

Solvency Assessment and Management

**Report on the results of 3rd South
African Quantitative Impact Study
("SA QIS3")**



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1. Introduction

This report presents the results of the third Quantitative Impact Study (SA QIS3) of the proposed regulatory balance sheet under the Solvency Assessment and Management (SAM) framework. SA QIS3 marked an important milestone in the development of the SAM framework: it was the final quantitative impact study, and was compulsory for all registered insurers¹. While previous studies tested a number of alternative calculations and sensitivities, aimed at informing proposals for final measures, the approach taken in SA QIS3 was to keep alternative calculations to a minimum and to focus on calculations that are expected to be close to the final calculations.

The results of this report represent an element of the broader initiatives aimed at designing a new risk-based prudential framework for insurers, as well as assessing and encouraging progress towards these measures. Specifically, an independently conducted economic impact study has recently been concluded, and the results thereof are expected to be published in the first quarter of 2015. In terms of assessing progress towards the development of the governance and risk management elements of SAM, a Pillar II Readiness Assessment was conducted. This was the second self-assessment of Pillar II developments, and the focus was mostly on the Own Risk and Solvency Assessment (ORSA). The results of this study will be published in January 2015. In terms of Pillar III, the Quantitative Reporting Templates which will be required to be submitted to the FSB under SAM have been substantially developed, and industry has actively commented on the proposals.

Ahead of the planned effective date of the new insurance act enabling SAM on 1 January 2016, the FSB has planned for a staged implementation. The light parallel run included quarterly reporting on SAM results consistent with the SA QIS3 exercise, for the second half of 2014. Activities planned for 2015 include submission of annual as well as quarterly reports on the SAM basis as part of the comprehensive parallel run, Board Notice 114 pertaining to governance and risk management becoming effective, and the submission of a mock ORSA report.

In terms of this report, where deemed relevant the figures and tables in the report have been kept consistent with the equivalent figures and tables used in the reports of previous quantitative impact studies. In some areas, the results from SA QIS1 and SAQIS2 have been included in the report.

The report assumes a working knowledge of the requirements proposed by the SAM framework and some knowledge of the SA QIS3 technical specification. Therefore concepts defined in the SA QIS3 technical specification will not be defined again in this report.

¹ Unless otherwise stated, the term insurer in this report refers to both insurance and reinsurance companies.

2. Executive Summary

- **Scope** Due to the fact that SA QIS3 was the last planned quantitative impact study and also the approaching implementation date, the FSB decided to make SA QIS3 compulsory for all insurers. Some registered insurers were exempted from the exercise, and in most cases these were insurers which are in run-off. The exercise was also compulsory for insurance groups, and 38 insurance groups submitted group results.
- **Industry Impact** Table 2.1 below summarises the overall impact of the change in measurement from the current regulatory basis to the SA QIS3 basis on key balance sheet metrics:

Table 2.1: Aggregate impact of SA QIS3 on life insurers (R'bn) ²

	Current Position (SA QIS2)	SA QIS2	Higher under SA QIS2	Current Position (SA QIS3)	SA QIS3	Higher under SA QIS3
Available Capital	R 122.5	R 200.5	78%	R 154.3	R 237.7	64%
Capital Requirement	R 35.6	R 116.5	74%	R 42.0	R 133.1	71%
Free Surplus	R 86.9	R 84.0	71%	R 112.3	R 104.6	56%
Coverage Ratio	3.4	1.7	29%	3.7	1.8	25%

The SA QIS3 basis specifies the release of prudential margins from the valuation of technical provisions, and a more risk-based capital requirement. The industry as a whole therefore shows higher available capital, and a higher capital requirement. This is also true for most individual insurers. Free surplus under SA QIS3 is higher than free surplus under the current basis. This is as a result of the available capital for the industry increasing by more than the increase in capital requirement. However, since the rand value increase in capital requirement represents a much larger percentage change than the increase in available capital, the industry capital coverage ratio is substantially lower (3.7 down to 1.8). Life insurers will therefore need to interpret absolute levels of coverage ratios differently under SAM than under the current regime, and should engage key stakeholders to ensure that there is a common understanding and interpretation. The industry capital coverage ratio for SA QIS3 (1.8) is broadly consistent with that under the SA QIS2 basis (1.7).

As the figures above represent the total balance sheet of the industry, the reported figures are significantly influenced by the larger insurers in the market.

² A number of the tables and figures in this section include results from the SA QIS2 report for comparison purposes. Wherever SA QIS2 results are displayed, this is clearly marked in the tables or figures. The SA QIS2 report can be found on the FSB website <http://www.fsb.co.za>. Click on "insurance", and then on "Solvency Assessment and Management".

The column in table 2.1 showing “Higher under QIS3” represents the number of insurers for whom the applicable capital metric was higher on the SA QIS3 basis than on the current FSB basis. These ratios show that for 64% of participants available capital is higher under SA QIS3 than under the current basis. It is evident that the capital requirement is higher for almost two-thirds of life insurers, and that approximately half of the industry has a higher free surplus, and the other half a lower free surplus. Another interesting feature to note is that 25% of the industry reported a higher capital coverage ratio under SA QIS3. These percentages are broadly in line with those reported in SA QIS2.

The overall capital impact of SA QIS2 for non-life insurers is summarised in the table below:

Table 2.2: Aggregate impact of SA QIS3 on non-life insurers (R’bn)

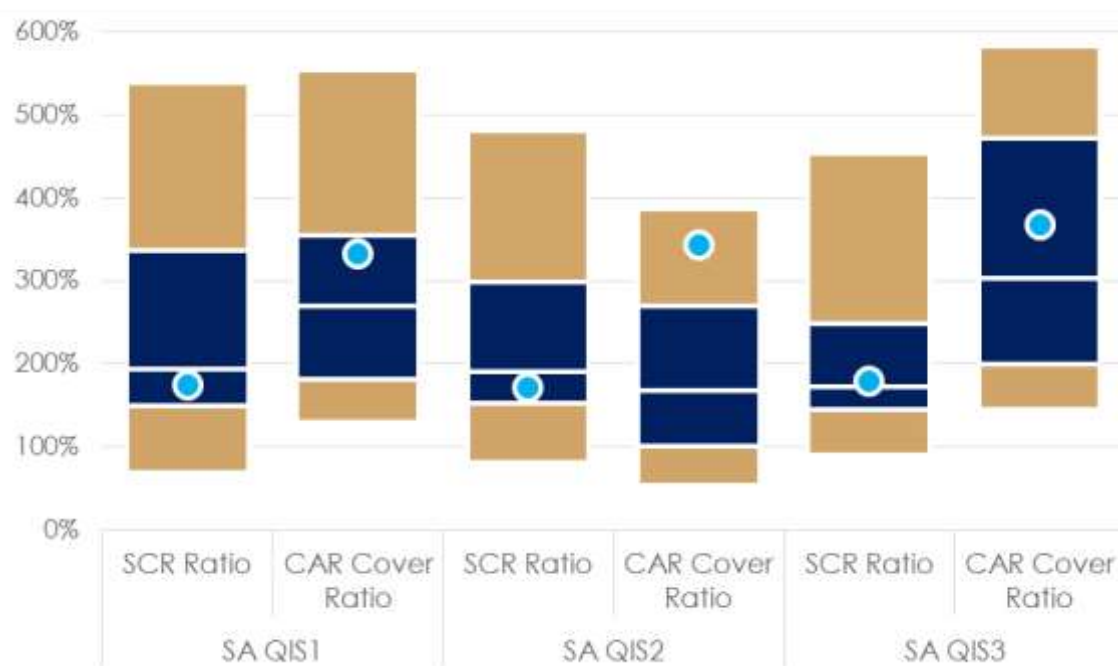
	Current Position (SA QIS2)	SA QIS2	Higher under SA QIS2	Current Position (SA QIS3)	SA QIS3	Higher under SA QIS3
Available Capital	R 42.8	R 49.5	63%	R 50.6	R 57.2	54%
Capital Requirement	R 17.9	R 33.2	98%	R 21.8	R 38.9	83%
Free Surplus	R 24.9	R 16.3	24%	R 28.8	R 18.3	41%
Coverage Ratio	2.4	1.5	13%	2.3	1.5	37%

Overall capital results for the non-life industry are in line with the results emanating from the SA QIS2 exercise. Available capital is higher in SA QIS3 than on the current basis for the industry, and this is true for approximately half of the industry by count. The increase in available capital is smaller than the increase in capital requirements. As a result, free surplus is lower for the non-life industry under SA QIS3 (R18.4m) than under the current FSB basis (R28.9m). The increase in capital requirement compared to the increase in available capital is furthermore reflected in the decrease in capital coverage ratio from 2.3 on the current basis to 1.5 under SA QIS3.

While the overall impact of the industry is reflected above, it is worth noting that more than 20% of non-life insurers reported a higher free surplus under SA QIS3 than under the current basis. Also, 16% of insurers reported a higher capital coverage ratio. This demonstrates the risk-based nature of the SAM framework.

