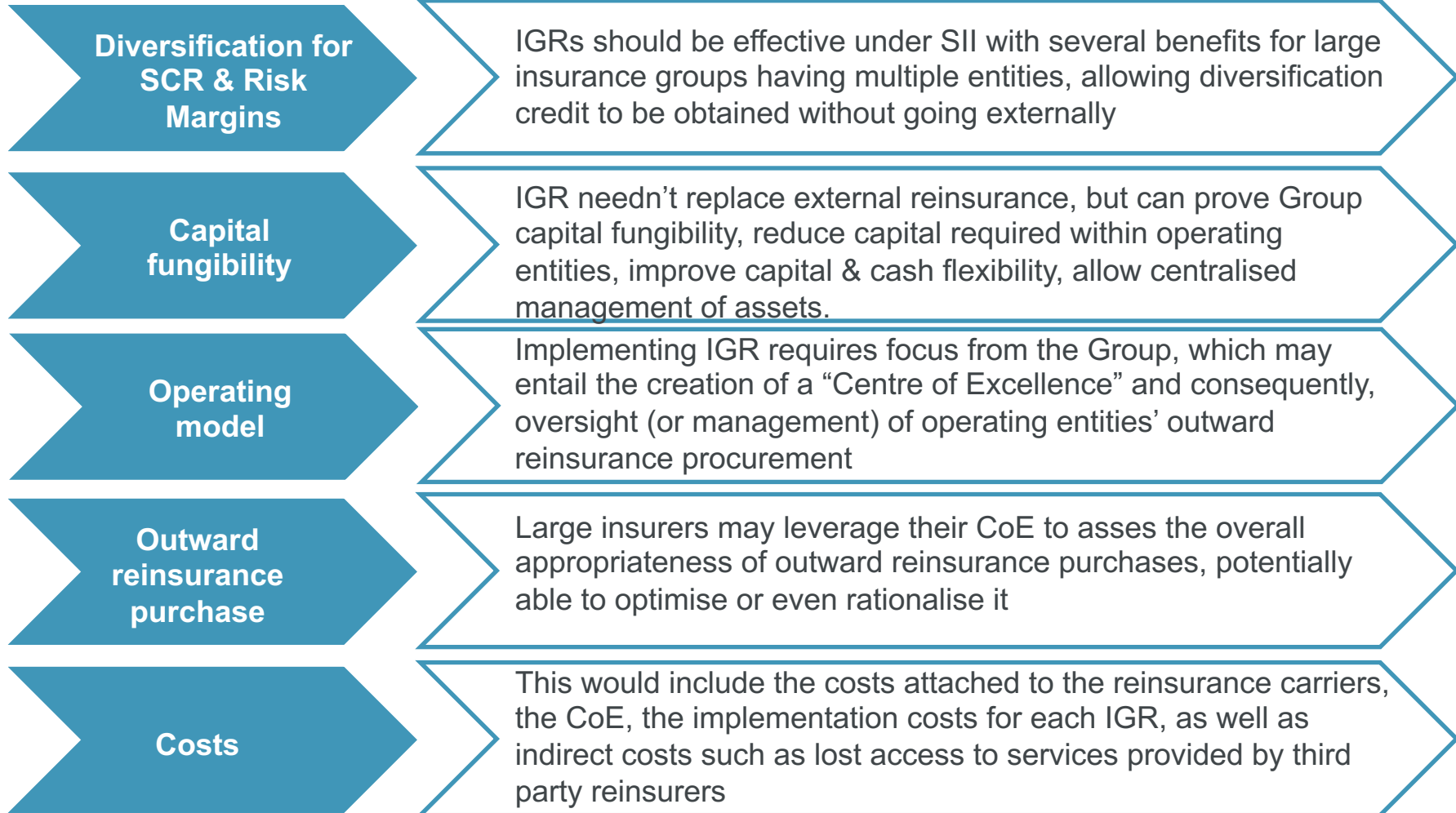
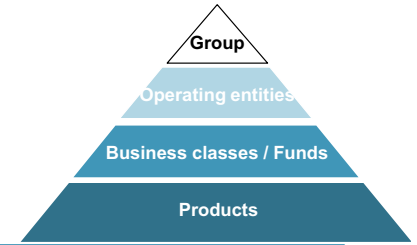
CS2: Capital-motivated reinsurance ('fin re')

Fin re transactions are different from traditional reinsurance, in that the aim of the treaty is very explicit and measurable (boost capital by \$x, support solvency ratio at y%, increase IRR on new business by z%, etc.) The decision-making process around capital-motivated deals is seen to be quite different:



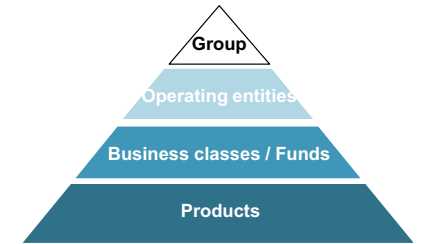
Stream 3: Case studies

CS3: Intra-group reinsurance (IGR)



Stream 3: Case studies

CS3: Intra-group reinsurance (IGR)



How to ensure transfer pricing is at arm's length?

What IGR carrier should be used, what structures be implemented and how does it compare to alternatives?

How would implementing an IGR fit into the current reinsurance operating model and governance?

How have matching adjustment impacts been factored into IGR design?

How to ensure all local regulations and constraints have been considered?

Which roles & responsibilities should be filled for the IGR program and outward reinsurance?

Is too much risk now kept within the Group? And what about impact of reinsuring entities outside the Solvency II world?

What are the practical implementation obstacles, e.g. systems, people, culture and reward?

Are there secondary (frictional) impacts on after-tax profits?

Stream 3: Case studies

CS4: Reinsurance in a competitive South Africa

- A very competitive market
- The companies we spoke with felt that competition in the life industry is high, and that they perceive a key value-add from reinsurers is the services they provide
- Such services might include underwriting of large or complex cases, access to the reinsurer's underwriting manual, claims assessment support, pricing capabilities, source of product innovations, overall market perspective, etc.
- Some insurers prefer to work with only a small panel of reinsurers in order that they can develop a true partnership approach and also to protect sharing of intellectual property
- Overall reinsurance decisions appear to be taken by key individuals rather than by committee albeit that input is received from a selection of stakeholder functions

Stream 3: Case studies

CS5: Extending the local Australian reinsurance market

- The Australian group disability market is one of the more high profile loss-making situations for life & health reinsurers in many years, and we wanted to explore how this has affected reinsurance capacity & terms
 - Different locally-based reinsurers have reacted in different ways to the losses, by increasing prices, reducing capacity, being very selective which groups they reinsure, or even withdrawing entirely from that line of business
 - This has caused insurance companies to seek support from overseas reinsurance companies, either directly or through reinsurance brokers
 - In general terms, the fundamental reasons for using reinsurance in this market are similar to other markets, chiefly: optimising financial metrics, pricing validation, product innovation, and overall risk management
 - There are challenges when reinsuring offshore, such as the (regulatory) need to implement structures guaranteeing financial security (collateral), and potential lack of local product & contracts knowledge. Positives include taking advantage of time zones to get overnight responses, and the ability to provide much-needed capacity in the market and fill the gaps left by local reinsurers at more competitive rates
-

Stream 3: Case studies

CS6: New entrants in India

- The Indian life insurance industry opened up to private companies in 2000, with 11 new entrants in 2001, building up to 23 in the following 10 years
- State-owned insurers operated before this and they continue. For many years some of their business had been ceded to a small number of global reinsurers ahead of the market deregulation
- Since these are relatively new companies, although price is important, discussion with companies suggests that the services provided by reinsurers is particularly important
- This includes product innovation, pricing, underwriting & claims
- Given that prior to the 2000 market opening all expertise lay within the state insurers, training is perceived to be valuable to the newly established insurance companies

Next steps

- Weaknesses and limitations of current ReWP work
- Market input and feedback
- Updated workstream deliverables
- Potential future developments and other areas of interests
 - Insurance Linked Securities
 - Annuity reinsurance
 - Ireland & Bermuda
 - Actuarial models and metrics used in the L&H reinsurance decision making process, to structure and parameterise the reinsurance programmes and to select the reinsurance panel
- Join the ReWP? You know you want to.

Reinsurance references

For the eager reader who is looking for reading into the theoretical aspects of reinsurance, here are some **publications** that might be of interest:

- “Essential Guide to Reinsurance” by Swiss Re (2002)
- “Reinsurance (life & health, and fin re)” by Muiry (2001)
- “Special Report on Global Reinsurance” by AM Best (2015)

We also note some **presentations** made recently at previous life conventions:

- “Longevity capacity: approaching the limit?” by Khan & Smith
- “A case study of a reinsurance-supported management buyout” by Brogden & Walton
- “Financial Reinsurance” by Walton & Lotti



Questions



Comments

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