Solvency Assessment and Management:

Steering Committee

Position Paper 108[1] (v 4)

Life SCR - Retrenchment Risk

EXECUTIVE SUMMARY

This document discusses the structure and calibration of the proposed Retrenchment risk sub-module under SAM. Task group discussions and industry feedback following the first South African Quantitative Impact Study (SA QIS1) have identified the need to incorporate a separate sub-module for Retrenchment risk within the Life Underwriting risk module in SAM. This was tested in SA QIS2 and SA QIS3 whereby retrenchment inception rates were shocked by 50%. Industry feedback indicated that, whilst Retrenchment risk is not significant across the industry as a whole, it may be significant for some insurers. Given the relatively small exposure in the SA industry to Retrenchment risk overall, the task group considered whether the sub-module should be retained in the standard formula for SAM going forward, and if so, to what level of detail the specification and calibration should be developed.

The task group recommends that Retrenchment risk be retained as a separate sub-module while at the same time, in recognition of the relatively small part of industry risk capital represented by the sub-module, avoiding spurious efforts to develop the calibration by keeping the calibration high-level and pragmatic. The task group notes that, in this regard, those insurers for whom retrenchment is a significant risk should address this via a partial internal model or the ORSA.

Given the above the task group considers the approach and calibration tested in QIS2 to be appropriate for SAM going forward.

1. INTRODUCTION AND PURPOSE

This document sets out the recommendations of the Capital Requirements task group with respect to the standard formula capital requirement in respect of Retrenchment risk, which is defined as the risk of loss, or of adverse changes in the value of insurance liabilities, resulting from changes in the level, trend or volatility of retrenchment inception rates used by insurers in pricing and valuing benefits provided under retrenchment policies. This risk is considered more prevalent in South Africa compared to the EU as a result of the higher exposure to this risk in as far as specific retrenchment benefits are offered under insurance contracts sold by South African insurers.

2. INTERNATIONAL STANDARDS: IAIS ICPs

IAIS is the international standards setting body for insurance supervisors. The FSB as a member of the IAIS aims to adhere to these standards. The standards are principled based and set out high level guidance on the setting of solvency capital requirements. There is no reference to the detailed capital requirements of individual risk sub-modules such as retrenchment risk. However, the following are relevant within the broad framework of the capital requirements, of which underwriting risk (and retrenchment risk as a sub-module)

[1] Discussion Document 108 (v 4) was approved as a FINAL Position Paper by the SAM Steering Committee on 27 March 2015.

form part (reference: "Insurance Core Principles, Standards, Guidance and Assessment Methodology – 1 October 2011"):

> **ICP 17 Capital Adequacy**
>
> *The supervisor establishes capital adequacy requirements for solvency purposes so that insurers can absorb significant unforeseen losses and to provide for degrees of supervisory intervention.*

Some sub-points in this standard that should be considered includes:

> *17.7 The supervisor address all relevant and material categories of risk and are explicit as to where risks are addressed, whether solely in technical provisions, solely in regulatory capital requirements or if addressed in both, as to the extent to which the risks are addressed in each. The requirements are also explicit as to how risks and their aggregation are reflected in regulatory capital requirements.*

Types of risks to be addressed:

> *17.7.1 The supervisor should address all relevant and material categories of risk - including as a minimum underwriting risk, credit risk, market risk, operational risk and liquidity risk. ….*
>
> *17.8 The supervisor sets out appropriate target criteria for the calculation of regulatory capital requirements, which underlie the calibration of a standardised approach…*
>
> *17.8.1. The level at which regulatory capital requirements are set will reflect the risk tolerance of the supervisor. Reflecting the IAIS's principles-based approach, this ICP does not prescribe any specific methods for determining regulatory capital requirements…*

Calibration and measurement error:

> *17.8.9. The risk of measurement error inherent in any approach used to determine capital requirements should be considered. This is especially important where there is a lack of sufficient statistical data or market information to assess the tail of the underlying risk distribution. To mitigate model error, quantitative risk calculations should be blended with qualitative assessments, and, where practicable, multiple risk measurement tools should be used. To help assess the economic appropriateness of risk-based capital requirements, information should be sought on the nature, degree, and sources of the uncertainty surrounding the determination of capital requirements in relation to the established target criteria.*
>
> *17.8.10. The degree of measurement error inherent, in particular, in a standardised approach depends on the degree of sophistication and granularity of the methodology used. A more sophisticated standardised approach has the potential to be aligned more closely to the true distribution of risks across insurers. However, increasing the sophistication of the standardised approach is likely to imply higher compliance costs for insurers and more intensive use of supervisory resources (for example, in validating the calculations). The calibration of the standardised approach therefore needs to balance the trade-off between risk sensitivity and implementation costs.*