The non-uniform impact of the capital measures under SAM is reflected in figure 6.1 in the section dealing with the Solvency Capital Requirement. Figure 2.1 below shows the range of solvency ratios for both the current as well as the SA QIS3 basis:

Figure 2.1: Distribution of coverage ratios for life insurers



In terms of the SCR coverage ratio, the results for SA QIS3 are similar to those of SA QIS2, with both median and industry aggregate close to 180%. The 10% to 90% range is also slightly narrower for SA QIS3. In terms of the current capital requirement (CAR Ratio), the industry aggregate is similar to that of SA QIS2. The overall range is however wider and at a higher level, and the interquartile range spans a broader range (200% - 470%). The results for the non-life industry are provided in Figure 2.2 below:

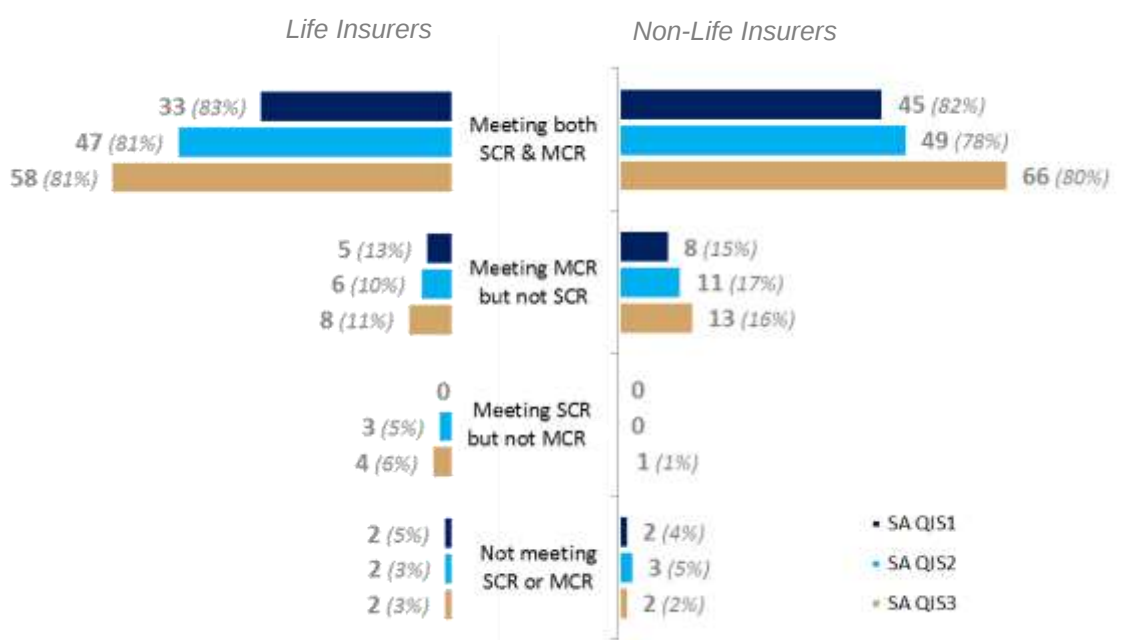
Figure 2.2: Distribution of coverage ratios for non-life insurers



For SA QIS3, the range of SCR ratios is somewhat wider than that of previous exercises, although the median and industry aggregate levels are very similar. The distribution of current solvency ratios is also broadly in line with that of SA QIS2.

Where insurers have SCR ratios of less than one, it is an indication that the insurer may not be in a financially sound position under SAM, and may indicate the need for management and/or shareholder intervention. Similarly, insurers who do not meet the MCR requirement may show signs of financial distress under the intended ladder of supervisory intervention approach taken in SAM. Figure 2.3 shows how insurers fare against the MCR and SCR:

Figure 2.3: Insurers meeting and not meeting their capital requirements



In total there were 30 insurers (14 life insurers and 16 non-life insurers) in SA QIS2 who did not meet their Solvency Capital Requirement (SCR), up from 22 in SA QIS2. The proportion of insurers that did not meet SCR as a percentage of the number of insurers who submitted responses has remained broadly consistent at approximately 20% throughout all three quantitative impact studies.

Of the 30 insurers who did not meet their SCR, there were four insurers (two life insurers and two non-life insurers) who did not meet their Minimum Capital Requirement (MCR) either.

There were five insurers (four life insurers, one non-life insurer) who met their SCR but did not meet their MCR. These are small insurers who did not have enough

available capital to meet the absolute minimum of R15m, even though they have enough capital to meet the SCR as calculated by the standard formula.

■ *Groups*

There were 38 insurance groups that submitted their group solvency position on various bases. The aggregate position is in line with previous results from SA QIS2 and consistent with the results from the SA QIS3 solo results as shown by the life insurers, showing an increase in both the group capital resources as well as the group capital requirement.

For the insurance groups that provided results on an accounting consolidation approach, there was no significant difference when compared to the results on a deduction and aggregation approach.

There were two insurance groups that did not meet the proposed SAM group capital requirements.

3. Scope & Limitations

- Industry Profile**

Participation in SA QIS3 was made mandatory for all insurers. The reasons for doing so include the fact that the requirements are substantially near to final and thus are fairly stable; the fact that SA QIS3 is the last QIS exercise and thus is one of the last opportunities to assess the impact of the proposals on insurers; and to ensure that insurers who had not yet participated in a QIS exercise were exposed to the calculations and had the opportunity to evaluate the strength of their balance sheets under the proposals. In addition, making the exercise mandatory for all insurers prepared the industry for the upcoming implementation phase of the SAM project. Table 3.1 below shows how the respondents are split according to industry sub-classes:

Table 3.1: Number of insurers which submitted a SA QIS3 solo return³

	Life	Non-Life	Total
<i>Assistance</i>	7	0	7
<i>Captive</i>	0	9	9
<i>Cell Captive</i>	6	7	13
<i>Linked Investment</i>	13	0	13
<i>Niche</i>	11	29	40
<i>Reinsurer</i>	6	5	11
<i>Run-Off</i>	2	2	4
<i>Typical</i>	27	30	57
<i>Grand Total</i>	72	82	154

Although exemption was considered on a case-by-case basis for insurers which are in run-off, it can be seen that four insurers which are in run-off did participate in SA QIS3. There were 10 insurers in run-off who were exempted from participating. A few insurers did not submit SA QIS3 and appropriate regulatory action has been taken.

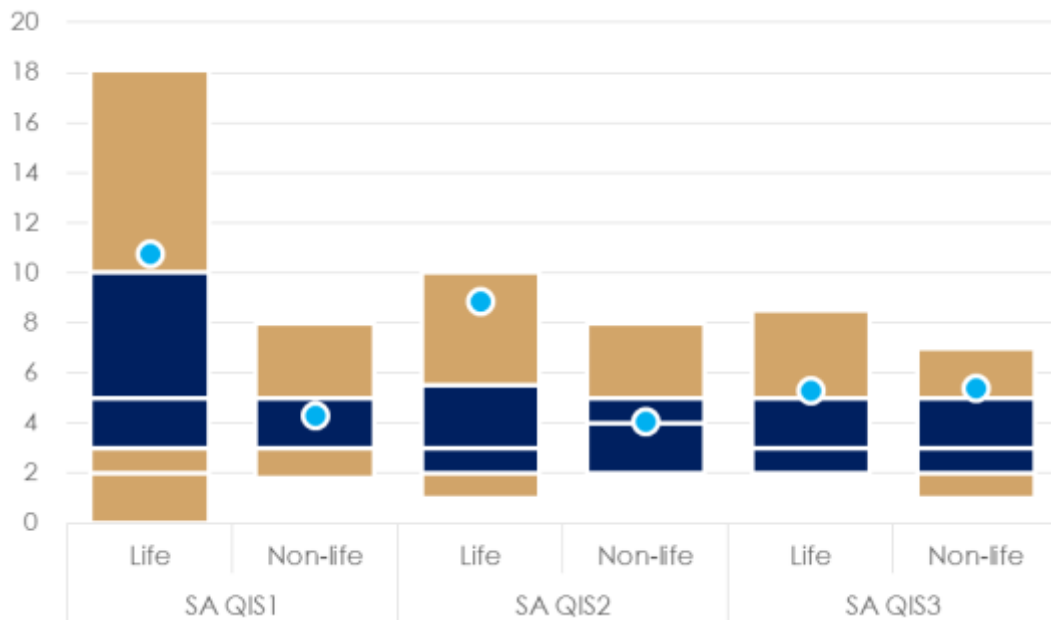
- Impact on Resources**

The resources used to complete SA QIS3 are an indicator of both the impact on the industry in terms of resource allocation as well as a potential indicator of the quality of the information submitted. In terms of the impact on the industry, the independently conducted Economic Impact Study is a broader initiative which was commissioned to assess how SAM will impact, both directly and

³ Composite insurers were counted as two submissions.

indirectly, the insurance industry as well as the broader South African economy. Figure 3.1 below shows the time in skilled person months used to complete SA QIS3:

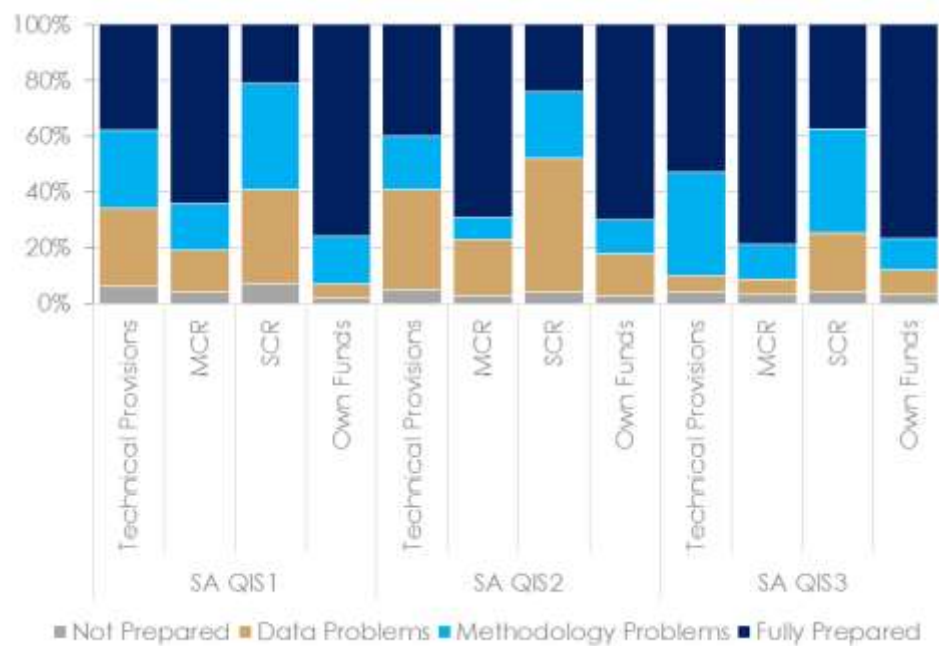
Figure 3.1: Amount of time in skilled person months used in the SA QIS3 exercise



The largest contributor to skilled person months in the vast majority of submissions is actuarial resources. Overall the trend over the SA QIS exercises indicates that less time is required for subsequent exercises. The exception is the average for SA QIS3 non-life. This is however significantly influenced by two insurers who have provided very large estimates. It should also be noted that SA QIS3 was somewhat more onerous for non-life insurers who performed the calculations pertaining to catastrophe risk and took into account the use of reinsurance as a mitigant, as the workbooks were more comprehensive. The median for SA QIS3 for non-life is consistent with the downward trend. The change from SA QIS3 can be partly attributable to fewer options being tested compared to SA QIS3, as well as the fact that most insurers had participated in previous QIS exercises and were thus able to perform the necessary calculations more efficiently.

