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Institute and Faculty of Actuaries

SESSIONAL PAPER

Insurers' hidden risk from reinsurance recaptures

The perspective of UK annuity writers – benchmarking report
[Presented at the Sessional Meeting of the Institute and Faculty of Actuaries, 29 June 2022]

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Abstract
There is a lack of publicly available information covering the practices insurers employ to manage their exposure to reinsurance recapture risk. A working party was set-up to shed light on the different approaches insurers use to mitigate this complicated to manage risk. This report is intended to form part of a publicly available information repository that market practitioners can refer to and reflect on as best practice evolves and develops.

Keywords: Reinsurance Recapture Risk; Probability of Default; Risk Margin; Annuities

1. Introduction

The capital intensive nature of writing annuities under Solvency II (SII) increases incentives for UK insurers to enter into risk transfer arrangements, such as reinsurance, in pursuit of business and growth objectives.

This introduces new risks to insurers' balance sheets that are neither obvious (a "hidden risk") nor straight forward to measure and manage. One such risk is the adverse effect that a reinsurance counterparty default (or other recapture event) could have on ceding entities' balance sheets and the implications for broader financial stability. This is referred to as "reinsurance recapture risk" throughout the report. Reinsurance recapture risk describes the point in time when previously reinsured risk is returned to the ceding entity's regulatory balance sheet for recognition purposes. This could occur if:

- A recapture provision agreed between the ceding entity and the reinsurer is triggered.
- The ceding entity's reinsurance arrangement was deemed, e.g. by the regulator, to no longer meet qualifying criteria to be recognised for regulatory capital relief. This could take the form of a synthetic reinsurance recapture event irrespective of whether an actual reinsurance recapture clause had been triggered or not.

The materiality of this risk has increased as insurers have increased their use of reinsurance to support their bulk and individual annuity propositions. This has led to an increased focus from a range of stakeholders including regulators.

The Institute and Faculty of Actuaries (IFoA): Insurers' hidden risk from reinsurance recapture working party was set-up in January 2021 to explore and understand the various risk management approaches used by insurers to manage the adverse effect that a reinsurance counterparty default (or other recapture event) could have on their regulatory balance sheet.

There is little, if any, publicly available information of UK annuity writers' practices in this area. This report is intended to form part of a publicly available information repository that market practitioners can refer to and reflect on. Influencing the development and evolution of best practice in this area would achieve the working party's overarching objective.

The observations and analysis in this report have been informed by the responses to the IFoA survey of UK annuity writers received in H2 2021 as well as insights from members of the working party. It has been written by market practitioners for professionals interested in understanding the risk management approaches used by insurers to deal with a risk typically characterised as low probability but whose financial impact, were it to materialise, is high.

The report is structured as follows.

Chapter 2 describes the methodology used to develop the survey questionnaire.
Chapter 3 identifies the top-ranking reinsurance destinations for UK annuity risk transfers.
Chapter 4 discusses the materiality of reinsurance recapture risk on UK annuity writers' balance sheets.
Chapter 5 describes annuity writers approach to understanding their exposure to reinsurance recapture risk.
Chapter 6 discusses non-capital protections annuity writers have developed to manage reinsurance recapture risk.
Chapter 7 briefly summarises the key conclusions.

2. Survey methodology

The working party developed its survey through the lens of 7 themes:

(1) Current reinsurance counterparty exposures
(2) Longevity & quota share recapture provisions
(3) Management Information, approach to setting risk appetite and limits; & monitoring reinsurance exposures
(4) Collateral exposures supporting annuity related reinsurance and other protections
(5) Capital modelling
(6) ORSA (including stress & scenario testing) and decision-making
(7) Reinsurance default or other recapture event within the context of recovery planning

One or more hypotheses (16) were constructed across themes 3–7. The hypotheses were created as a tool to identify a parsimonious set of questions that the working party considered generated insights of interest. The hypotheses were not used to form absolute views on survey participants' responses.

The resulting set of questions (58) were mapped to all themes and hypotheses. A summary of the theme, hypothesis and questions mapping are set out in the table below. The full question set can be found in the Annex.

The survey participants, in summarised form, are set out below:[1]

[1]**Source**: Hyman Robertson's Risk Transfer Report 2021 and the working party's own calculations.

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Theme	Hypothesis	Question
Current reinsurance counterparty exposures Longevity & Quota share recapture provisions	n/a	Q1-7 Q8-10
MI, approach to setting risk appetite and risk limits, & monitoring of all reinsurance exposures	H0: Counterparty risk exposures / recapture risks are monitored and reported on a regular basis	Q11,14-16
	H0: The board / ExCo are aware of the level of reinsurance counterparty risk that the insurer is exposed	Q12-13
	H0: The reinsurance counterparty risk appetite and risk limits are clearly defined	Q17-20
	H0: The setting of reinsurance counterparty risk limits include areas of conservatism in the design / calibration	Q21-23
Collateral exposures supporting annuity related reinsurance and other protections	H0: Collateral is effectively managed and monitored	Q24-30
	H0: Reinsurance contracts include protection provisions if the reinsurer breaches early warning signs	Q31
	H0: Management actions are available to manage reinsurance recapture risks as the risk approaches / breaches early warning signals (e.g. rating deteriorations) and risk limits	Q32-33
Capital Modelling	H0: The ongoing compliance of the internal model including reinsurance recapture / counterparty risk is (re)confirmed by the relevant board / ExCo on a frequent basis	Q34-37
	H0: The modelling of reinsurance counterparty risk includes areas of conservatism within the model	Q38-41
	H0: There is no difference in approach &/or methodology between an insurer's SCR and ORSA capital model	Q42
ORSA (including stress & scenario testing) and decision making	H0: The balance sheet resilience to current and projected reinsurance exposures is assessed in a range of stresses and scenarios consistent with the ORSA / disclosed SFCR sensitivities	Q43-44, 46, 49, 50-52
	H0: Counterparty risk exposures measure the impact on the insurer's balance sheet if a single reinsurer defaults / a combination of reinsurer default	Q45
	H0: The management actions that are available in scenarios consistent with the ORSA and stressed reinsurance markets (following a downgrade / default of a material reinsurer) are clearly set out	Q47-48
Reinsurance default or other recapture event within the context of recovery planning	H0: The failure of a reinsurance counterparty/ies has been explicitly considered, e.g. in scenarios that could threaten an insurer's status as a 'going concern' / reverse stress test	Q53-54
	H0: The management actions that are available at a time where reinsurance markets are stressed to rectify an SCR breach within 6 months are clearly set out	Q55-56
	H0: The management actions that are available at a time where reinsurance markets are stressed to rectify an MCR breach within 3 months are clearly set out	Q57-58

- Total number of survey respondents: 6 (5 of the 8 currently active pension risk transfer writers (buy-outs and buy-ins) were represented)
- Total value of transactions (buy-outs & buy-ins) conducted by survey respondents between 2009 and H1 2020: £110bn or c.75% of the UK market
- Total number of transactions (buy-outs & buy-ins) completed between 2009 and H1 2020: 1,670 or c.95% of the UK market
- Market share of active annuity writers (buy-outs & buy-ins) between H2 2019 and H1 2020: £22bn or c.55% of the UK market
- Likelihood of respondents providing a quote for buy-in or buy-outs: Full range represented, from transactions of less than £50m to more than £2bn, including deferred lives.

Limitation

Maintaining the confidentiality of individual firm responses was prioritised throughout the data gathering and analysis period. The bulk annuity market consists of a small number of insurers. This limited the working party's ability to discuss individual responses with firms directly. To mitigate this, the working party took particular care to ensure that the questions were drafted as clearly as possible and performed a high-level sense check of the post-submission responses.

3. The top reinsurance destinations for UK annuity risk transfers

Figure 1 summarises survey respondents' top 3 reinsurance destinations for UK annuity risks.

For this purpose, the jurisdiction of the contracting reinsurance entity was used unless the contracting entity was a branch. Where relevant, the jurisdiction of the contracting branch's parent was used.