3. EU DIRECTIVE ON SOLVENCY II: PRINCIPLES (LEVEL 1)

Relevant extracts from the Solvency II level 1 principles are provided below. As is the case with the IAIS core principles, these requirements are in nature of a higher level than required for the establishment of detailed requirements of the Retrenchment risk sub-module of the Life Underwriting risk module within the capital requirements. However, it provides the broad framework within which these requirements are to be considered.

Article 101

Calculation of the Solvency Capital Requirement

3. The Solvency Capital Requirement shall be calibrated so as to ensure that all quantifiable risks to which an insurance or reinsurance undertaking is exposed are taken into account. It shall cover existing business, as well as the new business expected to be written over the following 12 months. With respect to existing business, it shall cover only unexpected losses.

It shall correspond to the Value-at-Risk of the basic own funds of an insurance or reinsurance undertaking subject to a confidence level of 99,5 % over a one-year period.

4. The Solvency Capital Requirement shall cover at least the following risks:

(a) non-life underwriting risk;

(b) life underwriting risk;

(c) health underwriting risk;

(d) market risk;

(e) credit risk;

(f) operational risk.

5. When calculating the Solvency Capital Requirement, insurance and reinsurance undertakings shall take account of the effect of risk-mitigation techniques, provided that credit risk and other risks arising from the use of such techniques are properly reflected in the Solvency Capital Requirement.

Article 105

Calculation of the Basic Solvency Capital Requirement

3. The life underwriting risk module shall reflect the risk arising from life insurance obligations, in relation to the perils covered and the processes used in the conduct of business.

Article 109

Simplifications in the standard formula

Insurance and reinsurance undertakings may use a simplified calculation for a specific sub-module or risk module where the nature, scale and complexity of the risks they face justifies it and where it would be disproportionate to require all insurance and reinsurance undertakings to apply the standardised calculation.

Simplified calculations shall be calibrated in accordance with Article 101(3).

4. MAPPING ANY PRINCIPLE (LEVEL 1) DIFFERENCES BETWEEN IAIS ICP & EU DIRECTIVE

While the EU Directive is in line with the IAIS core principles, we note that retrenchment risk is not covered as a separate sub-module of the Life underwriting risk in the EU Directive.

5. STANDARDS AND GUIDANCE (LEVELS 2 & 3)

5.1 IAIS standards and guidance papers

This was covered in section 2 above[2].

5.2 CEIOPS CPs (consultation papers)

This risk was not considered within the European context.

5.3 Other relevant jurisdictions (e.g. OSFI, APRA)

Retrenchment risk is not addressed within the capital requirements frameworks of OSFI and APRA. No guidance from other jurisdictions was considered.

5.4 Mapping of differences between above approaches (Level 2 and 3)

Not applicable.

6. ASSESSMENT OF AVAILABLE APPROACHES GIVEN THE SOUTH AFRICAN CONTEXT

6.1 Discussion of inherent advantages and disadvantages of each approach

Not applicable.

6.2 Impact of the approaches on EU 3rd country equivalence

Not applicable.

6.3 Comparison of the approaches with the prevailing legislative framework

Not applicable. Retrenchment risk is not addressed within the current CAR regime.

6.4 SA QIS2 approach and feedback

Calibration

Due to the lack of statistically credible data on retrenchment rates in South Africa a pragmatic approach was taken and a 50% shock to retrenchment inception rates was tested for SA QIS2.

[2] The IAIS Insurance Core Principles, Standards, Guidance and Assessment Methodology issued October 2011 has superseded previous Standards and Guidance (in this case Standard No. 2.1.1 and Guidance paper No. 2.1.1 on the structure of regulatory capital requirements).

QIS2 feedback

The SA QIS2 report[3] indicated that Retrenchment risk was the 2nd smallest component of Life underwriting risk (after Revision risk), comprising less than 0.5% of undiversified Life SCR. Although 15 insurers completed the retrenchment risk calculation, the results of the calculation is relatively low. The total retrenchment risk capital calculated by the 15 insurers is R0.4bn. This represents 3.3% of the SCR for the insurers who completed the retrenchment risk calculation.