■ *Industry Preparedness*

Figure 3.2: Self-reported level of preparedness for SAM of SA QIS3 participants (% of respondents)



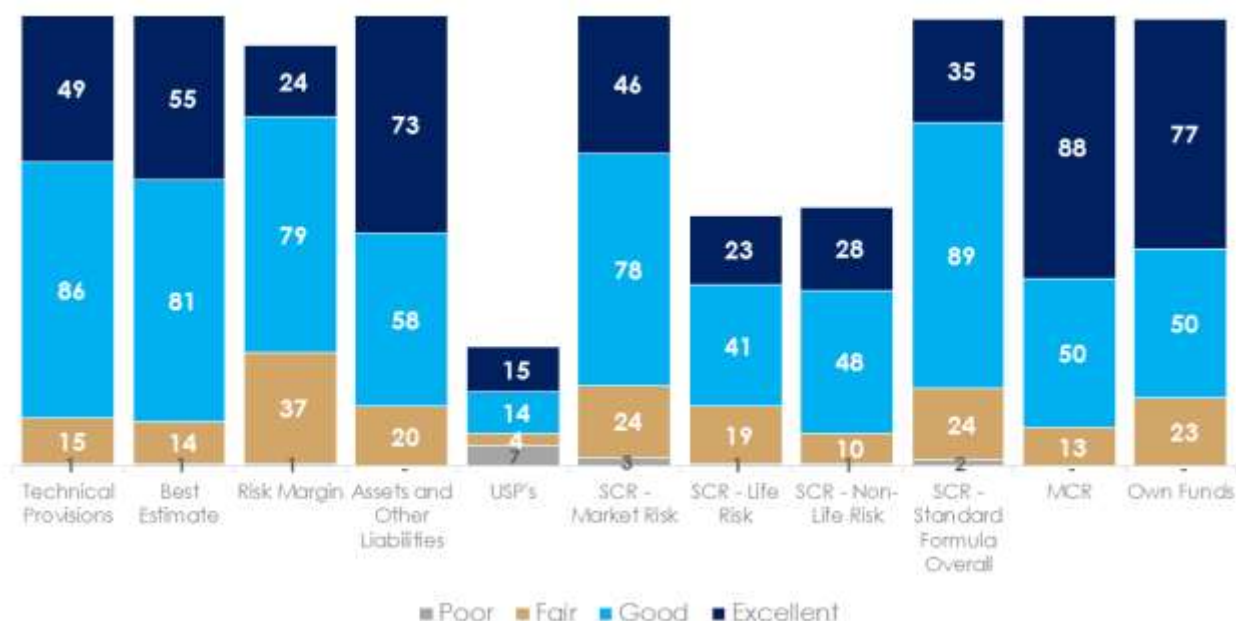
The results in Figure 3.2 indicate that overall, the percentage of respondents who consider themselves to be fully prepared from a data and methodology perspective has increased across all dimensions. Furthermore, the percentage of respondents who indicated that they do not feel prepared at all has remained steady and in some dimensions has decreased – in SA QIS3 no more than 4% of respondents fell into this category for any of dimensions of technical provisions, MCR, SCR or Own Funds. The SCR is the dimension where insurers feel the least prepared from both a data and a methodology perspective.

In considering the responses for life and non-life separately, in general more non-life insurers deemed themselves to be fully prepared than life insurers, and fewer non-life insurers deemed themselves to be “not prepared at all” than life insurers. The exception was technical provisions, where a large proportion of non-life insurers indicated problems with the methodology.

■ *Reliability of Results*

The self-reported preparedness of the industry set out above provides context in which to consider the reliability of the results. Data and methodology issues will have a significant influence on reliability, but other factors such as resources available and other checks and balances utilised will further impact reliability. Figure 3.3 shows the self-reported reliability of submissions:

Figure 3.3: Self-reported reliability of results in SA QIS3 submissions (number of respondents)



It is clear from the figure above that, by number of insurers, the risk margin is the area where most insurers rated themselves as only "fair", and where the fewest number of insurers rated themselves as excellent (by proportion). Figure 3.3 furthermore illustrates that across all dimensions assessed, a greater proportion rate themselves as good or excellent as opposed to poor or fair. The dimension where, by number, the most insurers rated themselves as poor is User Specified Parameters. Relatively few insurers made use of USP's, and the number rated as poor is an indication of the capabilities required within an insurer in order to effectively use USP's.

In order to further contextualise the results, it is important to take cognizance of the valuation dates at which SA QIS3 was performed. This is highlighted below in Table 3.2:

Table 3.2: Reporting dates used by insurers submitting SA QIS3 results

Year-end	Number of insurers
<i>Sep-12</i>	1
<i>Dec-12</i>	26
<i>Feb-13</i>	4
<i>Mar-13</i>	23
<i>May-13</i>	2
<i>Jun-13</i>	38
<i>Aug-13</i>	3
<i>Sep-13</i>	9
<i>Oct-13</i>	1
<i>Dec-13</i>	43
<i>Feb-14</i>	3
<i>Mar-14</i>	1

Whereas in previous QIS exercises the valuation date was specified (insurers could request permission to use a different valuation date), no date was specified for SA QIS3. The rationale for doing so was to improve reliability of results and reduce effort for insurers by allowing them to select a date which would be optimal. The only request was that insurers not use a date earlier than 31 December 2012. It is clear from the table above that one insurer did indeed use a date earlier than this. While most insurers selected valuation dates which corresponded to their financial year ends, some insurers opted to choose December 2013 in order to have a more current and up-to-date QIS3 submission.

4. Technical Provisions

■ Overall Impact

A number of key principles are specified under the SAM regime pertaining to the calculation of technical provisions. These principles govern all aspects of the calculation, including the time horizon over which future cash flows should be considered, the rates at which these cash flows should be discounted, and the basis on which the cash flows should be derived. An overarching principle is the move towards a market-consistent value of policyholder liabilities. Where this value cannot be observed in the market, this is calculated using best-estimate cash flows, with a risk margin calculated on a prescribed basis. This represents a significant change from the current basis, where insurers maintain prescribed and discretionary elements of prudence in their technical provisions. Overall, the impact of the proposed methodology for the calculation of technical provisions is shown in figure 4.1 below.

Figure 4.1: Ratio of total technical provisions on SAM basis as a percentage of the current basis (both bases net of reinsurance)



On average life insurers reported SAM technical provisions which were close to that under the current basis (aggregate mean 92%, and industry median 89%). Furthermore, only 10% of life insurers reported this ratio to be higher than 101%. This is broadly consistent with the previous SA QIS exercises. One key feature of the SA QIS3 results is the 10th percentile, which is -105%. This is as a result of two life insurers with negative provisions under SAM but with a small current technical provision. These insurers skew the

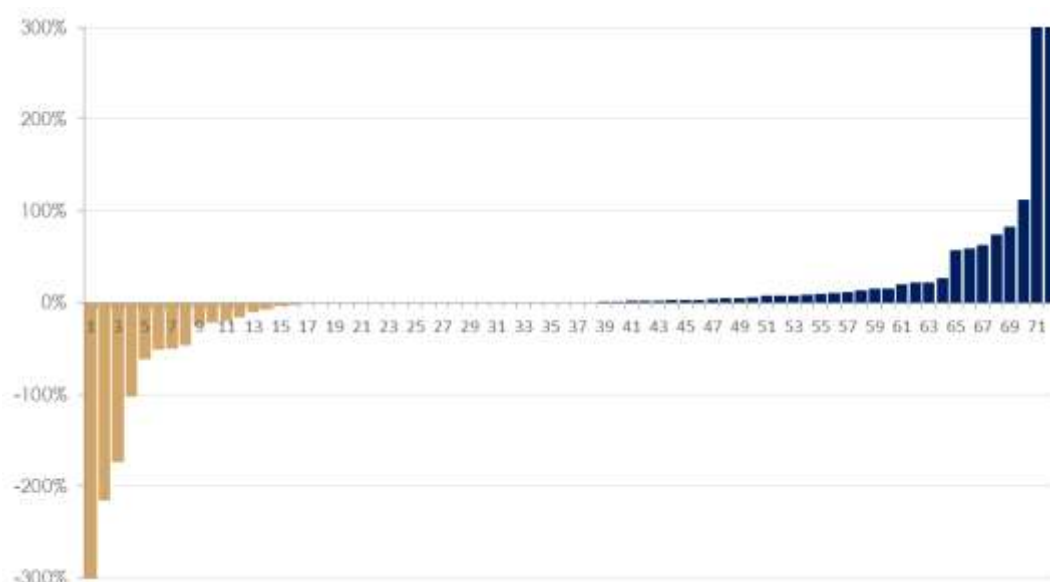
distribution of the 10th percentile, but remain valid submissions nonetheless. A total of 14 life companies (19% of life insurers) reported negative net liabilities under the SAM basis. Net technical provisions were higher under the SAM basis than on the current basis for 15% of the industry (11 insurers).

Non-life insurers' results were in a far more narrow range than those of life insurers, with ratios falling between 39% and 111%. For 75% of non-life participants, this ratio was higher than 67%. Net technical provisions were higher under the SAM basis than on the current basis for 20% of the industry (16 insurers).

■ Risk Margin

Where technical provisions cannot be valued as a whole, a risk margin is added to the best estimate cash flows in an attempt to calculate a market value of policyholder liabilities. The figures 4.2 and 4.3 below provide an indication of how this risk margin compares to the gross best-estimate cash flows for life and non-life insurers respectively.