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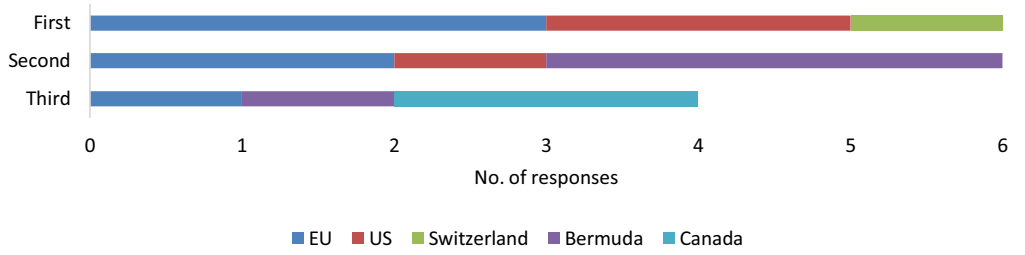
Figure 1. Top 3 reinsurance destinations for UK annuity risk(s).



The size and sensitivity of the risk margin (RM) to movements in interest rates is often cited as being a primary driver for reinsuring UK longevity risk offshore. However the EU[2] – identified by 3 of the 6 respondents as the top reinsurance destination for UK annuity risk – has an identical RM calibration and methodology with the UK (at the time of writing), which suggests that the motivation for reinsuring UK longevity risk overseas is more complicated than pointing to the RM alone. For example, other motivating factors could include some or all of the European regulators taking a different view to the Prudential Regulation Authority (PRA) on judgemental aspects of the SII regime, such as longevity stress calibrations; diversification between longevity and other demographic risks; or by differing attitudes toward retrocessions outside of the SII regime.

Where are the top non-Solvency II Equivalent annuity reinsurance destinations?

Respondents were also asked to identify their top non-Solvency II Equivalent reinsurance destinations for UK annuity risk. This question was asked to understand the extent, if any, of respondents' exposures to reinsurance counterparties in non-Solvency II Equivalent jurisdictions. The most frequently named top-ranking non-Solvency II Equivalent reinsurance destination was the US (2 of the 3 respondents) followed by Barbados (one respondent). The second placed non-Solvency II Equivalent reinsurance destination was Guernsey (1 of the 2 respondents) and Barbados (one respondent). The US/UK Covered Agreement confers to US reinsurers the same benefits as domestic reinsurers; and so the incremental benefit to the US pursuing SII reinsurance Equivalence with the UK is likely to be limited. On the other hand, the use of reinsurance counterparties based in Barbados or Guernsey could increase if Her Majesty's Treasury (HMT) were to make a future SII Equivalent reinsurance determination for these jurisdictions; or if the UK Government were to include reinsurance as part of a future trade deal package.

We were surprised not to see Canada in respondents' answers to this question given it was cited as a top 3 reinsurance destination for annuity risk (see Figure 1). Canada has not been determined Equivalent in accordance with Article 172: *Equivalence in relation to reinsurance undertakings* of the SII Directive 2009/138/EC. The UK transposed the European Commission's Equivalence determinations into UK law once the post-Brexit Transition Period came to an end on 4 January 2021.

4. The materiality of reinsurance recapture risk on UK annuity writers' balance sheets

The reinsurance counterparty risk Solvency Capital Requirement (SCR) is calculated by multiplying the probability of a reinsurance counterparty default (PD) by the loss given a default occurs. Reinsurance counterparties are typically well established, financially strong and operate in a highly regulated sector. The associated PD parameter is typically small as a result. This materially reduces

[2]The UK left the EU on 31 January 2020.

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the resulting reinsurance counterparty risk SCR, but potentially introduces additional hidden risk related to reinsurance recapture that is not adequately covered by the SCR, if at all. The reinsurance counterparty risk SCR of survey participants was calculated by the working party to be circa 1% of reported YE2020 SCRs on average.

How material is the risk of a counterparty default or other recapture event?

Figure 2 shows that the adverse impact on solvency coverage following the recapture of all business ceded to a single reinsurance counterparty before management actions could be up to 50 times the amount of counterparty risk capital held to cover all reinsurance counterparty exposures.

Figure 2. Loss of solvency coverage that would be incurred if all business to survey participants' most material reinsurance counterparty was recaptured before management actions.

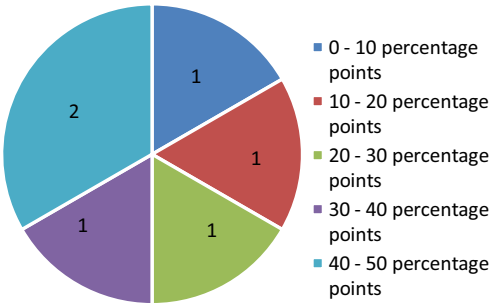

Table 1 provides a more detailed breakdown showing the relationship between the loss of solvency coverage and the relative materiality of different reinsurance arrangements respondents have entered into. Three exposure buckets are used for this purpose: *significant exposure*, *somewhat significant exposure* and *no exposure*.

Table 1. Relationship between respondents' loss of solvency coverage (before management actions) and the materiality of their reinsurance arrangements

Respondent	Loss of Solvency coverage following recapture before management actions	Significant Exposure	Somewhat Significant Exposure	No Exposure
A	10–20pp	Longevity swaps, longevity reinsurance, quota share reinsurance (longevity + market risk)		
B	30–40pp	Longevity reinsurance	Quota share reinsurance (longevity + market risk)	Longevity swaps; excess of loss (longevity risk only); index based longevity reinsurance
C	0–10pp		Longevity swaps	Longevity reinsurance; quota share reinsuarnce (longevity + market risk); excess of loss (longevity risk only); index based longevity reinsurance

(*Continued*)

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Table 1. (*Continued*)

Respondent	Loss of Solvency coverage following recapture before management actions	Significant Exposure	Somewhat Significant Exposure	No Exposure
D	40–50pp	Longevity swaps	Quota share reinsurance (longevity + market risk)	Excess of loss (longevity risk only), index based longevity reinsurance
E	40–50pp	Quota share reinsurance (longevity + market risk)		
F	20–30pp	Longevity reinsurance	Longevity swaps; quota share reinsurance (longevity + market risk)	Excess of loss (longevity risk only), index based longevity reinsurance

Longevity swaps, longevity reinsurance and quota share reinsurance are the reinsurance covers of choice amongst respondents.[3]

A number of annuity writers have increased their credit capabilities and exposure to illiquid assets in recent years, and is considered a source of competitive advantage. Longevity swaps and longevity reinsurance do not transfer away rewarded credit risk and can be seen as a complimentary de-risking proposition for annuity writers.

The *significant* or *somewhat significant* use of quota share reinsurance for 5 of the 6 respondents could signal a lower risk appetite towards retaining market and longevity risk (often UK annuity writers' biggest risks on a contribution to SCR basis) for particular types of schemes. It could also reflect use of quota share reinsurance as a strategic asset used to better match annuity writers' long duration books where credit assets of sufficient duration and volume can be more difficult to source.

There are signs that appetite for quota share reinsurance is increasing; possibly to meet annuity writers' changing demands, or from overseas reinsurers increased willingness to write quota share reinsurance and accept asset risk.

It remains to be seen whether the final HMT SII review package will slow down or accelerate annuity writers' use of reinsurance to support its business and growth objectives.

As this report was being finalised, John Glen MP (economic secretary to the Treasury) revealed the UK Government's headline expectation for HMT SII reforms to see capital held by life insurers to reduce by as much as 15%; with a 60–70% reduction to the RM in an Association of British Insurers (ABI) speech on 21 February 2022. However, work remains to fully estimate the impact of the overall package of reforms on individual insurers and the industry as a whole. A reassessment of the fundamental spread used to calculate the matching adjustment (MA) to reflect its sensitivity to credit risk whilst avoiding introducing material volatility onto insurers' balance sheets is also anticipated. The Government published its consultation on the review of SII in April 2022.[4] The PRA, which published a Discussion Paper (DP2/22[5]) on Potential Reforms to Risk

[3]Neither longevity swaps nor longevity reinsurance include asset risk transfers and can be considered interchangeably for the purpose of the ensuing discussion.

[4]20220328_Review_of_Solvency_II_Consultation.pdf (publishing.service.gov.uk).

[5]DP2/22 – Potential Reforms to Risk Margin and Matching Adjustment within Solvency II | Bank of England (https://www.bankofengland.co.uk/prudential-regulation/publication/2022/april/potential-reforms-to-risk-margin-and-matching-adjustment-within-solvency-ii).

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Margin and Matching Adjustment within Solvency II at the same time as the Government's consultation, will publish a more detailed technical consultation later in the year.