All insurers who raised concerns on the calculation were concerned that the calculation was understating the risk. In particular the following points were raised:

- The calculation did not allow for either concentration or catastrophe risk.
- The calculation did not reflect the cyclicality of retrenchment risk. There was a view that an increase in the retrenchment rates would be more severe than the parameters suggested in SA QIS2, but would last for a shorter time period.

6.5 SA QIS3 approach and feedback

The calibration of the retrenchment risk sub-module remained unchanged from SA QIS2. Overall, 22 of the respondents reported exposure to this risk in SA QIS3, with exposures varying between 1% and 19% of the total Life Underwriting risk SCR. While aggregate figures for the risk are not yet available for the industry as a whole, it is expected that the overall size of this risk has not changed materially from SA QIS2.

No new concerns were raised with the calibration of this risk in the SA QIS3 feedback, although a comment was made around the lack of a simplifications section in the technical specifications. The working group's recommendation has been amended to include a simplification.

6.6 Conclusions on preferred approach

Given the relatively small exposure in the SA industry to Retrenchment risk overall, the task group considered whether the sub-module should be retained in the standard formula for SAM going forward, and if so, to what level of detail the specification and calibration should be developed.

The task group noted that, while Retrenchment risk is not significant across the industry as a whole, it may be significant for some insurers. The task group therefore recommends that Retrenchment risk be retained as a separate sub-module while at the same time, in recognition of the relatively small part of industry risk capital represented by the sub-module, avoiding spurious efforts to develop the calibration by keeping the calibration high-level and pragmatic. The task group notes that, in this regard, those insurers for whom retrenchment is a significant risk should address this via a partial internal model or the ORSA.

Given the above the task group considers the approach and calibration tested in QIS2 and QIS3 to be appropriate for SAM going forward.

7. RECOMMENDATION

Retrenchment Risk

[3] SAM: Report on the results of 2nd South African Quantitative Impact Study ("SA QIS2")

Description

Retrenchment risk is the risk of loss, or of adverse changes in the value of insurance liabilities, resulting from changes in the level, trend or volatility of retrenchment inception rates.

Impairments should be made to the risk mitigating effect of risk mitigating contracts, as specified in [*Reference to relevant secondary legislation related to SA QIS3 specification paragraph* SCR.5.].

Input

No specific input data is required for this module.

Output

The module delivers the following output:

$Life_{ret}$ = Capital requirement for retrenchment risk

Calculation

The capital requirement for retrenchment risk is determined as follows:

$$Life_{ret} = (\Delta BOF | RETshock)$$

where:

ΔBOF	=	Change in the value of Basic Own Funds (BOF)
BOF	=	Basic Own Funds (BOF) is the excess of assets over liabilities, valued in accordance with SAM rules, plus subordinated liabilities, less any exclusions from Own Funds.
RETshock	=	A permanent 50% increase in retrenchment inception rates, compared to best estimate assumptions, for each age and each policy where the payment of benefits (either lump sum or multiple payments) is contingent on retrenchment risk

Simplification

The simplification may be used provided the following conditions are met:

(a) The simplification is proportionate to the nature, scale and complexity of the risks that the insurer faces; and

(b) The standard calculation of the retrenchment risk sub-module is an undue burden for the insurer; or

The capital requirement for retrenchment risk according to the simplified calculation is calculated as follows:

$$Life_{ret} = 0.5 * CAR * q * n$$

where:

CAR denotes the total positive capital at risk, calculated as the difference between the following amounts (a) and (b):
(a) The sum of:

i. the amount that the insurance or reinsurance undertaking would currently pay in the event of the person(s) insured being retrenched, after deduction of the amounts recoverable from reinsurance contracts and special purpose vehicles; and

ii. the expected present value of amounts not covered in the previous indent that the undertaking would pay in the future in the event of the person(s) insured being retrenched, after deduction of the amounts recoverable from reinsurance contracts and special purpose vehicles;

(b) the best estimate of the corresponding liabilities after deduction of the amounts recoverable form reinsurance contracts and special purpose vehicles;

(c) q is an insurer-specific expected average retrenchment rate over the next year. ,

(d) n is the modified duration of the liability cash-flows *n*, where *n* is subject to a minimum of 1.

The simplified calculation above may be assessed net of an allowance for future management actions.