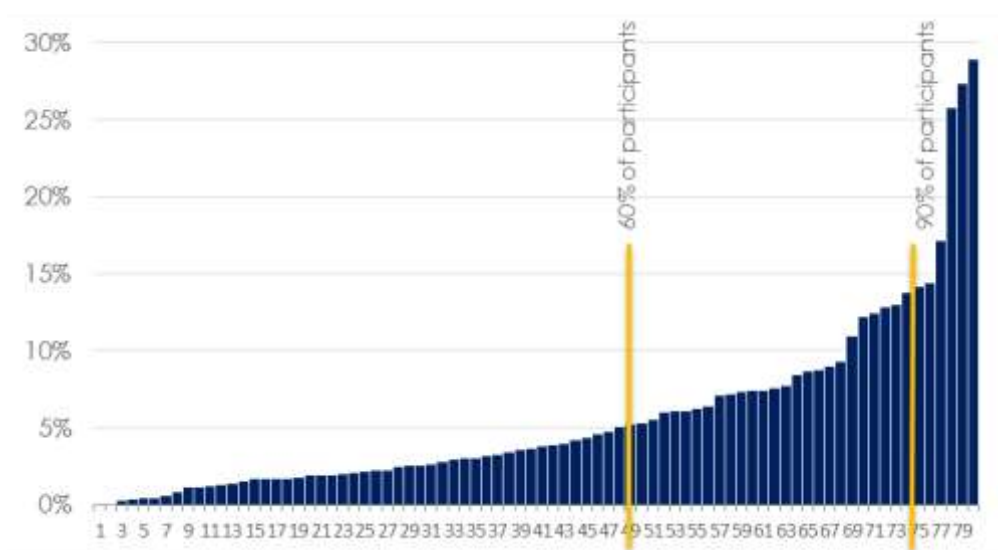
Figure 4.2: Ratio of risk margin to gross best-estimate technical provisions for life insurers*



* One insurer has a large negative percent (<-1000%). This is due to a very small current gross best estimate. Two insurers reported ratios higher than 300% (but less than 400%). These have been truncated for display purposes.

While risk margins are always positive, the ratios are negative in the figure above for insurers who have a negative gross best-estimate technical provision. As can be seen from Figure 4.2 above, 22% of the industry (16 life insurers) reported negative gross best estimates, with 3 of those reporting risk margins exceeding 100% of the gross best estimate. Of those reporting non-zero risk margins, the median life insurer reported a risk margin of 2.4% of gross best estimates.

Figure 4.3: Ratio of risk margin to gross best-estimate technical provisions for non-life insurers



Risk margins for non-life insurers range from 0% to 29% of gross best-estimate technical provisions. Only 10% of participants reported a risk margin higher than 13%, and a further 30% of participants reported a risk margin higher than 5%. The median insurer reported a risk margin of 4% of gross best-estimate technical provisions.

Insurers were presented with a number of alternative methods for deriving their risk margins, ranging in complexity. Insurers were asked to indicate the method used for each line of business. Table 4.1 below show the prevalence of method used for each line of business for life and non-life insurers.

Table 4.1: Number of lines of business for which a particular risk margin methodology was employed

Methodology	Life	Non-Life
Full calculation	10	44
Risks approximation	50	13
SCR approximation	118	411
Duration approach	17	37
% Best Estimate	2	94
Other	14	0

The most commonly used methodology for calculating the risk margin is the SCR approximation. Other than the SCR approximation method, life insurers favoured using a risks approximation approach, while non-life insurers most frequently used a percentage of best-estimate. A number of lines of business were also valued using a full calculation.

5. Assets and Other Liabilities

■ *Impact of change in recognition and valuation bases*

The valuation of assets under SA QIS3 remains broadly consistent with the valuation of assets under the current FSB basis. Figure 5.1 shows the distribution of the ratio of the valuation of assets under SA QIS3 to the valuation of assets under the current FSB basis. This is shown separately for life and non-life insurers.

Figure 5.1: Ratio of valuation of total assets, other liabilities, and total net assets on SA QIS3 basis to current FSB basis valuations



* In the graph above, reinsurance recoverables have been removed from the total assets under the SA QIS3 basis, and removed from other liabilities under the current FSB basis, for the purpose of comparability. The net assets graphs however include reinsurance recoverables.

■ *Life insurers*

For life insurers, total assets were valued very closely to the current basis, with 80% of all insurers (i.e. the 10th to the 90th percentiles) reporting ratios of between 100% and 107%. In terms of other liabilities, approximately 15% of life insurers reported ratios of between 200% and 550%. This large difference is attributable to the deferred tax liabilities under the SA QIS3 basis. The net asset graphs include the impact of the change in value of technical provisions. The median life insurer reported total value of net assets of approximately 1.5 times the net assets on the current basis. The impact of deferred tax is further considered in section 10 of the report.

■ *Non-Life insurers*

For non-life insurers, the range of values is generally much smaller than that observed for life insurers. The median insurer reported ratios of 100% for total assets as well as for other liabilities, and a median ratio of 102% for net assets. Most insurers reported ratios between 85% and 156%.

6. Solvency Capital Requirement (SCR)

■ Risk-based Solvency Capital Requirement

The graph below sets out the distribution of the ratio of SA QIS3 SCR to the current capital requirement.

Figure 6.1: SA QIS3 SCR as a percentage of current capital requirements (ratio)

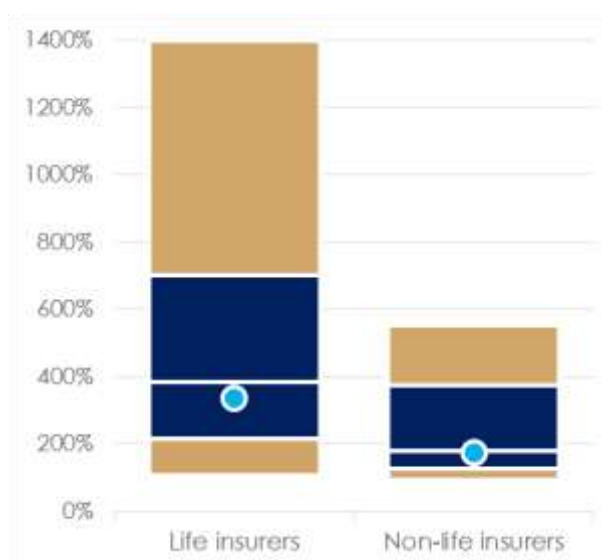


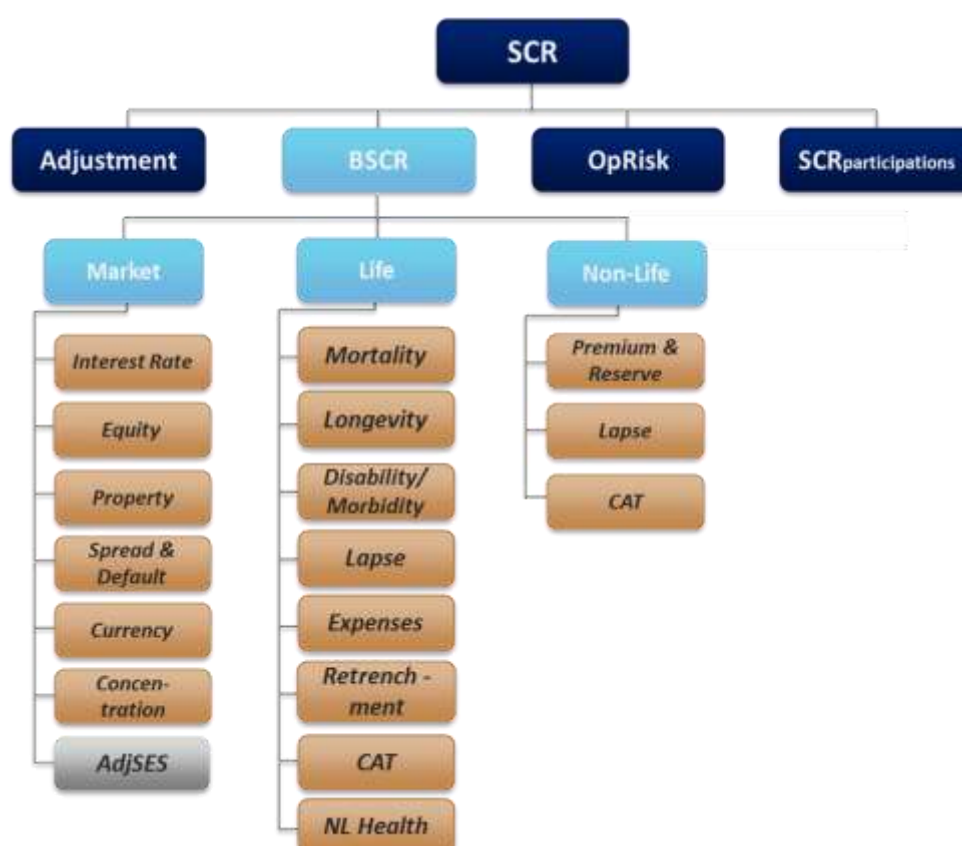
Figure 6.1 clearly depicts the increased capital requirements for the vast majority of insurers. For the purposes of this graph, the SCR is taken to be equal to the R15m absolute minimum where this is larger than the SCR. Life insurers exhibit more variability in the ratio of SAM capital requirements to the requirements under the current basis. This increase as a percentage of current requirements is also higher overall for the life industry. For life insurers, the industry aggregate is approximately 3,5 times higher, and the median close for 4 times higher. Some life insurers reported very high ratios, with 25% of the industry by number reporting a ratio higher than 7 times.

In contrast, the ratio is much narrower for non-life insurers. More than 75% of insurers reported a ratio of less than 4 times higher. In aggregate, non-life insurers reported a higher SCR than the current capital requirement with the median and industry aggregate for the non-life industry SCR approximately 2 times higher than the current capital requirement. For virtually all non-life insurers the SAM capital requirement is at least as big as the current basis capital requirement.