5. Understanding reinsurance recapture risk

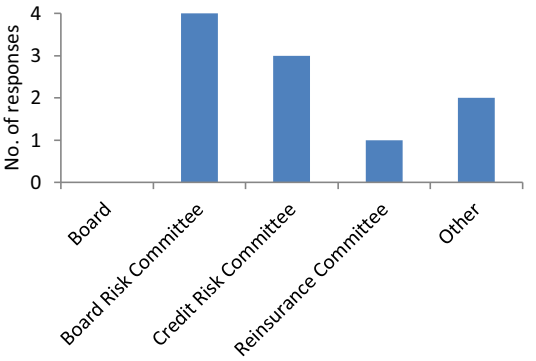
The size of the adverse impact on solvency coverage following a reinsurance counterparty default (or other recapture event) is important for all levels of an organisation including the Board to understand.

5.1. Board & executive committee

An insurer's Board has overall responsibility for the management and oversight of the insurer and its activities. Boards may establish committees to assist in fulfilling their oversight responsibilities.

Figure 3 shows that all respondents Boards delegate responsibility for reinsurance counterparty exposures to one or more committees.

Figure 3. Key committees responsible for Reinsurance counterparty exposure.



Delegating technical topics leaves more time for the Board to focus on, and provide leadership over, the insurer's strategic direction, culture and setting the general tone from the top.

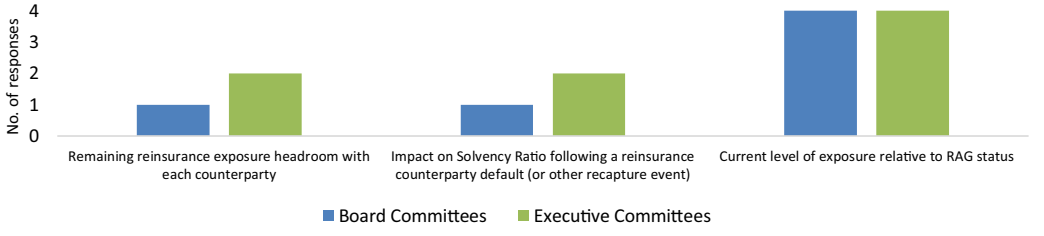
The Board Risk Committee was the most frequently cited oversight forum (4 of the 6 respondents) followed by a Credit Risk Committee (3 of the 6 respondents). The Other category included an Insurance Risk Committee and Capital Management Committee.

What information is communicated to Board and Executive Committees?

Respondents were asked to indicate the information communicated to their Board and Executive Committees.

Figure 4 shows that 4 of the 6 respondents provide the current level of exposure relative to a Red, Amber and Green ("RAG") status to their Board and Executive Committees.

Figure 4. Information provided to Board & Executive Committees.



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This metric is likely to be chosen for its visual nature, simplicity, ability to be used as a signal to focus management's attention or as an indicator to take actions.

The "remaining headroom" and "impact on solvency ratio" metrics are quantitative in nature and require a deeper understanding of the technical detail including assumptions and management actions that sit behind the metrics. This is more challenging for individuals one or more steps removed from the process to acquire; and could explain why the majority of respondents do not provide this information to their Board (5 of the 6 respondents) or Executive (4 of the 6 respondents) Committees. Twice as many respondents provide information to Executive Committees relative to Board Committees. The Executive is closer to their firms' reinsurance counterparty exposure and is likely able to more meaningfully contribute and engage on the topic than their Board Committee counterparts.

How frequently is information communicated to Board and Executive committees?

Respondents were asked how frequently information is communicated to their Board and Executive Committees.

Figure 5 shows that reinsurance counterparty risk exposures were most frequently communicated to Board Committees and Executive Committees on a quarterly basis (3 of the 6; and 4 of the 6 respondents respectively).

Figure 5. Frequency of reporting to Board & Executive Committees.

This frequency aligns with the typical number of Board Committee meetings held annually. A reinsurance counterparty risk limit breach is one reason cited that could trigger 3 of the 6 respondents reporting to a Board Committee more frequently than once a quarter on an exceptions basis.

5.2. Capital modelling – methodology & approach

The SII standard formula includes neither an explicit reinsurance recapture risk (sub) module nor parameters within one or more risk (sub) modules to fully capture the balance sheet effects, such as the increase in RM that the ceding entity would need to recognise were previously reinsured risk returned to their regulatory balance sheet in practice. The discussion below focusses on the methodology and approach adopted by internal model firms.

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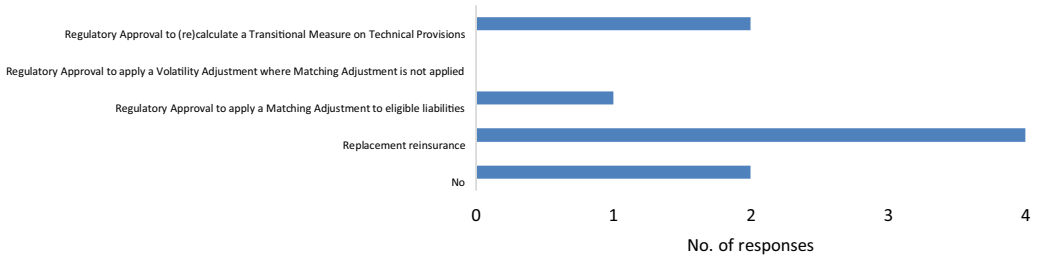
How do insurers capture the balance sheet effects following a reinsurance counterparty default within their SCR calculation?

All respondents consider reinsurance recapture scenarios and associated financial impacts within the reinsurance counterparty risk model.[6] The reinsurance counterparty risk SCR will be sensitive to the relationship between the reinsurance counterparty's financial soundness, e.g. expressed as a solvency ratio or credit rating; and the resulting PD. The effectiveness of capital as a mitigation tool is low when the PD is small relative to the number of exposures, which would be the case if a ceding entity used a small number of reinsurance counterparties. Actual reinsurer defaults are binary events.

Do insurers assume management actions following reinsurance recapture within their SCR calculation?

Figure 6 summarises respondents assumed management actions taken in recapture scenarios. Management actions reduce the extent of the loss to own funds that would otherwise have occurred.

Figure 6. Assumed management actions.



Replacement reinsurance was the most frequently assumed management action for 4 of the 6 respondents. This assumption is likely to materially simplify the capital modelling for MA portfolios and its interaction with the MA eligibility criteria and PRA matching tests in stress at the cost of potentially being MA dilutive (PRA supervisory statement 7/18: *Solvency II Matching Adjustment* confirmed that the reinsurance recoverable should not be mapped to a fundamental spread, i.e. and earn the risk free rate). Insurers will need to assume they have obtained replacement reinsurance cover within the one-year stress period in order to be able to claim credit for it within the SCR. An instantaneous reinsurance counterparty default (or other recapture event) will have the biggest financial impact but gives insurers the longest time to obtain replacement reinsurance cover. A reinsurance counterparty default (or other recapture event) assumed to occur later in the year would leave less time for replacement reinsurance cover to be found in order to qualify as risk mitigation within the SCR.

2 of the 6 respondents assume regulatory approval to recalculate transitional measures on technical provisions (TMTP). This would alleviate some of the impact from the recaptured RM for business written before 1 January 2016. The PRA's supervisory statement 6/16: *Maintenance of the "transitional measure on technical provisions" under Solvency II*[7] sets out, amongst other things, the circumstances that might support insurers' requests to recalculate their TMTP for regulatory reporting purposes. The decision to approve a TMTP recalculation more frequently than 24 months is at the discretion of the PRA. However, we think that the materiality of the loss to respondents' solvency coverage following a reinsurance counterparty default (or other

[6]All respondents' model reinsurance counterparty risk within a PRA approved internal model for regulatory reporting purposes.

[7]Available at: Maintenance of the 'transitional measure on technical provisions' under Solvency II | Bank of England.

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recapture event) is likely to meet the "material and sustained change in risk profile" test to support a TMTP recalculation application.

2 of the 6 respondents indicated that they do not assume any management actions in scenarios that result in the recapture of previously reinsured risk. This approach would be conservative if respondents had identifiable actions that they could implement within the SCR's one-year time horizon but chose not to capitalise it upfront.

