Solvency Assessment and Management:

Steering Committee

Position Paper 68[1] (v 4)

SCR: Simplifications for First Party Insurance Structures

1. INTRODUCTION AND PURPOSE

This document contains the proposed approach to simplifications for:

- Captive insurance companies[2] (frequently referred to as a *captive*);
- first party cells within a cell captive insurer[3] (frequently referred to as a *first party cell captive*) or within a typical insurer; and
- first party contingency policies (frequently referred to as *rent-a-captive*)

(where these are collectively called **"first party insurance structures**" throughout the document) relating to the standardised model for the calculation of the solvency capital requirement (SCR) for both life and non-life insurance companies.

The document summarises the approach under Solvency II and selected other regulatory regimes in order to inform the development of forthcoming South African legislation to ensure that it is consistent with international standards. It considers business relating to first parties only.

In the view of the Working Group the SCR of a captive insurance company that writes any business to third parties (e.g. underwriting risks of its customers) must be calculated without applying these proposed simplifications.

If a cell captive (or typical) insurer can't identify its first and third party cells separately it will have to calculate its SCR in total without applying these proposed simplifications.

The SCR for cells (within a cell captive insurer) that write business to both first and third parties in the same cell must be calculated without applying these proposed simplifications.

If an insurer can't identify its first party contingency policies separately, those policies will have to be grouped with all other policies and the SCR calculated without applying these proposed simplifications.

[1] Discussion Document 68 (v 4) was approved as a FINAL Position Paper by the SAM Steering Committee on 30 June 2015.
[2] An example is AECI Captive Insurance Company Limited.
[3] An example is a first party cell within an insurer such as Centriq (where Centriq is the cell captive insurer).

The FSB's primary concern is for the risk exposure of "the man in the street." One of the key features of a first party insurance structure is that only the parent company is at risk - the parent company bears the ultimate responsibility for the risks underwritten by the facility. In addition, the principles of ring-fenced funds need to be applied to first party insurance structures.

2. INTERNATIONAL STANDARDS: IAIS ICPs

There are no specific ICPs on first party insurance structures although most ICPs will be applicable (as captives and cell captive insurers are still insurers and insurers issue contingency policies).

An ICP that is particularly relevant to this paper is ICP 17 (Capital Adequacy) where, amongst other things, proportionality is addressed:

ICP 17.6.8: *Standardised approaches, in particular, should be designed to deliver capital requirements which reasonably reflect the overall risk to which insurers are exposed, while not being unduly complex. Standardised approaches may differ in level of complexity depending on the risks covered and the extent to which they are mitigated or may differ in application based on classes of business (e.g. life and non-life). Standardised approaches should be appropriate to the nature, scale and complexity of the risks that insurers face and should include approaches that are feasible in practice for insurers of all types including small and medium sized insurers and captives taking into account the technical capacity that insurers need to manage their businesses effectively.*

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

The Solvency II Directive contains the following articles pertaining to simplifications for captive insurance and reinsurance undertakings which should be considered for input for SAM primary legislation.

Article 109: "Simplifications in the standard formula"

- ***109:*** *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).

Article 111: "Implementing Measures"

- ***111.1:*** *In order to ensure that the same treatment is applied to all insurance and reinsurance undertakings calculating the Solvency Capital Requirement on the basis of the standard formula, or to take account of market developments, the Commission shall adopt implementing measures providing for the following:*
  (l) *the simplified calculations provided for specific sub-modules and risk modules, as well as the criteria that insurance and reinsurance undertakings, including captive insurance and reinsurance undertakings, shall be required to fulfil in order to be entitled to use each of those simplifications, as set out in Article 109;*

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

There are no apparent contradictions. As ICP 17 is a principle-based standard rather than a technical specification, Solvency II is far more specific in terms of the specifying the simplifications in the standard model for the calculation of the solvency capital requirement for captive insurance and reinsurance undertakings (as defined in Solvency II).

5. STANDARDS AND GUIDANCE (LEVELS 2 & 3)

5.1 Draft Solvency II level 2 text

Article 78 SCRSC1 (Art. 109 of Directive 2009/138/EC) on general provisions for simplifications for captives states the following:

Subject to the captive insurance or reinsurance undertaking complying with Article SCRS1, simplifications which are specifically made available to captive insurance and reinsurance undertakings shall apply only to captive insurance and reinsurance undertakings as defined in Article 13 of Directive 2009/138/EC that meet the following requirements:

(a) in relation to the insurance obligations of the captive insurance undertaking, all insured persons and beneficiaries are legal entities of the group of the captive insurance or reinsurance undertaking and were also legal entities of that group at the time the relevant contract was entered into;

(b) in relation to the reinsurance obligations of the captive insurance or reinsurance undertaking, all insured persons and beneficiaries of the insurance contract underlying the reinsurance obligations are legal entities of the group of the undertaking and were also legal entities of that group at the time the underlying contract was entered into;

(c) the insurance obligations of the captive insurance undertaking and the insurance contract underlying the reinsurance obligations of the insurance or reinsurance captive undertaking do not relate to any compulsory third party liability insurance.

Other simplifications that are outlined in the draft level two text are listed below (extracts of these sections are given in Annexure 1 to this discussion document):

- Simplified calculation for captive insurance and reinsurance undertakings of the capital requirement for non-life premium and reserve risk - *Article 84 SCRSC2* (Art. 109 of Directive 2009/138/EC)
- Simplified calculation of the capital requirement for interest rate risk for captive insurance or reinsurance undertakings - *Article 148 SCRSC3* (Art. 109 of Directive 2009/138/EC)
- Simplified calculation for captive insurance or reinsurance undertakings of the capital requirement for spread risk - *Article 158 SCRSC4* (Art. 109 of Directive 2009/138/EC)
- Simplified calculation of the capital requirement for market risk concentration for captive insurance or reinsurance undertakings - *Article 171 SCRSC5* (Art. 109 of Directive 2009/138/EC)

5.2 COMMISSION DELEGATED REGULATION (EU) 2015/35 of 10 October 2014

Commission Delegated Regulation (EU) 2015/35 supplementing the Solvency II Directive has been published in the Official Journal of the EU. The Regulation entered into force on 18 January 2015.

Article 89 General provisions for simplifications for captives

Captive insurance undertakings and captive reinsurance undertakings as defined in points (2) and (5) of Article 13 of Directive 2009/138/EC may use the simplified calculations set out in Articles 90, 103, 105 and 106 of this Regulation where Article 88 of this Regulation is complied with and all of the following requirements are met:

(a) in relation to the insurance obligations of the captive insurance undertaking or captive reinsurance undertaking, all insured persons and beneficiaries are legal entities of the group of which the captive insurance or captive reinsurance undertaking is part;

(b) in relation to the reinsurance obligations of the captive insurance or captive reinsurance undertaking, all insured persons and beneficiaries of the insurance contracts underlying the reinsurance obligations are legal entities of the group of which the captive insurance or captive reinsurance undertaking is part;

(c) the insurance obligations and the insurance contracts underlying the reinsurance obligations of the captive insurance or captive reinsurance undertaking do not relate to any compulsory third party liability insurance.