■ Structure of the SCR

To contextualise the reporting of results of the components of the SCR, Figure 6.2 depicting the structure of the SCR is shown below:

Figure 6.2: Structure of the SCR under SA QIS3



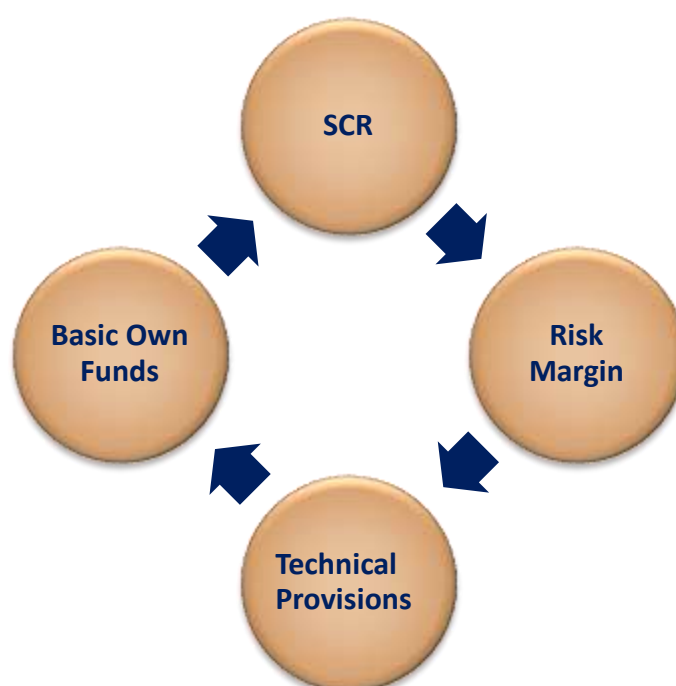
Some changes were made to the structure of the SCR from SA QIS2 to SA QIS3. Notably;

- There is no longer a risk module for intangible asset risk. This risk was effectively applied in SA QIS2 by creating an SCR shock equal to 80% of the value of the intangible asset. It was deemed more appropriate that this shock be applied as a reduction or “haircut” to the intangible asset itself. As a result, intangible assets under SA QIS3 were recognised in the balance sheet at 20% of their value.
- The revision risk sub-module of the life underwriting risk module has been removed. This is something which is not very relevant to the local market.

■ *Circularity*

Under the SAM framework, the SCR is based on the variability of the Basic Own Funds under various risk modules. However, the Basic Own Funds consists of the assets less the liabilities, which includes technical provisions. One portion of the technical provisions is the risk margin, which is dependent on the level of the SCR. This circularity is depicted in the figure below:

Figure 6.3: Circularity of the SCR calculation



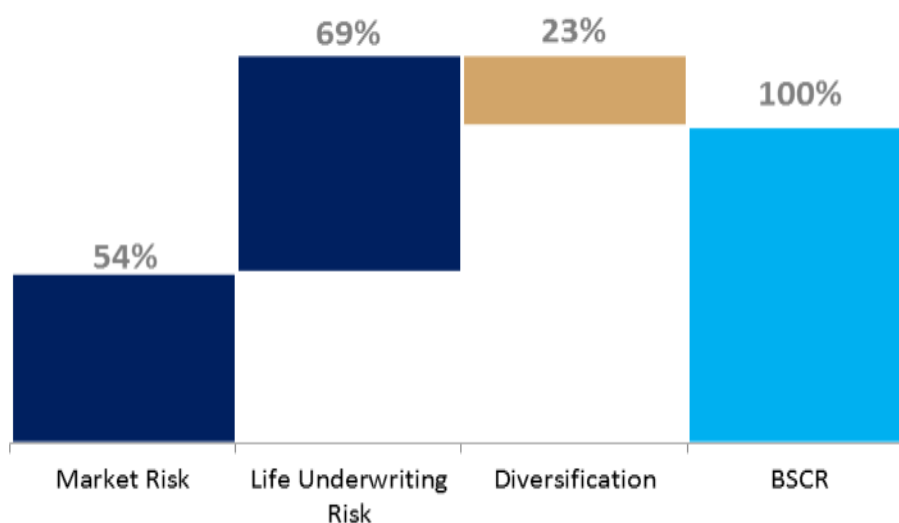
This circularity problem is overcome in the standard formula by only considering the change in the best estimate portion of the technical provision when applying a stress, without considering how the risk margin is impacted. For most insurers, this simplification is not critical, as the risk margin makes up a small proportion of the technical provisions. However, for some insurers, the application of the stress to the risk margin may lead to a very significant change.

For SA QIS3, as for SA QIS2, insurers were permitted to calculate the SCR including the allowance for the change in risk margin. Five insurers calculated their SCR to include the change in risk margin. The number of iterations applied varied widely, with the different insurers applying between 5 and 27 iterations. On average, this approach resulted in a 23% decrease in the overall SCR.

■ **BSCR – Life**
Insurers

For life insurers, the Basic Solvency Capital Requirement (BSCR) comprises market risk, life insurance underwriting risk, and the diversification allowance between the two risks. The contribution of each element to the total BSCR for the industry is shown in Figure 6.4 below:

Figure 6.4: Contribution of risk components to BSCR (%) – life insurers



A notable feature of the composition of the BSCR when compared to that of SA QIS2 is that intangible asset risk is no longer a component. The reason for this, is that the risks associated with intangible assets have been taken into account in SA QIS3 by specifying a haircut on the value of Own Funds. The absolute magnitude of the risk allowance was unchanged. The largest contribution to BSCR for life insurers is life underwriting risk, and the diversification allowed for between this and market risk represents nearly 25% of the diversified BSCR. These results are broadly consistent with SA QIS2.

■ **SCR – Life Insurers**

The BSCR is then considered along with operational risk, participations risk, and the loss absorbing effect of deferred tax.

Figure 6.5: Components of the total SCR for life insurers (%)

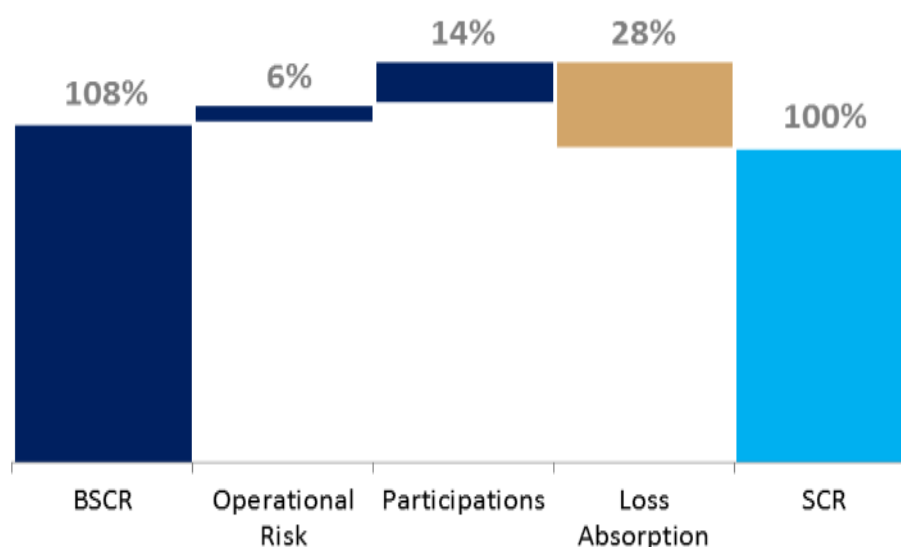
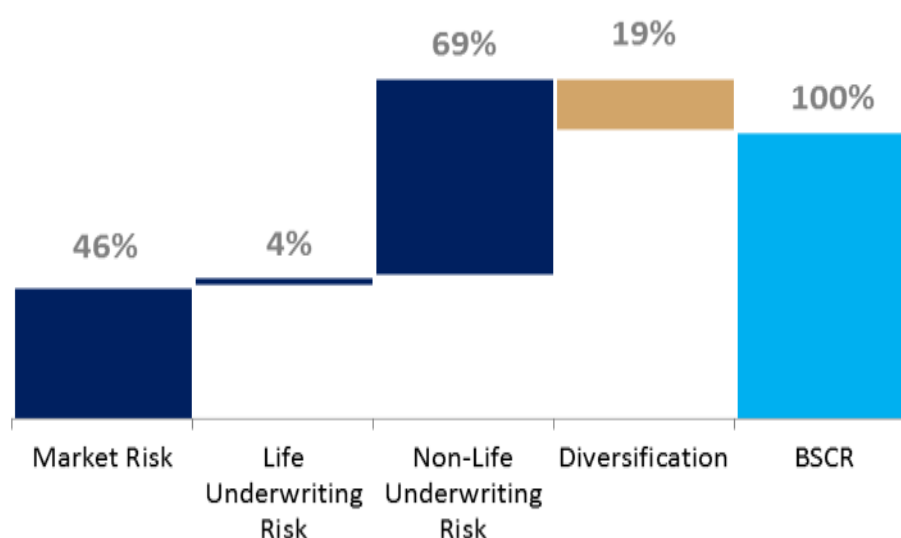


Figure 6.5 above highlights that the loss absorbing capacity of deferred taxes represents a significant offset to the BSCR. Furthermore, operational risk is shown to be a relatively small contributor to overall SCR for the life industry. Participations are further discussed later in the SCR section.

■ **BSCR – Non-Life Insurers**

For non-life insurers, the contributions to BSCR are as follows:

Figure 6.6: Contribution of risk components to BSCR (%) – non-life insurers



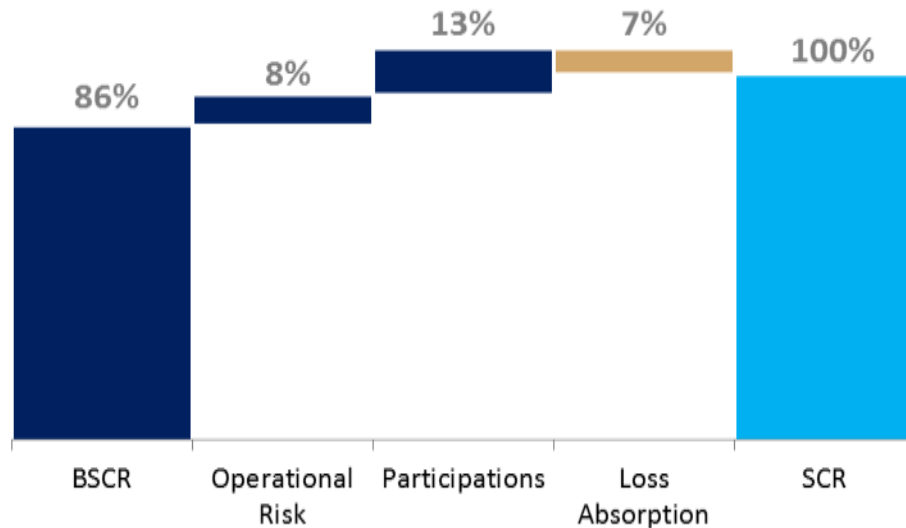
For non-life insurers, the biggest contributor to the BSCR is non-life underwriting risk, followed by market risk. Some capital for non-life insurers is allocated to life insurance underwriting risk. This would be the case where non-life insurers have liabilities which they value on a Similar to Life

Techniques basis. Diversification among the elements of BSCR for non-life insurers is 19% of diversified BSCR.