One respondent assumes regulatory approval to apply a MA to eligible liabilities. This suggests that the collateral received or assets injected into the MA portfolio from elsewhere in the business following recapture would contain new features outside of their existing MA approval. The PRA has up to six months to approve or reject a MA application from the date that the complete application is received. The time taken by the PRA to complete its review is outside of insurers' control. Engaging the PRA early; being clear on the timelines and the activities on the critical path; and being responsive to any follow-up questions would help to minimise the time taken by the PRA to reach a decision on the outcome of the MA application.

Who is responsible for ensuring that the reinsurance counterparty risk SCR remains appropriate for regulatory reporting purposes?

The questions in this area were divided into three parts.

- *The forum that provides oversight*: 3 of the 6 respondents named the Board Risk Committee as the forum that makes the final decision as to whether the capital model continues to remain appropriate for calculating the reinsurance counterparty risk SCR. A Model Governance Committee (2 of the 6 respondents) and an Internal Model Change Board (one respondent) completed the list. The choice of forum is likely to be impacted by insurers' governance processes and the expertise demonstrated by specific decision-making forums.
- *The function responsible for reporting to the decision-making forum*: 4 of the 6 respondents named the actuarial function as being responsible for reporting on whether the SCR continues to adequately capture reinsurance counterparty risks for regulatory reporting purposes. The SII Directive 2009/138/EC (Article 48: *Actuarial function*) sets out a formal role for the actuarial function to express an opinion on insurers' reinsurance arrangements and to contribute with respect to the risk modelling underlying the SCR. Giving the actuarial function a formal role for reporting whether or not the SCR continues to appropriately capture reinsurance counterparty risks would appear consistent with its remit. The first line (one respondent) and risk function (one respondent) completed the list.
- *The frequency of model signoff*: 5 of the 6 respondents stated that the capital model used to calculate the internal model SCR was signed off annually. One respondent stated that its model was signed off less frequently than annually. This is likely justified on proportionality grounds.

How do insurers internally modelled reinsurance counterparty risk SCRs compare with their ORSA capital?

Table 2 summarises the similarities and differences between the internally modelled SCR and Own Risk and Solvency Assessment (ORSA) capital across 7 dimensions.

Table 2. Internal Model SCR versus ORSA – Is There a Difference?

	Yes	No	Total Response
Choice of risk measure	1	5	6
Choice of time horizon	1	5	6
Calculation methodology	1	5	6

(*Continued*)

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Table 2. (*Continued*)

	Yes	No	Total Response
Choice of basis	1	5	6
Choice of confidence interval	0	5	5
Assumed regulatory approval decisions (e.g. MA, TMTP, VA)	0	5	5
The quantum of the undiversified level of capital	1	5	6

The internal model is designed to reflect insurers' own risk profiles and so we would expect the methodology and approach to calculating the SCR and ORSA capital to be broadly the same. This is confirmed by the "no" responses in Table 2. Differences in the methodology and approach between the internally modelled SCR and ORSA capital likely indicates the areas that would have been most debated between an insurer and the PRA at the point of internal model approval or when subsequent changes were made to it.

5.3. ORSA (including stress & scenario testing)

The ORSA is a key risk management tool for all insurers. The Stress and Scenario Testing (SST) carried out as part of or alongside the ORSA process and the wider risk monitoring within an insurer provides a useful tool in analysing "what if" reinsurance counterparty risk stress or scenario impacts. Insurers have limited real world experience of a reinsurance counterparty default (or other recapture event) in a stressed environment and so rely on expert judgement when defining the SST process.

What approach do insurers take to model reinsurance counterparty default (or other recapture event) within the ORSA (including SST)?

Figure 7. Approach to modelling reinsurance counterparty risk (or other recapture event) within the ORSA (including SST).

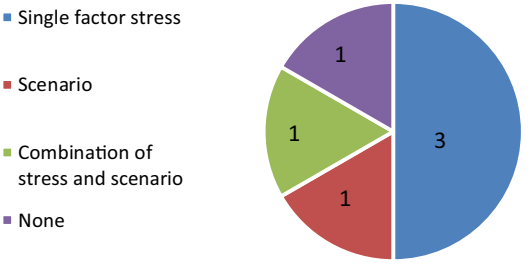

Figure 7 shows that respondents take a wide variety of approaches to model the impact of reinsurance counterparty default (or other recapture event) on their business. This is likely driven by the reinsurance exposures and reinsurance strategies adopted by the different insurers.

There are several possible explanations for why the relatively simple single factor stress approach is the most common response (3 of the 6 respondents).

- It can be hard to model how a reinsurance counterparty default (or other recapture event) would interact with other stresses. There could also be the assumption that a reinsurance counterparty default (or other recapture event) alongside other events, e.g. a longevity stress, is too remote a possibility to include it as a severe but plausible scenario in the ORSA.

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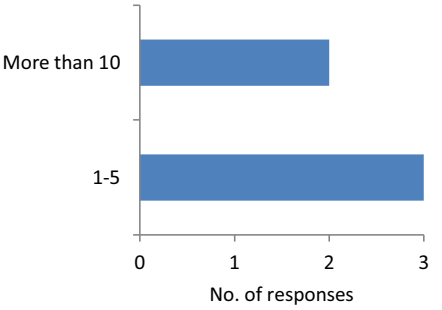
- Insurers may make the assumption that the most likely driver of reinsurance counterparty default (or other recapture event) would be idiosyncratic in nature, e.g. a major operational risk event or fraud that only impacts a single reinsurer, and not the result of an industry wide or more systemic stress.
- It will be easier to understand the severity of the stress by focussing only on a reinsurance counterparty default (or other recapture event). Incorporating other stress factors may make the story less clear and divert attention away from the impacts of a reinsurance counterparty default (or other recapture event).

On the other hand, a single factor stress approach could oversimplify the real world dynamics and dependencies with other risk factors, which could lead to the modelled financial impacts understating the true risk exposure. This could frustrate the attempts of decision makers to ask the right questions and leave the insurer less well positioned to deal with a reinsurance counterparty default (or other recapture event) were it to occur.

How many stresses and scenarios related to reinsurance counterparty default (or other recapture event) are considered in the ORSA (including SST)?

Figure 8 shows that 2 of the 5 respondents may be very concerned about a reinsurance counterparty default (or other recapture event) and run a large number of reinsurance counterparty related stresses and scenarios to gain insight into the potential solvency impact.

Figure 8. Number of stresses and scenarios considered within the ORSA (including SST).



Interestingly, the level of concern is not correlated with the size of the loss to solvency coverage that would be incurred if respondents' most material reinsurance counterparty was recaptured before management actions. Respondents with the lowest losses to solvency coverage carried out the largest number of stresses and vice versa. This could indicate the reliance being placed on management actions to protect solvency.

What does an insurer's approach to reinsurance counterparty default (or other recapture event) say about the strength of the ORSA (including SST) scenarios?

3 of the 6 respondents contemplate the recapture of multiple treaties relating to two or more reinsurance counterparties in the ORSA (including SST). This scenario suggests that respondents had a reinsurance counterparty default or other "common to all" recapture provision(s) in mind when designing the strength of this scenario. 2 of the 6 respondents considered the recapture of all treaties relating to a single reinsurance counterparty. One respondent indicated that they consider the recapture of all treaties relating to a single reinsurance counterparty in the ORSA (including SST) but had done so only once in the last five years. An event leading to more than one reinsurance counterparty default (or other recapture event) is likely to represent a stronger scenario than

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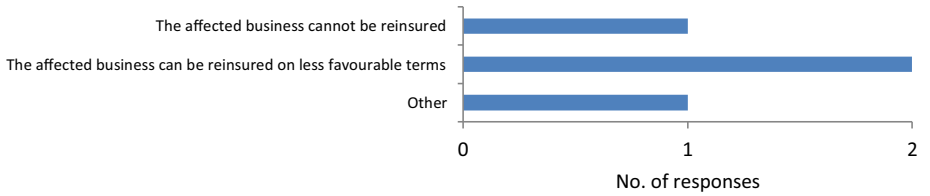
an idiosyncratic stress that led to a single reinsurance counterparty default (or other recapture event).

What terms and timing do insurers assume for replacement reinsurance within the ORSA (including SST) projections?

Respondents were asked to indicate the terms they assumed for replacement reinsurance within their ORSA (including SST).