The simplified calculations outlined in the regulation are listed below:

- Article 90 Simplified calculation for captive insurance and reinsurance undertakings of the capital requirement for non- life premium and reserve risk
- Article 103 Simplified calculation of the capital requirement for interest rate risk for captive insurance or reinsurance undertakings
- Article 105 Simplified calculation for captive insurance or reinsurance undertakings of the capital requirement for spread risk on bonds and loans
- Article 106 Simplified calculation of the capital requirement for market risk concentration for captive insurance or reinsurance undertakings

5.3 Comments from QIS5

The analysis of the results of QIS5 did not give detailed results for captives separately. Some of the sections that relate to captive insurance or reinsurance undertakings are quoted below:

"There were also a couple of comments on the captives simplifications: that for interest rate risk, factors rather than just the simplified durations should be given, and that for shocks on technical provisions, durations should be given."

"Comments on proportionality principle:

A considerable number of countries felt that further guidance on the proportionality principle and the use of simplifications would be useful. Some felt this was necessary in order to ensure simplifications were not used inappropriately, although others emphasised that this had to be balanced with sufficient flexibility in the criteria to ensure that simplifications could be used where needed.

A few countries noted that the criteria for using the simplifications could be paradoxical, in that in some cases you could not demonstrate that the criteria were met without performing the calculation that the simplification was intended to circumvent. Another comment suggested that the criteria be based on the relative impact of the module on the SCR rather than the size of the undertaking."

"10.5.2. Additional simplifications suggested

There were a number of areas in which undertakings requested or suggested additional simplifications, often to elements of the standard formula which were seen to be particularly complex. Some supervisors noted that in some of these cases what was really needed was a reduction in the complexity of the standard formula, rather than additional simplifications being made available, expressing their concern that offering more choices to the standard formula might impair the comparability of results."

5.4 IAIS standards and guidance papers

In the IAIS *'Issues Paper on the Regulation and Supervision of Captive Insurance Companies'*, dated October 2006, the following is relevant for consideration on the topic of solvency for first party insurance structures:

"6.8 Solvency

- ***154:*** *As outlined in ICP 23, it is important for a supervisor to ensure that solvency levels are appropriate for the protection of policyholders. In the case of a captive insurer there may be less risk, or in many cases no risk, to external stakeholders in the event of the failure of a captive. When there is no third party or unrelated party to protect, it seems unreasonable to require a captive to tie up unnecessary capital. The captive also poses significantly less risk to the financial system. The insurance risk in a captive will be more closely evaluated and more tightly controlled through the parent company's risk mitigation and management efforts than can be the case in a commercial insurer. Captive supervisors normally ensure that sufficient recognition and importance is given to the adequacy and security of any reinsurance arrangements in place since any failure of these will impact upon the ability of the captive to meet its liabilities.*

- ***160:*** *A jurisdiction will have regulations in place to enforce a minimum level of capital for captives. This minimum level will be based on the overall level of risk retained by the captive, which may be measured in terms of the risk exposure or by the size of premium income or technical provisions. When third party or unrelated party business is written by a captive, the risk profile is significantly altered and this will be reflected in the solvency requirements."*

5.5 CEIOPS Consultation Papers and Quantitative Impact Studies

CEIOPS-DOC-74/10 ("Advice for Level 2 Implementing Measures on Solvency II: SCR Standard Formula, Article 111(j) Simplifications/Specifications for captives") published in January 2010 aims at providing advice with regard to simplified calculations for the calculation of the solvency capital requirement for captive insurance and reinsurance undertakings as requested in Article 111 (l) of the Solvency II Level 1 text.

The objective of this paper is to elaborate on possible simplifications for the calculation of the solvency capital requirement for captive insurance and reinsurance undertakings, due to their specific business model. However, the provisions included in this advice are not to be understood to prevent captive insurance and reinsurance undertakings from applying other simplifications developed for non-captive insurance and reinsurance undertakings, which might be stated in other Level 2 or Level 3 measures.

Simplifications suggested in this advice may be applied by entities meeting the definition of captive insurance and reinsurance undertakings as stated in Article 13(2) and 13(5) of the Level 1 text. In addition, the particular simplification should be proportionate to the nature, scale and complexity of the risks inherent in business of the captive insurance and reinsurance undertaking. The assessment of proportionality should take into account the defining characteristics of a captive insurance and reinsurance undertaking as stated in Article 13.

5.6 Other relevant jurisdictions

Bermuda Monetary Authority

The following extracts were made from the Bermuda Monetary Authority's update on its Solvency II Equivalence project:

"At the current time we consider the regime we operate for captives to be appropriate for the risks inherent in that sector. Further, we continue to believe that our regime is consistent with global regulatory standards for captives. However, given the importance of the captive sector to Bermuda, it is vital in light of developing international standards that we continue to monitor this area so that we are in a position to proactively manage the scope and nature of change required. We propose in due course to undertake an analysis of our existing regime for captives and to benchmark this against existing and developing international regulatory practices when these are clearer. We are committed to working with the captive market to achieve the right result for Bermuda, and will ensure robust application of the proportionality principles to ensure an appropriately measured response" **(2009 update)**

"*EIOPA also made a distinction between the commercial and captive sector regimes, finding the captives regime out of scope for equivalence with Solvency II principles. Given that the Authority has focused its framework enhancements on the commercial sector, this was a positive and appropriate result for Bermuda, recognising the diverse and unique nature of this market. Subsequent indications that the European Commission has the ability to grant bifurcated equivalence under Solvency II also align with that result."* **(2012 update)**

From the above updates the Work Group concluded that no changes are currently being made by the BMA to align the Solvency II requirements with the BMA's requirements in terms of Captive Insurers.

5.7 Mapping of differences between above approaches

There is no contradiction between Solvency II and IAIS guidance. The Solvency II documentation is more specific about the methods that should be used in simplifying the calculation of the solvency capital requirement for captive insurance and reinsurance undertakings. The IAIS documentation provides guidance on the simplification of the standardised model, but gives little advice on the specification of the model.

6. ASSESSMENT OF AVAILABLE APPROACHES GIVEN THE SOUTH AFRICAN CONTEXT

6.1 The South African Environment

6.1.1 Definitions

It is necessary to define the terms "Cell Captive insurer", "Cell" and "Captive Insurance Company" to understand how these structures differ from a "typical"

insurance company. It is also important to note the difference between first and third party business (especially since this paper relates to first party business only).