■ SCR – Non-Life Insurers

Figure 6.7 below shows how the BSCR is combined with the remaining risk elements to establish the overall SCR for non-life insurers:

Figure 6.7: Components of the total SCR for non-life insurers (%)



It is clear from the SCR for non-life insurers that loss absorbing capacity of deferred taxes plays a far less significant role than it does for life insurers. Participations is the second largest contributor to the SCR, at 13% of diversified SCR. Operational risk represents only 8%.

■ Participations

While participations risk is a contributor to overall SCR, the valuation methodology used and the nature of the participation will influence the overall risk charge for the participation. The types of participations and associated values are shown in Table 6.1 below:

Table 6.1: Summary of participations for all insurers

Types of Participations	Number of participations	% of participations	Value of Participations (R'm)
Strategic	215	96%	52 188
Financial & Credit Institutions	31	14%	14 035
Insurers subject to SAM	43	19%	28 835
Other	141	63%	9 319
Non-Strategic	9	4%	120
Total	224	100%	52 308

The vast majority of participations by number are strategic in nature, and are neither financial and credit institutions or insurance entities subject to SAM. These 141 participations, however, only comprise less than 20% of the value

of all participations. From a value perspective, financial and credit institutions and insurers comprise more than 80%, with insurance participations representing the majority.

The treatment of non-strategic participations from a capital perspective has remained unchanged throughout the QIS exercises: they are treated as any other equity holding and are thus afforded diversification. For SA QIS3, the method for strategic participations remained unchanged from SA QIS2, and entailed applying the same shock that is applied for equities, but not allowing for any diversification. Two other methods were however also tested, including a method where, for insurance participations, a shock was applied based on that participation's solvency position. Many insurers did however not complete this method.

Insurers furthermore made use of a wide range of methods for valuing their participations, and the extent to which the methods employed differ substantially from the accounting fair value is being further assessed by the FSB. Further guidance may arise as a result from this assessment.

- **Market Risk** Figures 6.8 and 6.9 below show the contributions to overall market risk capital from each of the sub-risks of market risk for life and non-life insurers respectively:

Figure 6.8: Market risk components for life insurers (%)

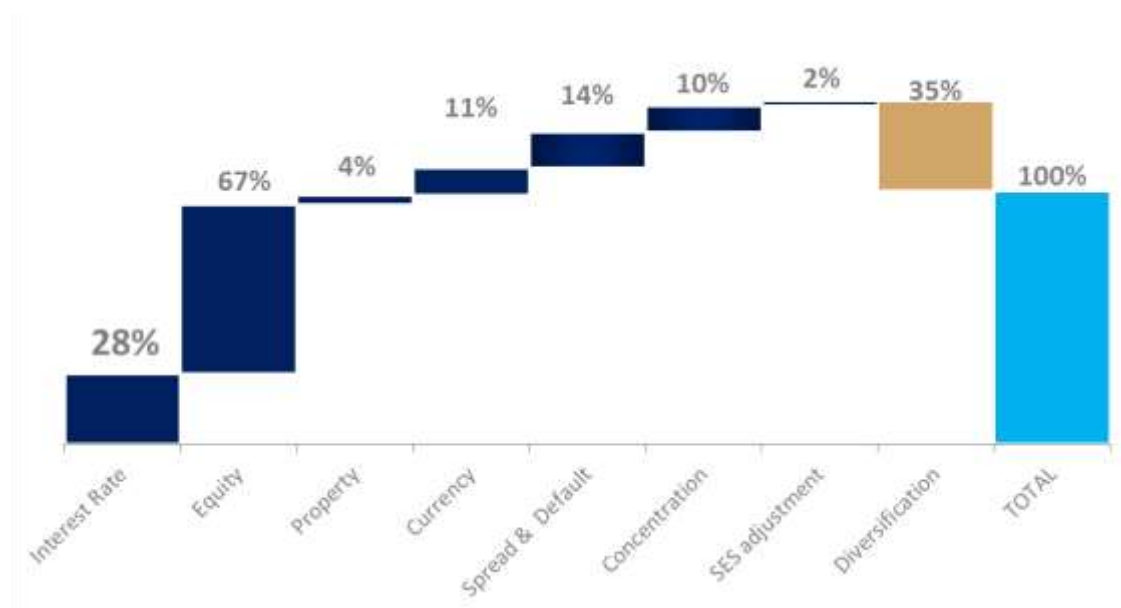
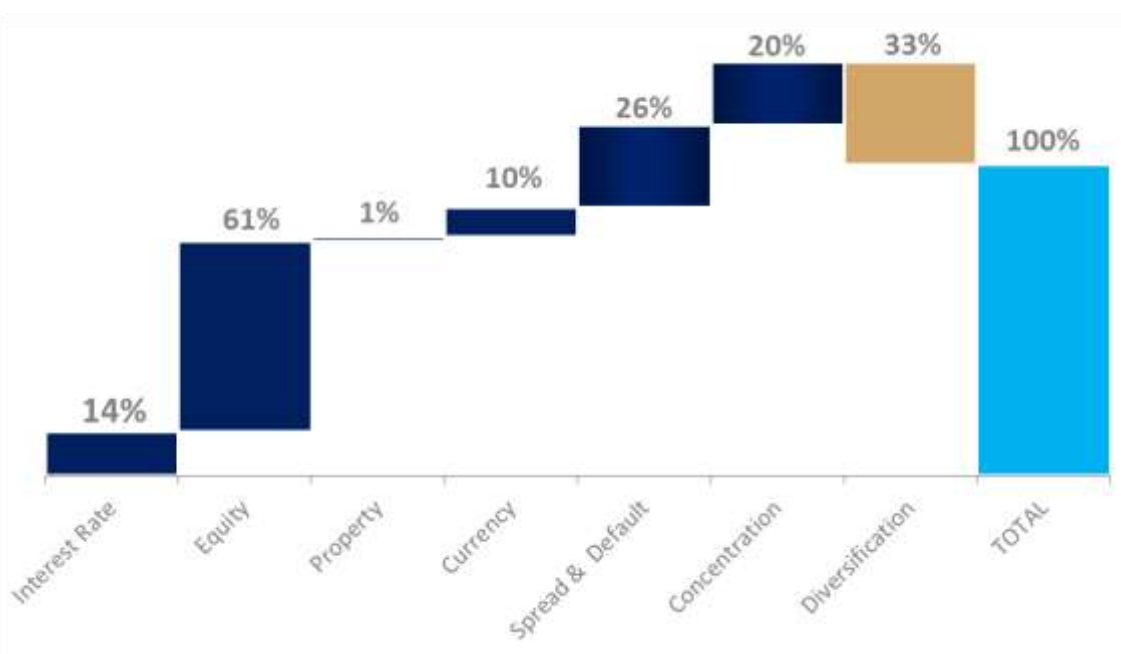


Figure 6.9: Market risk components for non-life insurers



The most significant driver of market risk capital for both life and non-life insurers was the equity risk charge, representing more than 60% of the diversified market risk charge. For life insurers, the next most significant driver of market risk capital is interest rate risk, at 28%. For non-life insurers, although interest rate risk is significant, both spread and default risk as well as concentration risk were shown to be greater drivers of market risk capital. For both life and non-life insurers, diversification among the market risk elements came to approximately 33% of undiversified market risk.

■ **Market Risk**
– *Interest Rate Risk*

For interest rate risk, insurers are required to calculate the impact on Basic Own Funds of both an upward as well as a downward movement in interest rates, and to hold capital based on the most onerous move. Table 6.2 shows to what extent insurers were impacted by the upward or the downward stress:

Table 6.2: Summary of which interest rate stress is more onerous

Types of stresses		Life Insurers	Non-Life Insurers	All Insurers
nominal interest rate shock	Upward stress more onerous	50	38	88
	Downward stress more onerous	14	17	31
	No stress completed	8	27	35
	Total	72	82	154
real interest rate shock	Upward stress more onerous	22	10	32
	Downward stress more onerous	28	13	41
	No stress completed	22	59	81
	Total	72	82	154

A total of 119 insurers provided results for the nominal interest rate shock. For the vast majority of these insurers, the upward movement in interest rates was more onerous. As such, it is clear that for most insurers the fall in value of their fixed income instruments which would result from an increase in interest rates would be more significant than any offset in liabilities associated with the increase in rates.

Fewer insurers conducted a real interest rate shock – 73 in total. Here, the downward stress in real interest rates was the stress which was more onerous for most insurers. There was however a fairly even spread between those impacted by an upward versus a downward shock, for both life and non-life insurers.

■ **Market Risk**
– *Equity Risk*

The following figures show the split of equity risk capital across the various risk contributors for both life and non-life insurers.