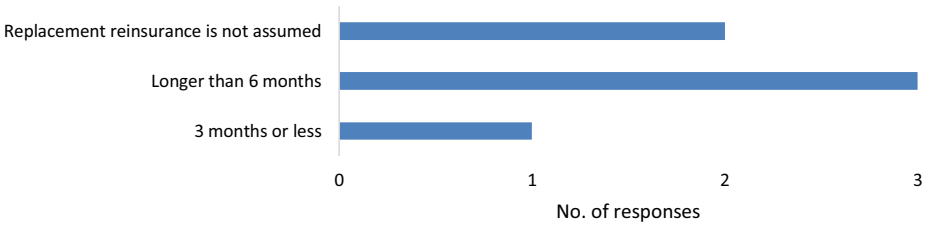
Figure 9 shows that 2 of the 4 respondents assumed that the terms agreed to replace reinsurance following the recapture of previously reinsured risks would be on less favourable terms. This suggests that respondents are assuming that the wider reinsurance market remains in stress from the point of recapture until replacement reinsurance is obtained. Whilst a worsening of the cost of replacement reinsurance is consistent with this backdrop, a more conservative approach (adopted by one respondent) would be to assume that the recaptured business cannot be reinsured. The Other category include assumptions that the affected business could not be reinsured, could be reinsured on the same terms, or could be reinsured on less favourable terms depending on the scenario.

Figure 9. Assumed terms for replacement reinsurance within the ORSA (including SST).



Respondents were also asked when they assumed replacement reinsurance could be obtained. Figure 10 shows that 3 of the 6 respondents assumed that it would take longer than six months to obtain replacement reinsurance; 2 of the 6 respondents did not assume any replacement reinsurance at all within the ORSA; and one respondent assumed they could obtain replacement reinsurance within three months.

Figure 10. When replacement reinsurance is assumed to be obtained within the ORSA (including SST).



What are insurers' views on the likelihood of a reinsurance counterparty default (or other recapture event) and the financial impact were it to occur?

5 of the 6 respondents consider the likelihood of a potential reinsurance counterparty default (or other recapture event) as "not very likely." Views amongst respondents on the materiality of the financial impact of a potential reinsurance counterparty default (or other recapture event) were more mixed with 3 of the 5 respondents considering the impact as "very material" and 2 of the 5 respondents considering the impact as "material." Table 3 compares respondents' self-assessments of the materiality of the financial impact following recapture and the consequent loss of solvency coverage before management actions.

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Table 3. Relationship between respondents' loss of solvency coverage (before management actions) and their self-assessed view of the financial impact following recapture

Respondent	Loss of Solvency Coverage following Recapture before Management Actions	Self-assessed Materiality of the Financial Impact following Recapture
A	10–20pp	Not considered
B	30–40pp	Very material
C	0–10pp	Material
D	40–50pp	Very material
E	40–50pp	Material
F	20–30pp	Very material

The lack of a clear correlation between the financial impact following recapture before management actions and respondents self-assessed view of the financial impact of a recapture could reflect insurers:

- Confidence in the management actions available to mitigate the financial effects of a recapture within "in appetite" timescales
- View that the risk is contingent in nature and not very likely to occur
- Different interpretation of the meaning of "material" and "very material."

5.4. Reverse stress & scenario testing

Reverse stress and scenario testing is a tool to help insurers identify one or more events that could cause the entity to fail or breach key risk indicators. However the stresses, scenarios and actions to mitigate risks to an insurer's ongoing viability as a going concern is not formally defined. Instead, it is left to individual insurers to define; considering their business model, risk profile and attitude to risk.

Do insurers consider reinsurance counterparty default (or other recapture event) within recovery plans?

All 6 respondents have explicitly considered reinsurance counterparty default (or other recapture event) as part of a reverse stress or scenario test for recovery planning purposes since the introduction of SII.

The large loss of solvency coverage respondents reported following the reinsurance counterparty default (or other recapture event) of their most material reinsurance counterparties would appear to make this risk event a credible candidate to consider within a reverse stress and scenario testing setting.

Have insurers identified management actions to rectify SCR breaches within recovery plans?

5 of the 6 respondents have identified management actions to rectify a SCR breach within their recovery planning. The Undertakings in Difficulty Part of the PRA Rulebook transposes the SII Directive 2009/138/EC text that relates to the timescales that an insurer has to rectify a breach of its SCR. The timescales are prescribed in the Rulebook and an insurer in breach of the SCR must restore compliance within 6 months from the date that the non-compliance is observed. This could be extended, at the discretion of the PRA, by an extra 3 months. There is no supervisory discretion to extend beyond this period.

- 4 of the 5 respondents estimated that their longest identified management action would take more than 9 months to implement following an SCR breach. Insurers would need to rely on

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their quicker to implement management actions in order to continue as a going concern. The longest to execute management actions could provide additional capital buffers once the SCR breach had been rectified. This may be an area to (re)visit to ensure that all identified management actions are credible and robust.

- One respondent estimated that their longest identified management action to rectify a SCR breach would take between 6 – 9 months to execute. However, the extension from 6 to 9 months is not automatic and is likely to be influenced by a range of factors: e.g. an insurer's progress against its recovery plan[8] and the likelihood that SCR coverage could be restored within the extended time period.

Being clear on the actions and milestones needed to increase the PRA's appetite to provide firms with limited extra time will be important.

6. Non-capital protections to manage reinsurance recapture risk

Three non-capital protections used by insurers to manage their exposure to a reinsurance counterparty default (or other recapture event) were it to occur are discussed in the ensuing sections.

6.1. Risk appetite and risk limit setting

Each insurer has its own set of key performance indicators that are used by management to assess the financial performance of the business. These heavily influence the metrics used by insurers to measure and calibrate their reinsurance counterparty risk appetite and limits.

What financial metrics are important to insurers when setting their reinsurance counterparty risk appetite and risk limits?

Figure 11 summarises the metrics used by respondents to calibrate their reinsurance recapture risk limits.

Figure 11. Metrics used for risk limit calibration.

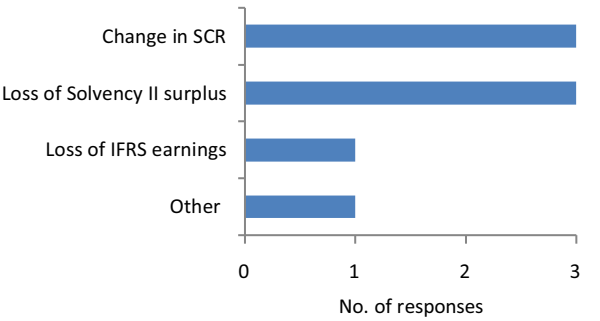

Table 4 shows that 5 of the 6 respondents calibrate their risk limits with respect to a change in SCR or loss of surplus metric. The remaining respondent uses other SII metrics, e.g. based on a 1-in-X year longevity stress or proportion of SII Best Estimate Liability (BEL). Only one respondent considers the loss of earnings when calibrating their risk limit.

[8]Within the meaning of the Undertakings in Difficulty Part of the PRA Rulebook.

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Table 4. Figure 11 Breakdown by Respondent

Respondent	Metrics used for Risk Limit Calibration
A	Other (includes SII measures)
B	Change in SCR
C	Change in SCR
D	Change in SCR; Loss of SII surplus
E	Loss of SII surplus
F	Loss of SII surplus; Loss of IFRS earnings

How do insurers reflect their preferences between reinsurance counterparties when setting risk appetite and risk limits?

When assessing how much risk to take on, insurers not only need to worry about the quantum of the risk, but also who the counterparty is. Insurers consider a financially weaker counterparty to be more likely to default and therefore set risk limits that depend, in part, on the counterparty's financial soundness. All respondents use the reinsurer's credit rating as an approximation of its financial strength with a few also considering wider financial performance, risk profile, type of counterparty and geography.

How quickly do insurers assume a reinsurance counterparty defaults and are any post-stress management actions taken into account when setting risk limits?

All respondents assumed that their reinsurance counterparties default instantaneously when setting risk limits, which does not leave any time to take pre-emptive rectification actions. This measure is possibly chosen for its simplicity as a modelling approach. However, 3 of the 6 respondents took post-stress management actions into account when setting their risk limits. All 3 respondents assumed for example that they would be able to obtain replacement reinsurance 6–12 months following a reinsurance counterparty default (or other recapture event). The confidence in, and ability to take, management actions to protect the balance sheet may explain why insurers are prepared to accept a significant drop in solvency ratio when setting their risk limits.