6.1.1.1 Cell Captive Insurer

A "*cell captive insurer*" is an insurance company (referred to as the 'cell provider' or 'promoter') whereby its insurance license is extended for use by other organisations (referred to as the 'cell owner') for the insurance of the organisation's own risks.

6.1.1.2 Cell

A "*cell*" means an equity participation in a specific class of shares of an insurer, which equity participation is administered and accounted for separately from other classes of shares.

6.1.1.3 First party cell

A "*first party cell*" is a cell where the shares issued to cell owners provide the cell owners with the ability to underwrite their risk and that of their subsidiaries. The cell owner is responsible for the funding of the cell and the cell should be maintained at such levels as may be required to ensure that the required solvency is maintained at all times. Claims are limited to funds available in the cell after providing for solvency as well as reinsurance cover arranged.

6.1.1.4 Third party cell

A "*third party cell*" is a cell where the shares issued to cell owners provide the cell owners with the ability to underwrite the risks of third parties. The source of the business underwritten is usually from a captured client base. Claims in a third party cell are not necessarily limited to the funds available in the cell captive.

6.1.1.5 Captive Insurance Company

In the *Issues Paper on the Regulation and Supervision of Captive Insurance Companies (October 2006)* the IAIS provides the following definition of a Captive:

"In the most simple form a captive can be described as a wholly owned insurance entity that covers the risks of its parent." (IAIS, 2006)

The following definition of a captive is set out in the IAIS standards on enhanced disclosure:

"For the purpose of this standard, "captive" shall mean an insurance or reinsurance entity created and owned by one or several industrial, commercial or financial entities, other than an insurance or reinsurance group entity, the purpose of which is to provide insurance or reinsurance cover for risks of the entity or entities to which it belongs, and only a small part, if any, of its risk exposure is related to providing insurance or reinsurance to other related parties." (IAIS, 2006)

For the purposes of SAM it is recommended that the definition above is adapted slightly as follows:

A *"captive insurance company"* means an insurance or reinsurance entity created and owned by one or several industrial, commercial or financial entities, other than an insurance or reinsurance group entity, the purpose of which is to provide insurance or reinsurance cover for risks of the entity or entities to which it belongs, and only a small part, if any, of its risk exposure is related to providing insurance or reinsurance to other related parties where the other related parties are limited to the employees of the entity or entities to which it belongs.

6.1.1.6 Contingency Policy/Rent-a-captive

In the discussions which follow, a "first party contingency policy" will be treated as being equivalent to a "first party cell." (Contingency policies do not cover third parties.)

A company that purchases a contingency policy purchases cover for the risk of that particular company only. Note that the policy itself is issued by an independent insurer.

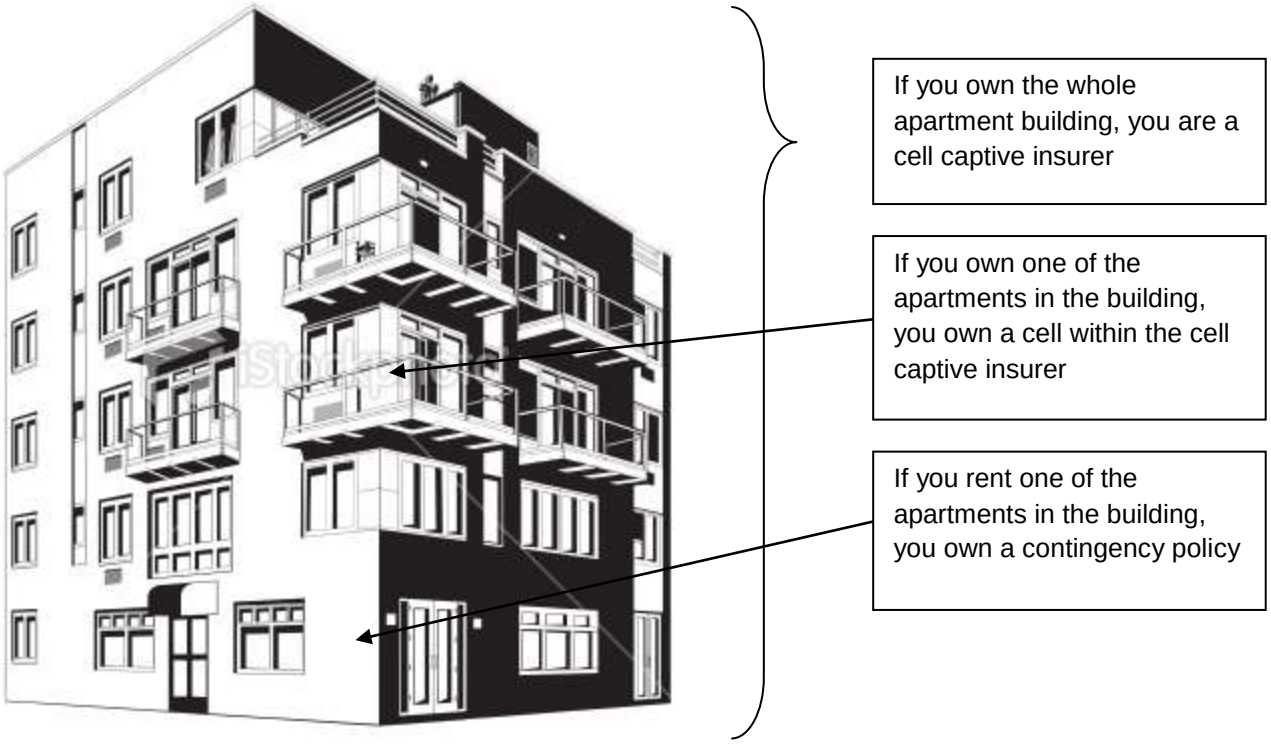
A contingency policy/rent-a-captive is defined as follows:

A *"contingency policy"* is an insurance policy providing the protection of any other insurance policy, but with the added benefit of allowing the client to share in underwriting profits based on favourable claims experience and implementation of sound risk management principles. Each contingency policy is normally written for a one year period and may be used to insure multiple risks. It is typically used to provide for the primary layers of an insurance programme or for "difficult to insure" risks. Contingency policies may be issued as stand alone or as part of an arrangement whereby reinsurance is structured above the layers provided by the contingency policy. At renewal or cancellation a performance bonus could be declared, based on the claims experience.

The intention of the policy is to create insurance capacity for the insured over a number of years, which provides the client with the means of negotiating a better insurance rate in the conventional market.