Figure 6.10: Equity risk components for life insurers

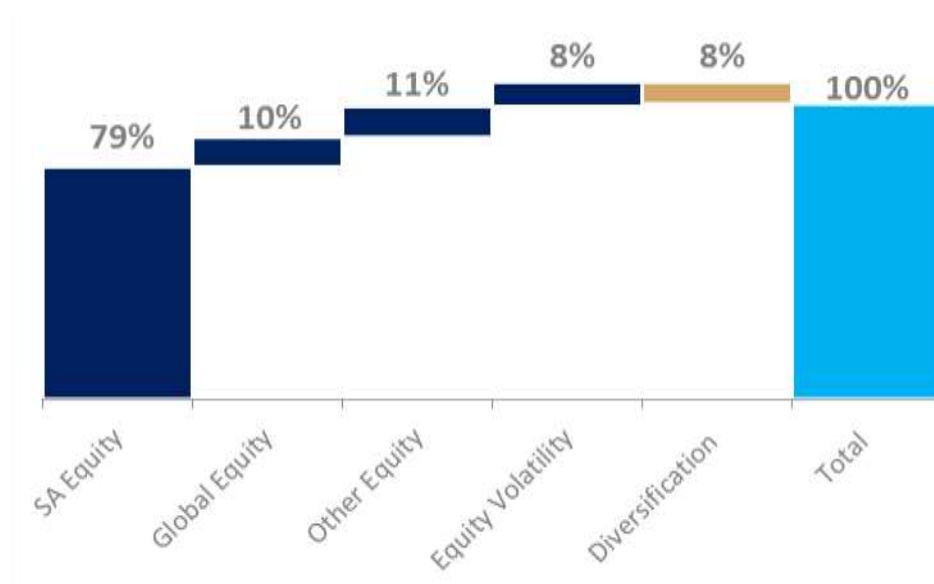
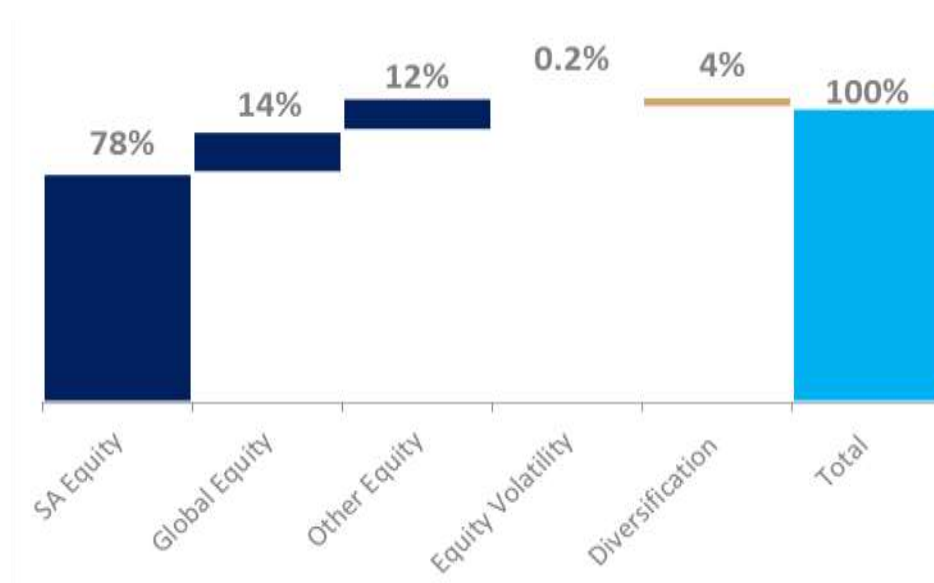


Figure 6.11: Equity risk components for non-life insurers



Exposure to the South African equity market dominates the equity risk capital requirement, with close to 80% of undiversified capital being generated from this exposure. Volatility risk was reintroduced in SA QIS3 into the equity risk component. Although the risk is unlikely to affect the majority of insurers, it remains potentially a significant risk for those exposed to equity volatility. Diversification between the various components of equity risk is relatively small, at 8% for life insurers and 4% for non-life insurers.

- **Market Risk**
 - *Spread & Counterparty Default Risk*

Figure 6.12: Spread and counterparty default risk components for life insurers

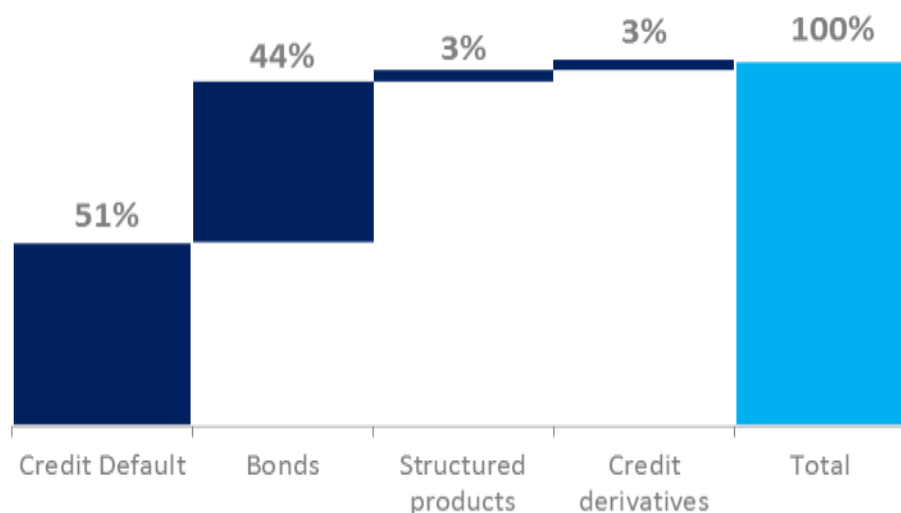
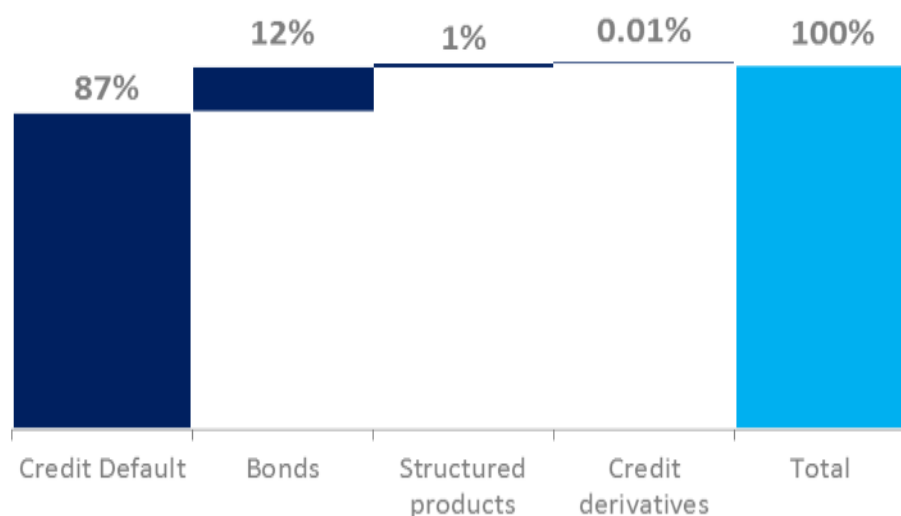


Figure 6.13: Spread and counterparty default risk components for non-life insurers



Credit default risk is the main driver of spread and default capital in both the life and non-life industries. For life insurers, this represents approximately half of the spread and default capital, whereas for non-life insurers credit default represents almost 90%. The overall contribution to capital from credit default for non-life insurers is higher than that for SA QIS2. This may be attributable to the fact that reinsurance recoverables contribute significantly to default risk, and as such claims experience will influence the amount of default risk. Structured products and credit derivatives contribute very little to overall capital, with bond spread risk largely responsible for the remainder of the spread and default risk capital charge.

■ **Market Risk**
– Single
Equivalent
Scenario
Adjustment

As with SA QIS2, insurers were asked to consider the extent to which management action taken into account in the SCR has been double-counted, where relevant. As such, insurers offering products with Discretionary Participation Features (DPF) were required to complete the adjustment based on a single equivalent scenario ("AdjSES"). Where, in a particular fund, there was some indication that management action may be double-counted, an adjustment to the capital requirement was made to compensate. The results from SA QIS3 are given in Table 6.3 below:

Table 6.3: Single Equivalent Scenario (SES) adjustment results by insurer (R'm)

Insurer	# of Funds assessed for AdjSES	Funds with positive AdjSES values	Total AdjSES (R'm)
Insurer 1	1	-	-
Insurer 2	3	-	-
Insurer 3	12	-	-
Insurer 4	1	-	-
Insurer 5	12	5	533
Insurer 6	1	-	-
Insurer 7	69	9	37
Insurer 8	1	-	-
Insurer 9	10	-	-
Insurer 10	1	1	184
Insurer 11	1	-	-
Insurer 12	1	-	-
Insurer 13	2	-	-
Insurer 14	12	6	853
Total	127	21	1 607

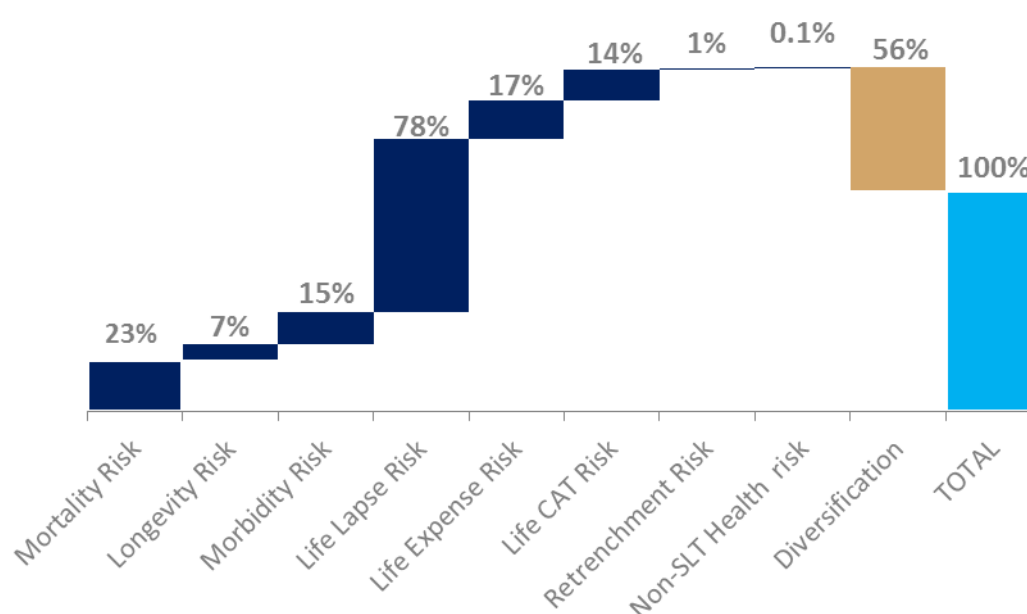
Only 14 insurers completed the section on the single equivalent scenario adjustment. A total of 127 funds were evaluated across the 14 insurers, and only 21 funds were deemed to have potentially double-counted management action. The total value of adjustments made in this regard is R1,6bn.