What level do insurers set their risk appetite and risk limits?

All respondents set their reinsurance counterparty default risk appetite at counterparty level with insurers worrying about a single counterparty defaulting in isolation of other reinsurance counterparties. 2 of the 6 respondents also set a risk appetite at aggregate level across a number of counterparties to understand the risk of multiple counterparties defaulting at the same time. Simply adding the exposures together implies a perfect correlation between the fortunes of reinsurance counterparties, or an event severe enough to impact a large proportion of the re/insurance market. Such an approach prioritises simplicity, a desirable characteristic of a risk metric. By contrast, all respondents assumed a correlation in the 0%–25% range between reinsurance counterparties when modelling the reinsurance counterparty risk SCR. One interpretation of this observation is that a third of respondents take a more conservative approach when setting their risk appetite relative to the scenarios assumed for regulatory capital modelling purposes.

6.2. Use of collateral

The future payments made by a reinsurer under an annuity related reinsurance treaty change over time as longevity experience emerges and updates are made to future longevity assumptions,

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covering both base mortality and longevity improvement rates. Collateral posted reduces exposure to counterparty risk for either the reinsurer or insurer. The collateral received by the insurer provides partial protection from the balance sheet effects of a reinsurance counterparty default (or other recapture event).

All respondents have at least one collateralised annuity related reinsurance treaty and allow for collateral in their exposure calculations. How this is incorporated into the exposure calculation including the approach to haircutting assets and the frequency that collateral balances are settled may differ across the market. The importance of each of these is increased when considering quota share reinsurance where the pre-collateral counterparty exposure generally covers the full SII BEL and not only the net exposure (the difference, in present value terms, between the "floating" and "fixed" legs). Any growth in the market for quota share reinsurance to meet annuity writers' demand is likely to see an increased focus on collateral.

Why does collateral only partially protect insurers' solvency coverage following a reinsurance counterparty default (or other recapture event)?

Collateral is a key risk mitigation tool to manage insurers' exposure to reinsurance counterparty default. However, it does not fully cover the combined increase in RM and the recaptured SCR net of the release in counterparty risk SCR over and above (for quota share arrangements) the SII BEL that insurers would need to hold upon recapturing previously reinsured risk. Table 5 shows that at least 30% of the loss of solvency coverage on recapture is attributed to the RM.

Table 5. The proportion of respondents' loss of solvency coverage (before management actions) that is explained by the increase in RM following recapture

Respondent	Loss of Solvency Coverage following Recapture before Management Actions	Contribution of the Risk Margin to the Loss of Solvency Coverage following Recapture
A	10–20pp	30–40pp
B	30–40pp	More than 50pp
C	0–10pp	More than 50pp
D	40–50pp	More than 50pp
E	40–50pp	30–40pp
F	20–30pp	40–50pp

How frequently do insurers monitor and review their collateral positions?

All insurers monitor collateral positions with management information compiled quarterly for 3 of the 6 respondents. 2 of the 6 respondents produce management information on a monthly basis with the remaining respondent doing so on a weekly basis. The frequency of this monitoring may correlate to the size of the collateral amounts. Insurers with more quota share reinsurance in-place relative to peers may monitor their collateral positions more frequently due to the associated increased risk.

5 of the 6 respondents have also undertaken assurance that the collateral is being managed and monitored in-line with the appropriate policy. 4 of the 5 respondents undertake assurance reviews on an annual basis with the remaining respondent doing so on an ad hoc basis. One respondent has not undertaken any assurance that the collateral is being managed and monitored in-line with the appropriate policy; possibly on materiality grounds.

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What protections do insurers employ to manage their exposure to a deterioration in a reinsurer's financial standing?

5 of the 6 respondents include protections within their reinsurance treaties that trigger upon a breach of early warning signals or indicators that the reinsurance counterparty may be in difficulty. 4 of the 6 respondents introduce or increase collateral requirements; and 2 of the 6 respondents include stricter asset eligibility requirements to restrict the type of assets that can be posted as collateral by the reinsurer. One respondent includes a protection to restrict the level of new business that can be written within existing reinsurance flow treaties.

What risks do insurers take on upon recapturing the collateral following a reinsurance counterparty default (or other recapture event)?

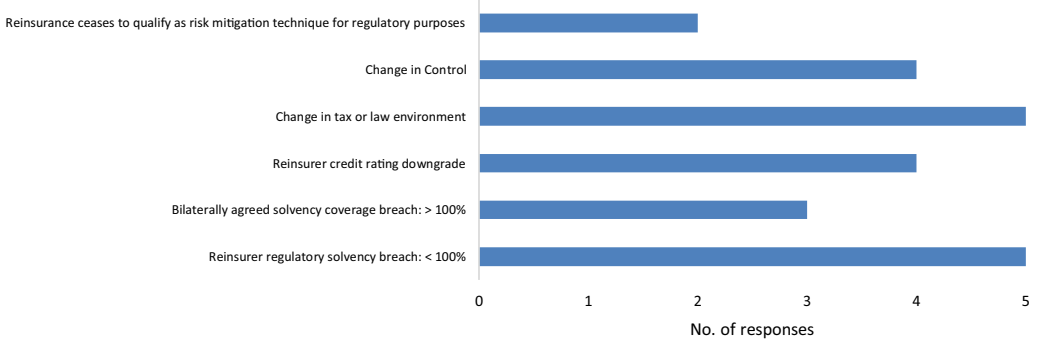
The collateral received upon recapture is unlikely to fully match the insurance contract's underlying features. Rebalancing costs, e.g. converting the collateral into MA eligible assets to support the recaptured liabilities, could therefore be significant. All respondents identify currency related basis risk between the assets in the collateral pool that would be received following recapture and the underlying insurance liabilities. Other sources of basis risk identified by respondents arose from:

- the indexation of the collateral assets (5 of the 6 respondents)
- the duration of collateral assets (5 of the 6 respondents)
- the collateral assets' expected cash flows (5 of the 6 respondents).

6.3. Treaty recapture provisions

Reinsurance contracts are complex legal documents that are binding for both counterparties. Figure 12 below summarises the main recapture provisions included by respondents within their reinsurance treaties.

Figure 12. Main recapture provisions contained within two or more longevity and quota share reinsurance treaties.



The recapture provision following a breach of a reinsurer's regulatory solvency position is noteworthy given its potential to cause a disorderly market disruption. The inability for insurers to recognise the full benefit of reinsurance within their SCR and balance sheet following a breach of a reinsurer's regulatory solvency position could lead to a "run on the reinsurer." This could have macroeconomic consequences if a single reinsurer was a counterparty to a number of insurers. It is unclear whether, and if so when, the reinsurance market would have the appetite and capacity to absorb all previously reinsured risk across the affected insurers in this scenario.

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Do reinsurance treaties permit recapture if the cover ceases to qualify as a risk mitigation technique for regulatory purposes[9]?

Risk mitigating techniques (RMT) that meet the SII qualifying criteria allow insurers to reduce the size of the SCR that would otherwise need to be held. Figure 12 showed that only 2 of the 6 respondents included recapture provisions that would enable the insurer to recapture reinsured business where the reinsurance arrangement no longer qualified as risk mitigation for regulatory reporting purposes. This means that 4 of the 6 respondents would not be able to take credit for the risk mitigation within the SII SCR and may need to recognise losses even if the reinsurer had not technically defaulted or breached their solvency coverage. An example could be a court ruling that favoured a reinsurer in dispute with an insurer that risked undermining the legal enforceability of similarly worded reinsurance arrangements and the effectiveness of the cover as risk mitigation.

7. Summary of key conclusions

The working party's analysis and the insights provided throughout the report was primarily focussed on providing externally referable information for practitioners to benchmark their employer's practices against peers.

The effect of a reinsurance counterparty default (or other recapture event) on an annuity writer's balance sheet can be material. The nature of the risk and the levers available to manage and control it will therefore be important for all levels of an organisation including the Board to understand.

The Boards of all insurers surveyed delegated this responsibility to one or more committees with many insurers communicating key management information to support decision-making on a frequent basis.

Other areas of convergence between the insurers surveyed included the approach to setting risk limits. All assume that their reinsurance counterparties default instantaneously when setting risk limits, with almost all choosing to calibrate their risk limits using a change in SCR or loss of surplus metric.