6.1.1.7 *Analogy*

The definitions can be further explained by way of the following analogy:



6.1.2 Features of the South African Market

First party insurance structures are available in many jurisdictions, both onshore and offshore. Although legislation differs in the different jurisdictions, the basic premise for cells is the same across domiciles: assets and liabilities of one cell are legally separated from the assets and liabilities of any other cell, i.e. if one cell should go insolvent then creditors would not be able to lay claim to assets belonging to other cells.

There is no special regulatory dispensation for first party insurance structures in South Africa. Rather, first party insurance structures are regulated by the FSB through specific licence conditions for those insurers who wish to offer such structures. In the absence of any specific legislative or regulatory provision, various organisations have attempted to achieve through ‘shareholder agreements’ what specific first party insurance structure regulation would be doing.

6.1.3 Issues Abroad

The European Captive Insurance and Reinsurance Owner's Association ("ECIROA") recently entered into talks with the members of the Captive Insurance Companies Association ("CICA") about a joint lobbying effort on behalf of captives over concerns that the regulatory and compliance burdens on first party insurance structures may be disproportionately larger under Solvency II. The primary outcome might be that first party insurance structures have to increase their capital considerably, even though most underwrite relatively straightforward risks.

6.2 Reasons for Simplifications

First party insurance structures usually have a simple risk structure compared to a commercial (re)insurance undertaking. It is therefore believed that supervisors should develop a different and more appropriate supervisory approach to first party insurance structures taking into consideration their nature and purpose.

This should not be linked to the size of the first party insurance structures but to the nature, scale and/or complexity of the risks supported via the first party insurance structure.

First party insurance structures are generally limited in size and day-to-day management is normally outsourced. Fully implementing SAM for first party insurance structures would substantially increase running costs and may make it financially unattractive.

6.2.1 Ultimate Risk Borne by the Parent Company

A first party insurance structure only underwrites the risks of its parent company and therefore operates as 'an extension' of that company's balance sheet. The ultimate risks lie with the parent entity and hence the parent company guarantees all future claim payments, to the extent that the parent company is itself solvent.

To this end some argue that the only risk exposure of the cell is credit risk (including both parental credit risk and reinsurance credit risk). Credit risk is well defined and could be modelled using the standard formula.

Note that it is likely that the first party insurance structure would still be exposed to investment risk to the extent that the normal insurance entities relies on investment growth and returns to grow its capital base.

The regulations would need to specify criteria for the type of the risks underwritten by the first party insurance structure, which, if met, would permit the simplifications to be applied (to ensure no third party risks are inadvertently exposed).

6.2.2 Reduced Operational Risks

Many first party insurance structures will not be able to develop an internal model which could take into account the peculiarities of this risk management tool. It is therefore very important that new solvency rules are adopted for first party insurance structures in a way that will not penalise them for operating in a niche where the target risks of SAM are insignificant.

The operational risk for a first party insurance structure is low due to its simple structure and to the fact that it normally has no employed personnel. This simple structure does not support sophisticated internal functions.

6.2.3 Better Management of Risks

By insuring its risk through a first party insurance structure, the parent company may subject itself further to the disciplines of risk evaluation and measurement which will help it to improve its risk management and control, as well as improve cash flow management and potentially reduce costs.

Furthermore, the frequent problem of a lack of communication between the insurer and the insured is improved for first party insurance structure as they are close to the insured and are normally part of the same corporate group.

6.2.4 Importance of Reinsurance

The majority of risks underwritten by the first party insurance structure are reinsured, especially catastrophe and liability exposures. First party insurance structures make extensive use of non-proportional reinsurance.

6.2.5 Acceptance of Higher Loss Ratio

Per the IAIS:

"A captive can operate at reduced expense compared with traditional commercial insurers because it will probably not have marketing expenses. It will benefit from lower personnel costs, lower underwriting expenses, lower overhead expenses and be willing to accept a minimal underwriting profit. Consequently a captive can accept risk at a higher loss ratio than the traditional market is willing to accept."

This means that the risks underwritten by the first party insurance structure could be very different to those underwritten by typical insurers, which gives each first party insurance structure a different risk profile. Again this is an indication that the standard solvency requirement calculation may not be applicable without modification.

6.2.6 No Cross-Subsidy of Risk

The first party insurance structure is not affected by the potentially poor risk management practices of other parties, as can be the case when obtaining insurance from commercial insurers.

6.3 Results from SA QIS2

6.3.1 Analysis of SA QIS2 qualitative information

Insurers felt that there should be a difference in treatment of first and third party cells as well as contingency policies, the main reason being that these structures represent different risk levels.

A first party/contingency policy arrangement is seen as having limited risk transfer and minimal insurance risk. Insurance losses are strictly limited to the limit on the cell/contingency policy and credit risk exists to the extent that the cell/contingency policy limit exceeds the fund balance. It is proposed that the level of regulatory protection under these structures to be less onerous than that of third party cells.

A third party arrangement is perceived to operate like a conventional insurance company, thus having exposure to all typical insurance risks.

Regarding contingency policies, insurers state that these should not be ring-fenced individually as they are un-capitalised facilities written directly with promoter capital. The suggestion is made that if ring-fencing is introduced, all contingency policies should be aggregated into a “promoter capital” ring-fenced fund.

Another proposal was made that all three structures should not be treated as ring-fenced funds. The promoter would then be tasked with establishing that there is adequate operational ring-fencing to avoid cross-subsidisation on a going-concern basis. The approach requiring disclosure for any under-capitalised cells and providing an explanation of the measures in place could be adopted by short term insurers under SAM. This would give the regulator an idea of individual cells’ solvency.

Most insurers saw the suggested simplification as a worthy addition to SA QIS2; however there were diverse opinions on whether the simplification is done correctly and how it can be improved.

Some insurers felt that the simplification includes the fact that captive insurers operate differently than the standard insurers and that it also tries to capture the limited risk transfer nature of first party cells, while allowing for reinsurance default. It was felt that the capital level, as calculated, reflected an accurate amount of capital for solvency purposes.

On the other hand some insurers felt that the current simplification is not appropriate for their business.

Difficulties experienced by insurers were mainly errors on the QIS2 template, challenges to estimate needed loss ratios given little data, no clarity on how to adjust net aggregate retention for default risk and no clarity on how factors were calibrated. It was also mentioned that the liability restriction is not necessary.

Proposals for improving the simplification were as follows:

Taking account of sum insured as an exposure measure or another measure if this seems inappropriate. The reason being that it might be incorrect to only take account of the cell/policy aggregate limit.

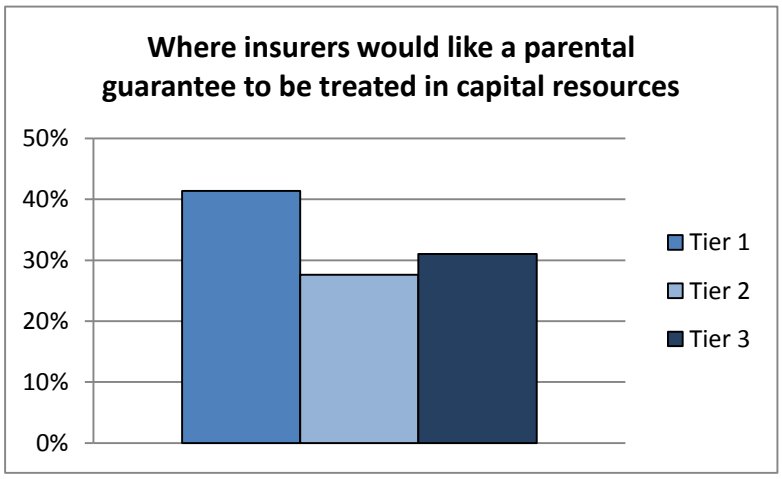
Currently the simplification formula applies a factor to the aggregate limit and then deducts the maximum of net written premium and the experience account balance. This allows for a negative SCR amount, which would be adjusted to zero. It is suggested to rather apply the factor to the difference between the aggregate limit and the maximum of net written premium and the experience account balance.

Insurers answered the query regarding where a parental guarantee between a first party insurance structure and its parent should be treated in capital resources as per the table below:

Percentage of insurers that would not like parental guarantee included in capital	21.6%
Percentage of insurers that would like a guarantee to be included and tiered	78.4%

21.6% of insurers do not think a parental guarantee should be treated in capital resources at all.

Of the 78.4% of insurers that would like parental guarantees to be included and tiered, the following graph indicates how it would be treated by insurers:



41% of insurers think that a parental guarantee between a first party insurance structure and its parent should be allocated in capital resources under Tier 1, whereas 28% believe it should be under Tier 2 and 31% believe it should be under Tier 3.

Answers were justified as follows using the criteria in the Own Funds section set out in the SA QIS2 technical specification.

Most insurers felt that parental guarantees should be classified under Tier 1 Basic Own Funds. Insurers mentioned that parental guarantees could cause an acceleration of the insolvency of an insurer if guarantees are not available at the time of a breach of the Solvency Capital Requirement. It was also mentioned that no parental guarantees are included in the 1st party cells' balance sheet; and since cover is provided to the parent it would not be in the interest of the parent to default because they would only penalise themselves.

As previously mentioned, 41% of insurers believe a parental guarantee between a first party insurance structure and its parent should be allocated in capital resources under Tier 1.

A further percentage division between SCR, Total Technical Provisions and Assets was requested, however the data received from insurers was inadequate to analyse.

6.3.2 Analysis of SA QIS2 quantitative information

SA QIS2 tested a specific simplification for non-life first-party insurance structures. The result of the simplified calculation replaces the standard formula's non-life premium and reserving risk, lapse risk and catastrophe risk components of the non-life underwriting risk capital requirement of the SCR. The simplification formula ensures that the SCR relating to first-party insurance structures plus the premium received is equal to the total net retention multiplied by a factor (which depends on the historic loss experience of the class of business). An additional limit is introduced by requiring that the total non-life underwriting capital requirement is at least 80% of the liability class' net retention. The simplification does not allow for diversification between lines of business within a first-party insurance structure or between different first-party insurance structures within a single legal entity.

The simplification resulted in a non-life underwriting risk component which is around 25% less than that of the standard formula's non-life underwriting risk component. The reduction is more pronounced for captives than for cell insurers. When the simplified non-life underwriting risk component is reinserted into the standard formula, the revised SCR is on average 20% less than the result of the standard formula (without any simplification). Although the simplification resulted in a lower SCR compared to the standard formula, the revised SCR is still much higher than the current capital requirement for this group of insurers. The revised SCR is approximately three times higher than the current capital requirement for captives and 26% higher for cell insurers. **{Extracted from the SAM QIS 2 Report}**

6.4 Results from SA QIS3

6.4.1 Analysis of the SA QIS 3 results

Background

First party insurance structures were required to complete the full standard formula SCR calculation as well as the simplification described in this section. The results from the simplification were for information purposes only and not used in the overall SCR calculation. Insurers who completed the simplifications as described in the section were encouraged to also complete the information request for cells with regard to ring-fenced funds. This allowed a comparison of the results from the standard formula and the simplifications.

The application of the simplifications was limited to first party insurance structures, or that portion of the business written by the insurer which relates to business which can be defined as the business of a first party insurance structure. If an insurer could not separately identify its first party insurance structures, those structures were to be grouped with all other policies and the combined SCR calculated without applying the proposed simplifications.

At the time of writing this specification, the calibration for possible simplifications were not yet been finalised. However, the following simplification regarding the SCR were tested.

Errors

Both SA QIS2 and SA QIS3 contained formulae errors within the workbook:

For SA QIS3 the error was contained in row 311 of the worksheet 'RFF – Cells'; amongst others.

The formulae (in cell E311) current reads:

=IF(SUM(E1329:E1358)>0,SUM(E1329:E1358)*EXP(2.58*SQRT(LN((SQRT(MMULT(MMULT(TRANSPOSE(E1362:E1456),CorrLoB),E1362:E1456))/SUM(E1329:E1358))^2+1)))/SQRT((SQRT(MMULT(MMULT(TRANSPOSE(E1362:E1456),CorrLoB),E1362:E1456))/SUM(E1329:E1358))^2+1)-1,0)

The formulae should read:

=IF(SUM(F1264:F1358)>0,SUM(F1264:F1358)*(EXP(2.58*SQRT(LN((SQRT(MMULT(MMULT(TRANSPOSE(F1362:F1456),CorrLoB),F1362:F1456))/SUM(F1264:F1358))^2+1)))/SQRT((SQRT(MMULT(MMULT(TRANSPOSE(F1362:F1456),CorrLoB),F1362:F1456))/SUM(F1264:F1358))^2+1)-1),0)

This had the effect of increasing the premium and reserve risk. The error also affects third party cells.

Description

No simplifications were allowed in the calculation of the MCR. The proposed simplifications relate to non-life underwriting risk in the calculation of the standard formula's SCR only. The simplification was compared to non-life premium & reserving risk, lapse risk and catastrophe risk of the standard formula.