Collateral is a key tool used by all insurers surveyed to manage their reinsurance counterparty exposures. This is not without risk; and the basis and other risk that the insurer's surveyed would take on following a reinsurance counterparty default (or other recapture event) may be an area to further consider, for example during collateral negotiations.

The working party identified the approach to considering reinsurance counterparty default (or other recapture event) when analysing "what if" impacts within the ORSA (including stress and scenario testing) as an area that could benefit from refinement. A single factor stress approach is used by half of the insurers surveyed to model the impact of a reinsurance counterparty default (or other recapture event). However, this could oversimplify the real world dynamics and dependencies with other risk factors, and could frustrate the attempts of decision makers to ask the right questions. This could leave an insurer less well prepared to deal with the financial and solvency implications of a reinsurance counterparty default (or other recapture event) were it to occur.

The treaty recapture provisions was also identified as an area that could benefit from further refinement. The majority of insurers surveyed did not include recapture provisions that would give them the right to recapture a reinsurance arrangement that no longer qualified as SII risk

[9]There are 8 directly applicable provisions (Articles 208 – 215) set out in the Commission Delegated Regulations 2015/35 for standard formula firms. Article 235 of the Commission Delegated Regulations 2015/35 and Article 121(6) of the Directive 2009/138/EC are relevant for internal model firms.

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mitigation for regulatory purposes. This could leave a ceding entity liable to pay for a cover that they were not able to recognise as capital relief for the purpose of calculating the SCR.

The broader implication to the macro-economy were a material reinsurer to default is difficult to know or quantify. It is however likely to be amplified by the use of retrocessions and other risk transfer activity that reinsurers can enter into to manage its risk. A disorderly reinsurance recapture could pose a threat to macroeconomic stability and will undoubtedly be an area of interest to policymakers and regulators around the world.

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Appendix: Survey questions

(1) Please indicate whether you purchase annuity related reinsurance from an internal entity within the group, an external reinsurance entity or a combination of the two.
   (a) Internal reinsurance entity/ies only
   (b) External reinsurance entity/ies (only)
   (c) A combination of internal and external reinsurance entities

(2) Please indicate the significance of your reinsurance arrangements from the following list (tick the options that apply):

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	None	Some	Significant
Longevity Swap			
Longevity reinsurance			
Quota Share reinsurance (longevity + market risk)			
Excess of Loss (longevity risk only)			
Index based longevity reinsurance			

(3) Please list your top 5 reinsurance destinations/jurisdictions for annuitant risk(s) (e.g. Bermuda, EEA, US, Canada, Switzerland etc.) in chronological order (1 = most material, 5 = least material; using BEL or your own exposure measure as your point of reference). The jurisdiction of the reinsurance branch should be considered the same as the jurisdiction of the parent for this purpose.

(4) Please list your top 3 non-Solvency II Equivalent reinsurance destinations/jurisdictions for annuitant risk(s) in chronological order (1 = most material; 3 = least material; using BEL or your own exposure measure as your point of reference). The jurisdiction of the reinsurance branch should be considered the same as the jurisdiction of the parent for this purpose. Include jurisdictions in Q3 if applicable.

(5) Please select the range that most closely reflects the largest loss of solvency coverage (expressed as a percentage point deduction) that would be incurred if all business ceded to your most material reinsurance counterparty was recaptured before management action.
   (a) 0–10 percentage points
   (b) 10–20 percentage points
   (c) 20–30 percentage points
   (d) 30–40 percentage points
   (e) 40–50 percentage points
   (f) More than 50 percentage point

(6) What proportion of the percentage point deduction from solvency coverage answered in Q5 is due to the increase in risk margin immediately following a reinsurance recapture of all business.
   (a) 0–10 percentage points
   (b) 10–20 percentage points
   (c) 20–30 percentage points
   (d) 30–40 percentage points
   (e) 40–50 percentage points
   (f) More than 50 percentage point

(Please state whether the result has been calculated on a gross or net of tax basis.)

(7) How much does all of your reinsurance counterparty risk Solvency Capital Requirement contribute to your total counterparty risk Solvency Capital Requirement?
   (a) 0%–25% of undiversified counterparty risk SCR
   (b) 25%–50% of undiversified counterparty risk SCR
   (c) 50%–75% of undiversified counterparty risk SCR
   (d) 75%–100% of undiversified counterparty risk SCR

(8) Do you make a distinction between the jurisdiction of your reinsurance counterparties (particularly between reinsurers based in SII Reinsurance Equivalent versus. SII non-Reinsurance Equivalent Jurisdictions) when negotiating reinsurance recapture provisions?

If "Yes," what is your rationale for doing so?

(9) Do your reinsurance treaties include the ability to recapture reinsured business in the event that the reinsurance contract no longer qualifies as a risk mitigation technique for regulatory purposes?

(10) We would like to understand the main recapture provisions within your longevity/quota share reinsurance treaties that are most commonly found within two or more treaties. For this purpose, you may use the reinsurance treaties found in your top 3 reinsurance jurisdictions by exposure. Please select all that apply.
   (a) Reinsurer regulatory solvency breach: < 100%

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(b) Bilaterally agreed solvency coverage breach: > 100%
(c) Reinsurer credit rating downgrade
(d) Change in tax or law environment
(e) Change in Control
(f) Other (please specify)

(11) Which forum(s) have responsibilities for reinsurance counterparty exposures? Please select all that apply.
(a) Board
(b) Board Risk Committee
(c) Credit Risk Committee
(d) Reinsurance Committee
(e) Other (please specify)

(12) Are the levels of reinsurance counterparty risk exposure communicated to the Board on a regular basis or an exceptions basis?
(a) Regular basis – quarterly
(b) Regular basis – semi-annually
(c) Regular basis – other, please specify
(d) Exceptions basis
(e) Not communicated to the Board

(13) What information is provided to the Board? Please select all that apply.
(a) Remaining reinsurance exposure headroom with each counterparty
(b) Impact on Solvency Ratio following a reinsurance counterparty default/recapture event
(c) Current level of exposure relative to RAG status
(d) Other (please specify)

(14) How frequently are reinsurance counterparty risk exposures communicated to one or more Executive Committees?
(a) Monthly
(b) Quarterly
(c) Semi-annually
(d) Annually
(e) Other (please specify)

(15) What information is provided to Executive Committees? Please select all that apply.
(a) Remaining reinsurance exposure headroom with each counterparty
(b) Impact on Solvency Ratio following a reinsurance counterparty default/recapture event
(c) Current level of exposure relative to RAG status
(d) Other (please specify)

(16) How often do you measure your reinsurance counterparty exposure?
(a) Monthly
(b) Quarterly
(c) Semi-annually
(d) Annually
(e) Less frequently than annually
(f) Never
(g) Other (please specify)

(17) What level is your counterparty default risk appetite set at:
(a) Counterparty Level
(b) Aggregate
(c) Both
(d) Other (please specify)

(18) What has your risk limit been calibrated with reference to? Please select all that apply.
(a) Proportion of Solvency capital requirement
(b) Loss of Solvency II surplus

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(c) Loss of IFRS earnings
(d) Reinsurer's credit rating
(e) Other (please specify)

(19) Do your risk limits depend on the counterparty's financial soundness?
(20) If the answer to Q19 is "Yes": How is this measured? Please select all that apply.
(a) Credit Rating
(b) Solvency Ratio
(c) Other (please specify)
(21) In setting your risk limits, do you assume instantaneous reinsurer default (i.e. an immediate move from being a healthy reinsurer to default) or do you assume a path to default (i.e. the degradation of the reinsurer's financial strength or credit rating over time leading to default)?
(a) Instantaneous reinsurer default
(b) Path to reinsurer default
(22) In setting your risk limits, how many management actions do you assume?
(a) 0
(b) 1–3
(c) 4–5
(d) More than 5
(23) If you did not answer "0" to Q22, do you assume that replacement reinsurance could be obtained following a reinsurance default or recapture?
(a) No
(b) Yes: 0–6 months later
(c) Yes: 6–12 months later
(d) Yes: more than 12 months later
(24) Do you produce management information around your actual collateral posted?
(25) If the answer to Q24 is "Yes," how frequently is the management information produced?
(a) Monthly
(b) Quarterly
(c) Semi-annually
(d) Annually
(e) Other (please specify)
(26) Do you allow for collateral in your exposure calculation?
(27) Have you undertaken any internal or external assurance that your collateral is being managed and monitored in-line with your collateral management policy or similar?
(28) If the answer to Q27 is "Yes," how frequently do you intend to undertake internal or external assurance that your collateral continues to be managed and monitored in-line with your collateral management policy or similar?
(a) Annually
(b) Biennially
(c) Every 3–5 years
(d) On an ad hoc or exceptions basis
(e) Not for the foreseeable future
(f) Other (please specify)
(29) Do you have at least one collateralised annuity related reinsurance treaty that could introduce basis risk because of differences between the underlying reinsurance contract and the collateral assets that would be received following a reinsurance recapture (before management actions)?
(30) If your answer to Q29 is "Yes," please select the sources of the basis risk that exists between the reinsurance contract and the collateral assets supporting the annuitant liabilities from the following list.
(a) Currency of collateral assets differs to the currency of the insurance liabilities
(b) Indexation of collateral assets differs to the indexation of the insurance liabilities
(c) Duration of the collateral assets differs to the duration of the insurance liabilities
(d) Expected cash flows of the collateral assets differs to the expected cash flows of the insurance liabilities
(e) Other (please specify)