Input

The following input was required per First Party Insurance Structure:

NWP_{lob}	=	Net Written Premium (last year) for each LoB
EAB_{lob}	=	Experience Account Balance for each LoB (if applicable)
NAR_{lob}	=	Net Aggregate Retention for each LoB (where net relates to all reinsurance)
$NAR_{liability}$	=	Net Aggregate Retention for line of business "Liability"
NAR_Def_{lob}	=	Net Aggregate Retention for each LoB allowing for default risk of the relevant reinsurers. (Use default risk as specified in section SCR.5.9)
$Prem_{ret_lob}$	=	3-year average net written premium as a percentage of net aggregate retention per line of business (where the average is calculated as $\frac{\sum_1^3 NWP\ in\ year\ i}{\sum_1^3 Net\ aggregate\ retention\ in\ year\ i} * 100$)
$Losses_{ret_lob}$	=	3-year average net losses as a percentage of net aggregate retention per line of business (where the average is calculated as $\frac{\sum_1^3 Loss\ in\ year\ i}{\sum_1^3 Net\ aggregate\ retention\ in\ year\ i} * 100$)

Note

Net Aggregate Retention meant: The total sum insured after allowing for the effect of reinsurance arrangements.

Output

The module delivered the following output:

SCR_{nl_fpis}	=	Capital requirement for non-life underwriting risk for first party insurance structures

Calculation

Insurers with/as First party strucytures were required to perform both the following calculations:

Method 1:

Using the Inputs defined the following formulae must be calculated:

$$\mathrm{SCR_{lob}} = \max\left(0;\ \mathrm{Factor_{lob}} * \ \mathrm{NAR_{Def_{lob}}} - \max(\mathrm{NWP_{lob}}\ , \mathrm{EAB_{lob}})\right)$$

$$\mathrm{SCR_{nl_fpis_i}} = \sum_{\mathrm{lob}} \mathrm{SCR_{lob}}$$

$$\mathrm{SCR_{nl_fpis}} = \sqrt{\sum_{\mathrm{i}} \left(\mathrm{SCR_{nl_fpis_i}}\right)^2}$$

Method 2:

Using the Inputs defined the following formulae must be calculated:

$$SCR_{nl_fpis} = \left(\sum_{fpis} \max \sum_{lob} SCR_{lob}\ ; 80\% * NAR_{liability}\right)$$

$$SCR_{lob} = \max(0;\ Factor_{lob} * \ NAR_Def_{lob} \ - \max(NWP_{lob}, EAB_{lob})$$

Line of Business (lob)		Factor$_{lob}$			
		Losses$_{ret_lob}$ ≤ 15%	**15% < Losses$_{ret_lob}$ ≤ 50%**	**50% < Losses$_{ret_lob}$ ≤ 75%**	**Losses$_{ret_lob}$ > 75%**
1	Accident and Health	60%	90%	100%	100%
2	Motor – personal lines	40%	75%	90%	100%
3	Motor – commercial lines	40%	75%	90%	100%
4	Aviation	60%	90%	100%	100%
5	Marine	60%	90%	100%	100%
6	Rail	60%	90%	100%	100%
7	Transport	60%	90%	100%	100%
8	Agriculture	50%	80%	100%	100%
9	Engineering	60%	90%	100%	100%
10	Property – personal lines	50%	80%	100%	100%
11	Property – commercial lines	50%	80%	100%	100%
12	Liability – personal	65%	95%	100%	100%

	lines-professional indemnity, product liability and medical malpractice				
13	Trade credit, suretyship and guarantee	60%	90%	100%	100%
14	Consumer credit	60%	90%	100%	100%
15	Legal expenses	50%	80%	95%	100%
16	Travel insurance	50%	80%	95%	100%
17	Miscellaneous – Terrorism	50%	80%	95%	100%
18	Miscellaneous – Warranty	50%	80%	95%	100%
19	Miscellaneous - Other	50%	80%	95%	100%
20	Non-proportional reinsurance – marine, aviation, transport and rail (MAT)	60%	90%	100%	100%
21	Non-proportional reinsurance – property excluding terrorism	50%	80%	100%	100%
22	Non-proportional reinsurance – terrorism	50%	80%	95%	100%
23	Non-proportional reinsurance – liability	65%	95%	100%	100%

Results

In SA QIS3, the simplifications applicable to first party insurance structures were amended from the approach used in SA QIS2. The table below shows the impacts on capital requirements of the two methods which were used in SA QIS3:

	Captives	Cell Insurers	Total
Current Basis			
Current FSB Capital Requirement	477 615	529 497	1 007 112
Standard formula results			
Non-life underwriting risk	1 907 199	524 783	2 431 982
BSCR	2 220 709	3 132 284	5 352 993
SCR	2 360 852	2 859 054	5 219 906
Simplification Results			
Method 1			
NLUR Capital Requirement - 1st Party Structures	1 458 070	17 364	1 475 434
NLUR Capital Requirement - non 1st Party Structures	200 509	318 745	519 254
Total NLUR Capital Requirement	1 658 579	336 109	1 994 688
Revised BSCR	2 010 383	2 964 691	4 975 074
Revised SCR	2 150 526	2 691 461	4 841 987
Method 2			
NLUR Capital Requirement - 1st Party Structures	1 584 487	158 254	1 742 741
NLUR Capital Requirement - non 1st Party Structures	200 509	318 745	519 254
Total NLUR Capital Requirement	1 784 996	476 999	2 261 995
Revised BSCR	2 102 052	3 090 377	5 192 429
Revised SCR	2 238 853	2 817 147	5 056 000
Ratios			
Method 1: Revised NLUR as % of standard formula NLUR	87%	64%	82%
Method 1: Revised SCR as % of standard formula SCR	91%	94%	93%
Method 2: Revised NLUR as % of standard formula NLUR	94%	91%	93%
Method 2: Revised SCR as % of standard formula SCR	95%	99%	97%

The simplification methods were applied for calculating capital requirements for Non-Life Underwriting Risk (NLUR). The results show the impact of recalculating the BSCR and SCR using this revised NLUR capital requirement. For first-party captives, the two simplification methods resulted in a reduction of 13% and 6% respectively in the NLUR capital requirement as compared to the NLUR from the standard formula. When combined with the other elements of the SCR, the reduction from the SCR based on the standard formula changes to 9% for method 1 and 5% for method 2.

For cell captive insurers who provide first party insurance structures, method 1 results in a reduction of 36% in the capital required for NLUR using the standard formula. Due to the considerable contribution from non-first party insurance structures, the overall reduction in SCR is just 6%. Using method 2, the reduction in NLUR capital requirement is 9%, and the overall reduction in SCR is 1%.

6.5 Impact of the approaches on EU 3rd country equivalence

There is no evidence that the adoption of simplified standardised model for the calculation of the solvency capital requirement for first party insurance structures would impact 3rd country equivalence, since Solvency II itself is suggesting a simplified approach.

6.6 Comparison of the approaches with the prevailing legislative framework

Current legislation makes no specific allowance for simplifications for first party insurance structures.

6.7 Conclusions on preferred approach

The working group has concluded that a single method be used to calculate the non-life underwriting risk capital requirement. This method is a hybrid of the two methods tested in QIS3. In addition, the working group has agreed that a simplification for Concentration Risk for first party captive insurers be included which is based on the simplification specified within the Solvency II text.

The Own Funds task group has recommended that wholly-owned first party captive insurers should be allowed to apply to the FSB/Regulator for parental-guarantees to be authorised as Ancillary Own Funds; should they meet the standards and criteria as stipulated in final positon paper 25 – Supervisory Approval of Ancillary Own Funds. This working group is in agreement with this recommendation.

7. RECOMMENDATION

7.1 In the view of the Working Group the SCR of a captive insurance company that writes any business to third parties (e.g. underwriting risks of its customers) must be calculated without applying these proposed simplifications.

7.2 If a cell captive (or typical) insurer can't identify its first and third party cells separately it will have to calculate its SCR in total without applying these proposed simplifications.

7.3 The SCR for cells (within a cell captive insurer) that write business to both first and third parties in the same cell must be calculated without applying these proposed simplifications.

7.4 If an insurer can't identify its first party contingency policies separately, those policies will have to be grouped with all other policies and the SCR calculated without applying these proposed simplifications.

7.5 The FSB's primary concern is for the risk exposure of "the man in the street." One of the key features of a first party insurance structure is that only the parent company is at risk - the parent company bears the ultimate responsibility for the risks underwritten by the facility. In addition, the principles of ring-fenced funds need to be applied to first party insurance structures.

7.6 The Working Group propose the following as a final formula with adjustments:

7.6.1 Non-Life Underwriting Risk Capital Simplification

Input

The following input is required per First Party Insurance Structure:

NWP_{lob}	=	Net Written Premium (last year) for each LoB
EAB_{lob}	=	Experience Account Balance for each LoB (if applicable)
NAR_{lob}	=	Net Aggregate Retention for each LoB (where net relates to all reinsurance)
NAR_Def_{lob}	=	Net Aggregate Retention for each LoB allowing for default risk of the relevant reinsurers. (Use default risk as specified in section SCR.5.9)
$Losses_{ret_lob}$	=	3-year average net losses as a percentage of net aggregate retention per line of business (where the average is calculated as $\frac{\sum_1^3 Loss\ in\ year\ i}{\sum_1^3 Net\ aggregate\ retention\ in\ year\ i} * 100$)

Note

Net Aggregate Retention meant: The total policy limit after allowing for the effect of reinsurance arrangements.

Output

The module delivered the following output:

SCR_{nl_fpis}	=	Capital requirement for non-life underwriting risk for first party insurance structures
$SCR_{nl_fpis_i}$	=	Capital requirement for non-life underwriting risk for each individual first party insurance structure

Calculation

$$\mathrm{SCR_{lob}} = \max\left(0;\ \mathrm{Factor_{lob}} * \ \mathrm{NAR_{Def_{lob}}} - \max(\mathrm{NWP_{lob}}\ , \mathrm{EAB_{lob}})\right)$$

$$\mathrm{SCR_{nl_fpis_i}} = \sum_{\mathrm{lob}} \mathrm{SCR_{lob}}$$

$$\mathrm{SCR_{nl_fpis}} = \sqrt{\sum_{\mathrm{i}} \left(\mathrm{SCR_{nl_fpis_i}}\right)^2}$$

Line of Business (lob)		**Factor$_{lob}$**			
		Losses$_{ret_lob}$ ≤ 15%	**15% < Losses$_{ret_lob}$ ≤ 50%**	**50% < Losses$_{ret_lob}$ ≤ 75%**	**Losses$_{ret_lob}$ > 75%**
1	Accident and Health	60%	90%	100%	100%
2	Motor – personal lines	40%	75%	90%	100%
3	Motor – commercial lines	40%	75%	90%	100%
4	Aviation	60%	90%	100%	100%
5	Marine	60%	90%	100%	100%
6	Rail	60%	90%	100%	100%
7	Transport	60%	90%	100%	100%
8	Agriculture	50%	80%	100%	100%
9	Engineering	60%	90%	100%	100%
10	Property – personal lines	50%	80%	100%	100%
11	Property – commercial lines	50%	80%	100%	100%
12	Liability – personal lines-professional indemnity, product liability and medical malpractice	100%	100%	100%	100%
13	Trade credit, suretyship and guarantee	60%	90%	100%	100%
14	Consumer credit	60%	90%	100%	100%

15	Legal expenses	50%	80%	95%	100%
16	Travel insurance	50%	80%	95%	100%
17	Miscellaneous – Terrorism	50%	80%	95%	100%
18	Miscellaneous – Warranty	50%	80%	95%	100%
19	Miscellaneous - Other	50%	80%	95%	100%
20	Non-proportional reinsurance – marine, aviation, transport and rail (MAT)	60%	90%	100%	100%
21	Non-proportional reinsurance – property excluding terrorism	50%	80%	100%	100%
22	Non-proportional reinsurance – terrorism	50%	80%	95%	100%
23	Non-proportional reinsurance – liability	65%	95%	100%	100%

7.6.2 Market risk concentration simplification

Captive insurance or captive reinsurance undertakings may use the following assumptions for the calculation of the capital requirement for concentration risk:

Intra-group asset pooling arrangements of captive insurance or reinsurance undertakings or investments by the captive undertaking in listed and market quoted debt instruments related to the group may be exempted from the market risk concentration sub-module to the extent that there exist legally enforceable contractual terms which ensure that the liabilities of the captive insurance or reinsurance undertaking will be offset by the intra-group exposures it holds against other entities of the group.

7.6.3 Parental Guarantee simplification

The Working Group proposes that wholly-owned first party captive insurers should be allowed to apply to the FSB/Regulator for parental-guarantees to be authorised as Ancillary Own Funds; should they meet the standards and criteria as stipulated in final positon paper 25 – Supervisory Approval of Ancillary Own Funds..

ANNEXURE 1: Extracts from the draft Level 2 Solvency II text

Article 84 SCRSC2 (Art. 109 of Directive 2009/138/EC)

Simplified calculation for captive insurance and reinsurance undertakings of the capital requirement for non-life premium and reserve risk

Subject to the captive insurance or reinsurance undertaking complying with Article SCRS1 and SCRSC1, the capital requirement for non-life premium and reserve risk calculated with the simplified calculation shall be equal to the following:

$$SCR_{nl\ premium\ and\ reserve} = \sqrt{\sum_{s} NL_{(pr,s)}^2 + 0.35 \cdot \sum_{t \neq u} NL_{(pr,t)} \cdot NL_{(pr,u)}}$$

where the first sum covers all segments set out in Annex NLUR1, the second sum covers all combinations (*t*,*u*) of the segments set out in Annex NLUR1 being *t* and *u* different and $NL_{(pr,s)}$, $NL_{(pr,t)}$ and $NL_{(pr,u)}$ denote the capital requirements for non-life premium and reserve risk of segments *s*, *t* and *u* respectively.