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(31) What types of protection provisions do you include in your current reinsurance treaties in case the reinsurer breaches early warning signals, e.g. RAG levels, solvency triggers etc.? Please select all that apply.
   (a) Restrictions in the level of new business that can be written within existing reinsurance flow treaties
   (b) Increase or introduction of reinsurers' collateral requirements
   (c) Stricter requirements around eligible assets that can be posted as collateral by the reinsurer
   (d) None
   (e) Other (please specify)

(32) In managing your reinsurance exposures, do you have explicit management actions available (outside of the terms of your existing reinsurance treaties) that could be deployed at defined key risk indicators?

(33) If the answer to Q32 is "Yes," what key risk indicators do you consider? Please select all that apply.
   (a) Reinsurer's credit rating
   (b) Reinsurer's regulatory solvency ratio
   (c) Other (please specify)

(34) How do you model reinsurance counterparty risk for regulatory reporting purposes?
   (a) Standard Formula
   (b) Internal Model

(35) What forum takes the final decision as to whether the capital model identified in Q34 continues to satisfy the Solvency II test and standards or standard formula appropriateness for the purpose of calculating reinsurance counterparty risk for regulatory purposes?
   (a) Board
   (b) Board Risk Committee
   (c) Credit Risk Committee
   (d) Reinsurance Committee
   (e) Other (please specify)

(36) How frequently is the capital model used to calculate the regulatory Solvency Capital Requirement (SCR) signed off as remaining appropriate to modelling reinsurance recapture/counterparty risk?
   (a) More frequently than annually
   (b) Annually
   (c) Less frequently than annually

(37) What function is responsible for reporting on whether the capital model used to calculate the SCR continues to adequately capture reinsurance counterparty risks for regulatory purposes?
   (a) First line
   (b) Risk
   (c) Actuarial function
   (d) Compliance function
   (e) Other (please specify)

(38) When calculating regulatory reinsurance counterparty risk SCR, do you consider reinsurance recapture scenarios and the impact of recapture on your balance sheet (setting up capital requirements, risk margin etc. for risks that were previously reinsured)?

(39) If you answered "Yes" to Q38, do you assume management actions can be taken in recapture scenarios? Please select all that apply.
   (a) No
   (b) Replacement reinsurance
   (c) Regulatory Approval to apply a Matching Adjustment to eligible liabilities
   (d) Regulatory Approval to apply a Volatility Adjustment where Matching Adjustment is not applied
   (e) Regulatory Approval to (re)calculate a Transitional Measure on Technical Provisions

(40) Do you recognise "top-up" collateral provided over the year of the stress, e.g. where regular collateral reviews are required under the terms of the reinsurance treaty within the SCR for regulatory purposes?

(41) What level of diversification do you assume between reinsurance counterparties when modelling the reinsurance counterparty risk SCR?
   (a) 75%–100%
   (b) 50%–75%
   (c) 25%–50%

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(d) 0%–25%
(e) Less than 0%

(42) Please indicate whether there is a difference between the SCR and ORSA in the following areas of the reinsurance counterparty risk model ("Yes" indicates a difference: "No" indicates no difference).
(a) Choice of risk measure (e.g. VaR, TVaR)
(b) Choice of time horizon (e.g. 1 year, ultimate)
(c) Calculation methodology
(d) Basis (e.g. Probability of default, recovery rate/loss given default)
(e) Choice of confidence interval
(f) Assumed regulatory approval decisions (e.g. matching adjustment, transitional measures on technical provisions, volatility adjustment)
(g) The quantum of the undiversified level of capital calculated for reinsurance counterparty risk

(43) Are annuity related reinsurance recaptures considered as a single factor stress or part of a scenario or a combination of the two? Skip to Q51 if the answer is "No."
(a) Yes – as a single factor stress
(b) Yes – as part of a scenario
(c) Yes – as a combination of a single factor stress and part of the scenario
(d) No

(44) How many single factor stresses or scenarios or both are assessed relating to reinsurance recaptures based on your answer to Q43?
(a) 1–5
(b) 6–10
(c) More than 10

(45) What types of stress or scenario do you consider? Please select all that apply.
(a) Interest rates
(b) Inflation
(c) Credit
(d) Longevity
(e) Expenses
(f) Other (please specify)

(46) In the context of reinsurance exposure as set out in your ORSA (including SST) is reinsurance recapture considered as the following? Please select all that apply.
(a) A single reinsurance treaty
(b) Some treaties relating to a single reinsurance counterparty
(c) All treaties relating to a single reinsurance counterparty
(d) Multiple treaties relating to two or more reinsurance counterparties
(e) Other (please specify)

(47) In the context of reinsurance exposure as set out in your ORSA (including SST), if any projections are used in the analysis of the impacts of reinsurance recaptures, is it assumed that?
(a) The affected business cannot be reinsured
(b) The affected business can be reinsured on the same terms
(c) The affected business can be reinsured on less favourable terms
(d) Other (please specify)

(48) In the context of reinsurance exposure as examined in the ORSA (including SST), if any projections assume that business impacted by a reinsurance recapture can be reinsured, is this assumed to happen in:
(a) 3 months or less
(b) 6 months or less
(c) Longer than 6 months
(d) N/A – Replacement reinsurance is not assumed
(e) Other (please specify)

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(49) How frequently are reinsurance recapture related stresses and scenarios updated?
  (a) More frequently than quarterly
  (b) Quarterly
  (c) Semi-annually
  (d) Annually
  (e) Less frequently than annually

(50) Have reinsurance recapture impacts been a key influence on decision-making relating to the following? Please select all that apply.
  (a) Business placed with reinsurer
  (b) Business strategy/types of new business
  (c) Dividend strategy
  (d) Other – please specify

(51) Does the stress and scenario analysis related to reinsurance recaptures lead you to view the financial impact of a potential reinsurance recapture event as?
  (a) N/A – not considered
  (b) Not very material
  (c) Material
  (d) Very material

(52) Does the stress and scenario analysis related to reinsurance recaptures lead you to view the likelihood of a potential reinsurance recapture event as?
  (a) N/A – not considered
  (b) Not very likely
  (c) Likely
  (d) Very likely

(53) Has any reinsurance recapture, default or similar event been explicitly considered as part of a reverse stress or scenario test for recovery & resolution planning purposes since the introduction of Solvency II? (Only answer Q55 and beyond if you answer "Yes" to this question.)

(54) If the answer to Q53 is "No," do you plan to consider a reinsurance recapture, default or similar event within your recovery & resolution planning within the next 3–5 years?

(55) If the answer to Q53 is "Yes," have management actions been identified to rectify a Solvency Capital Requirement (SCR) breach within your recovery & resolution planning?

(56) If the answer to Q55 is "Yes," how long do you estimate the execution of your longest identified management action taking in order to rectify the SCR breach?
  (a) 0–3 months
  (b) 3–6 months
  (c) 6–9 months
  (d) More than 9 months

(57) Have management actions been identified to rectify a minimum capital requirement (MCR) breach within your recovery & resolution planning?

(58) If the answer to Q57 is "Yes," how long do you estimate the execution of your longest identified management action taking in order to rectify the MCR breach?
  (a) 0–3 months
  (b) 3–6 months
  (c) 6–9 months
  (d) More than 9 months

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