For all segments set out in Annex NLUR1, the capital requirements for non-life premium and reserve risk of a particular segment s shall be equal to the following:

$$NL_{pr,s} = 0.6\sqrt{V_{(prem,s)}^2 + V_{(prem,s)} \times V_{(res,s)} + V_{(res,s)}^2}$$

where $V_{(prem,s)}$ denotes the volume measure for premium risk of segment *s* calculated according to paragraph 3 of Article NLUR3 and $V_{(res,s)}$denotes the volume measure for reserve risk of a segment calculated according to paragraph 8 of Article NLUR3.

Article 148 SCRSC3 (Art. 109 of Directive 2009/138/EC)

Simplified calculation of the capital requirement for interest rate risk for captive insurance or reinsurance undertakings

1. Subject to the captive insurance or reinsurance undertaking complying with Article SCRS1 and SCRSC1, the capital requirement for interest rate risk referred to in point (a) of Article 105(5) of Directive 2009/138/EC calculated with the simplified calculation shall be equal to the higher of the following simplified calculations:
   (a) The capital requirement for the risk of an increase in the term structure of interest rates as referred to in paragraph 2;
   (b) The capital requirement for the risk of a decrease in the term structure of interest rates as referred to in paragraph 3.

2. Subject to the captive insurance or reinsurance undertaking complying with Article SCRS1 and SCRSC1, the capital requirement calculated with the simplified calculation for the risk of an increase in the term structure of interest rates shall be equal to the following:

$$Interest_rate_{up} = \sum_{i} MVAL_i \cdot dur_i \cdot rate_i \cdot shock_{i,up} - \sum_{lob} BE_{lob} \cdot dur_{lob} \cdot rate_{lob} \cdot shock_{lob,up}$$

Where

$Interest_rate_{up}$ denotes the capital requirement for the risk of an increase in the term structure of interest rates;

$MVAL_i$ denotes the value according to section V [valuation] of assets less liabilities other than technical provisions for each maturity interval *i*;

dur_i denotes the simplified remaining duration of maturity interval *i*;

$rate_i$denotes the relevant risk-free rate for simplified duration of maturity interval *i;*

$shock_{i,up}$ denotes the relative upward shock of interest rate for simplified duration of maturity interval *i;*

BE_{lob} denotes the best estimate in line of business *lob;*

dur_{lob} denotes the modified duration of the best estimate in line of business *lob;*

$rate_{lob}$ denotes the relevant risk-free rate for modified duration dur_{lob}; and

$shock_{lob,up}$denotes the relative upward shock of interest rate for modified duration dur_{lob}.

3. Subject to the captive insurance or reinsurance undertaking complying with Article SCRS1 and SCRSC1, the capital requirement calculated with the simplified calculation for the risk of a decrease in the term structure of interest rates shall be equal to the following:

$$Interest_rate_{down} = \sum_{i} MVAL_i \cdot dur_i \cdot rate_i \cdot shock_{i,down} - \sum_{lob} BE_{lob} \cdot dur_{lob} \cdot rate_{lob} \cdot shock_{lob,down}$$

Where

$Interest_rate_{down}$ denotes the capital requirement for the risk of a decrease in the term structure of interest rates;

$MVAL_i$ denotes the value according to section V [valuation] of assets less liabilities other than technical provisions for each maturity interval *i*;

dur_i denotes the simplified remaining duration of maturity interval *i*;

$rate_i$denotes the relevant risk-free rate for simplified duration of maturity interval *i;*

$shock_{i,down}$ denotes the relative downward shock of interest rate for simplified duration of maturity interval *i;*

BE_{lob} denotes the best estimate in line of business *lob;*

dur_{lob} denotes the modified duration of the best estimate in line of business *lob;*

$rate_{lob}$ denotes the relevant risk-free rate for modified duration dur_{lob}*;* and

$shock_{lob,down}$denotes the relative downward shock of interest rate for modified duration dur_{lob}.

4. The maturity intervals i and the simplified duration referred to in paragraphs 2 and 3 shall be as follows:
   (a) up to the maturity of one year, the simplified duration shall be 0.5 years;
   (b) at a maturity of 1 year up to 3 years, the simplified duration shall be 2 years;
   (c) at a maturity of 3 years up to 5 years, the simplified duration shall be 4 years;
   (d) at a maturity of 5 years up to 10 years, the simplified duration shall be 7 years

   and

   (e) at a maturity of 10 years and above, the simplified duration shall be 12 years.

   Notwithstanding paragraphs 2 and 3, where the insurance or reinsurance undertaking holds assets or liabilities denominated in different currencies, the capital requirement for the risk of a decrease or increase in the term structure of interest rates shall be the sum of the calculation included in paragraphs 2 and 3 for each relevant currency.

Article 158 SCRSC4 (Art. 109 of Directive 2009/138/EC)

Simplified calculation for captive insurance or reinsurance undertakings of the capital requirement for spread risk

Subject to a captive insurance or reinsurance undertaking complying with Article SCRS1 and SCRSC1, the capital requirement for spread rate risk calculated with the simplified calculation shall assume that all assets are assigned by the competent authorities of the credit assessments of eligible ECAIs to the credit quality step 3 unless the competent authorities of the credit assessment indicate that those bonds shall be assigned to a lower credit quality step.

Article 171 SCRSC5 (Art. 109 of Directive 2009/138/EC)

Simplified calculation of the capital requirement for market risk concentration for captive insurance or reinsurance undertakings

1. Notwithstanding Articles CO1 to CO6 and subject to the captive insurance or reinsurance undertaking complying with Article SCRS1 and SCRSC1:
   (a) Intra-group asset pooling arrangements of captive insurance or reinsurance undertakings may be exempted from the market risk concentration sub- module to the extent that there exist legal enforceability of the contract terms which ensure that the liabilities of the captive insurance or reinsurance undertaking will be offset by intra-group exposures it holds against other entities of the group.
   (b) The threshold referred to in Article CO4 shall be equal to 15 per cent for the following single name exposures:
      i. exposures to credit institutions that do not belong to the same group and that have been assigned to the quality step 2 in accordance with the assignment by EIOPA of the credit assessments of eligible ECAIs to seven steps in a credit quality assessment scale as referred to in Subsection UECAI;
      ii. exposures to entities of the group that manages the cash of the captive insurance or reinsurance undertaking that have been assigned to the quality step 2 in accordance with the assignment by EIOPA of the credit assessments of eligible ECAIs to seven steps in a credit quality assessment scale as referred to in Subsection UECAI.