■ **Life
Underwriting
Risk**

Some changes were made to the structure of the life underwriting risk module from SA QIS2. Revision risk, which was mostly not applicable to life

insurers, was removed. Insurers who may be subject to revision risk will be expected to capture this risk in their ORSA. A more prevalent risk in the SA life industry is retrenchment risk, and this was introduced as a sub-risk. Lastly, while health business valued using Non Similar to Life Techniques (non-SLT) were in SA QIS2 captured in the non-life underwriting risk module, for SA QIS3 this was moved to the life underwriting risk module. The figure below shows the relative contribution to life underwriting risk of each sub-risk:

Figure 6.14: Components of life underwriting risk for life insurers under SA QIS3 (%)



Life lapse risk remains the most significant driver of life underwriting risk capital requirements, followed by mortality risk and expense risk. Diversification across the modules amounted to a total of 56%.

■ **Life Underwriting Risk – Lapse Risk**

For lapse risk, insurers are required to evaluate three different scenarios: a mass lapse shock, a level change to lapse assumptions, and lastly a mass lapse shock followed by a change in the level of lapses. The standalone capital requirement for lapse risk is then calculated by taking the most onerous of the scenarios. The table below shows the extent to which the various scenarios contribute to the capital requirement:

Table 6.4: Results of the various lapse stresses required under SA QIS3

	Mass lapse shock	Level shock	Level shock given a mass lapse shock	Total
Total Capital (Rbn)	68.3	39.5	77.6	
Number of insurers where shock is most onerous	3	6	38	
Capital counting to lapse risk capital (Rbn)	0.2	2.6	74.8	77.6

The vast majority of life insurers are most significantly impacted by the scenario comprising a mass lapse followed by a change in level of lapses – the total undiversified capital required was R74.8bn. A total of three insurers found the mass lapse shock to be the most onerous, contributing R200m to undiversified required capital. Six insurers found the change in level of lapses to be the most onerous, contributing R2.6bn.

In performing the lapse risk calculations, insurers establish homogenous risk groups. The table below shows the number of such risk groups used in the calculation for SA QIS3:

Table 6.5: Number of homogenous risk groups used for the lapse risk calculation

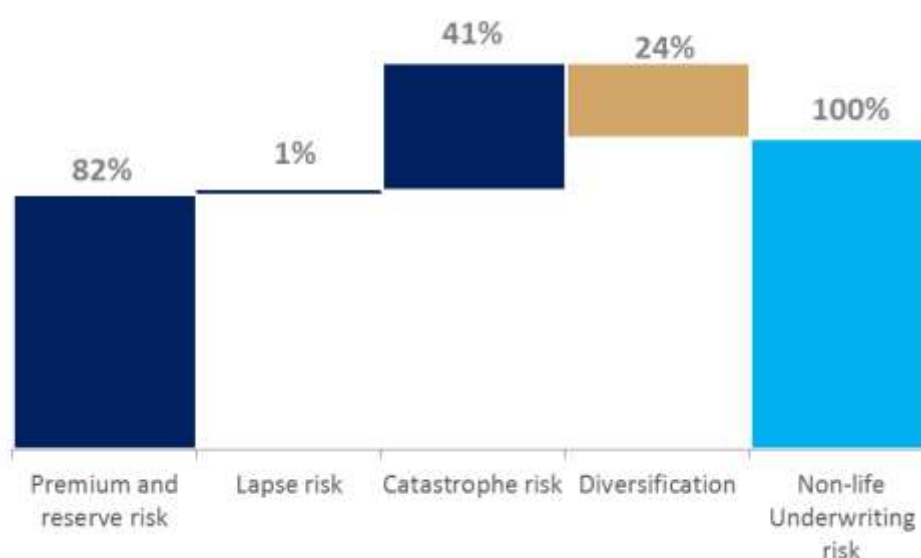
Homogenous risk groups	Number of insurers
1	0
2 to 5	27
6 to 10	7
11 to 20	4
21 to 50	4
51 to 100	4
101 to 200	1
Total	47

A greater number of insurers performed the calculations compared to SA QIS2, where only 38 insurers did so. The vast majority have used 2 to 5 homogeneous risk groupings. Five insurers in total have however used more than 50 risk groups, with one insurer making use of 118 groups.

- **Non-Life Underwriting Risk**

Although the structure of the non-life underwriting risk element remained unchanged from SA QIS3, some changes affected the calculation. The standard deviations for premium and reserve risk were recalibrated based on industry data. The horizontal natural catastrophe scenario was restructured, and further enhancements were made to the treatment of non-proportional reinsurance as risk mitigation. The figure below shows the contribution of the various elements of non-life underwriting risk to overall standalone non-life underwriting risk capital requirements:

Figure 6.15: Contribution of non-life underwriting risk components to non-life underwriting risk SCR (%)



Premium and reserve risk is the largest contributor to overall capital requirements, as was the case in SA QIS2. Catastrophe risk follows, with lapse risk representing only 1% (approximately R250m). It should be noted that for premium and reserve risk, the standard deviations used are those specified in the standard formula and not any user specified parameters (USP's) provided by insurers.

- **Non-Life Underwriting Risk – Premium and Reserve Risk**

For premium and reserve risk, the capital requirements are calculated by combining a volume measure with an indicator of variability (standard deviation). The tables below show the relative contribution per line of business of both premium and reserve risk:

Table 6.6: Split of premium and reserve risk volume measures across lines of business for direct insurance (%)

	Direct		Proportional Inwards Reinsurance					
	Premium Risk	Reserve Risk	Premium Risk			Reserve Risk		
			Treaty	Facultative	SPV & Other	Treaty	Facultative	SPV & Other
Accident and Health	3.5%	2.5%	2.8%	1.7%	0.6%	2.5%	2.8%	1.3%
Motor - Personal Lines	30.0%	17.2%	33.8%	7.7%	-	17.2%	34.4%	5.9%
Motor - Commercial Lines	14.5%	12.1%	16.6%	-0.0%	17.1%	12.1%	16.9%	-0.0%
Aircraft	0.2%	0.2%	0.1%	-	-	0.2%	0.1%	-
Marine	0.8%	0.9%	1.8%	0.7%	0.4%	0.9%	1.9%	0.8%
Rail	0.0%	0.0%	-	-	-	0.0%	-	-
Transport	0.8%	1.6%	0.9%	0.8%	0.2%	1.6%	0.9%	0.9%
Agriculture	1.2%	1.8%	2.2%	0.2%	0.5%	1.8%	1.0%	0.2%
Engineering	2.9%	3.0%	4.3%	14.6%	0.8%	3.0%	3.9%	13.6%
Property - Personal Lines	21.6%	13.0%	8.2%	4.4%	14.0%	13.0%	7.8%	4.8%
Property - Commercial Lines	12.1%	19.7%	23.4%	64.3%	59.7%	19.7%	24.7%	67.1%
Liability - Motor	1.4%	6.2%	0.0%	-	-	6.2%	0.0%	-
Liability - Aircraft	0.7%	3.1%	0.0%	0.0%	-	3.1%	0.0%	0.0%
Liability - Marine	0.0%	0.1%	0.0%	-	-	0.1%	0.0%	-
Liability - Rail	0.0%	0.2%	0.0%	-	-	0.2%	0.0%	-
Liability - Transport	0.2%	0.1%	-	-	-	0.1%	-	-
Liability - Engineering	0.4%	1.8%	-	-	-	1.8%	-	-
Liability - Other	0.7%	7.0%	1.7%	0.8%	2.8%	7.0%	1.6%	0.8%
Trade Credit, Suretyship & Guarantee	4.3%	7.0%	1.9%	3.9%	2.1%	7.0%	1.7%	3.5%
Consumer Credit	0.0%	0.0%	0.5%	-	-	0.0%	0.3%	-
Legal	1.5%	1.1%	0.1%	-	-	1.1%	0.0%	-
Travel	0.2%	0.2%	-	-	-	0.2%	-	-
Miscellaneous	2.9%	1.3%	1.8%	0.9%	1.8%	1.3%	1.9%	1.0%

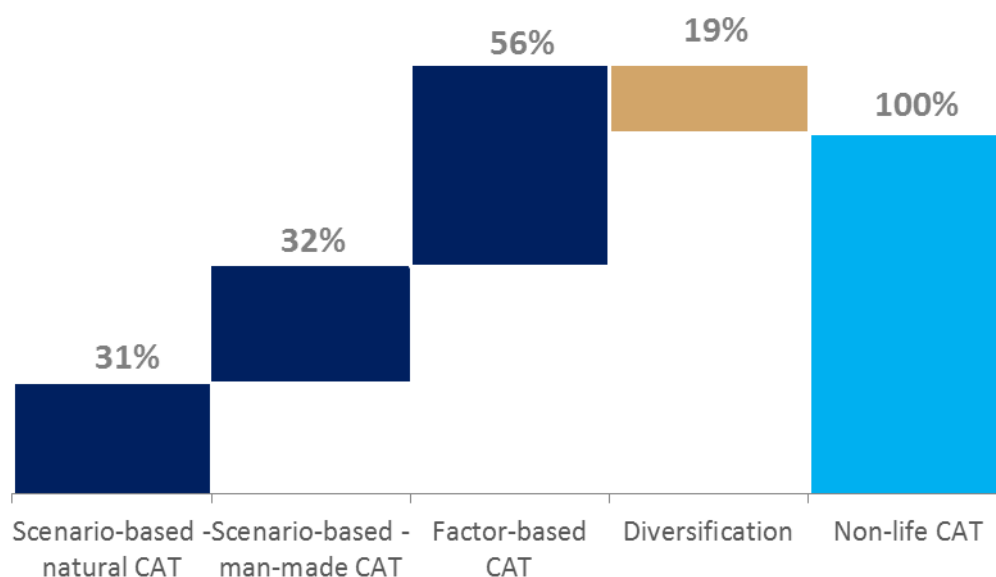
For direct business, the greatest contributor to overall volume measures for premium risk is motor personal lines, followed by property personal lines. Together, these two lines of business comprise more than 50% of overall premium risk volume measures for direct business. For reserve risk, the largest contributor is commercial property, followed by motor personal lines and property personal lines.

For inwards proportional reinsurance, property and motor again contribute most of the volume measures for both premium risk and reserve risk.

■ **Non-Life Underwriting Risk – Catastrophe Risk**

Catastrophe risk comprises scenario based methods, separated into natural and man-made scenarios, and a factor-based method. The figure below shows the relative contribution of each type to the overall standalone catastrophe capital charge:

Figure 6.16: Contribution of the scenario based and factor based calculations on non-life catastrophe risk capital

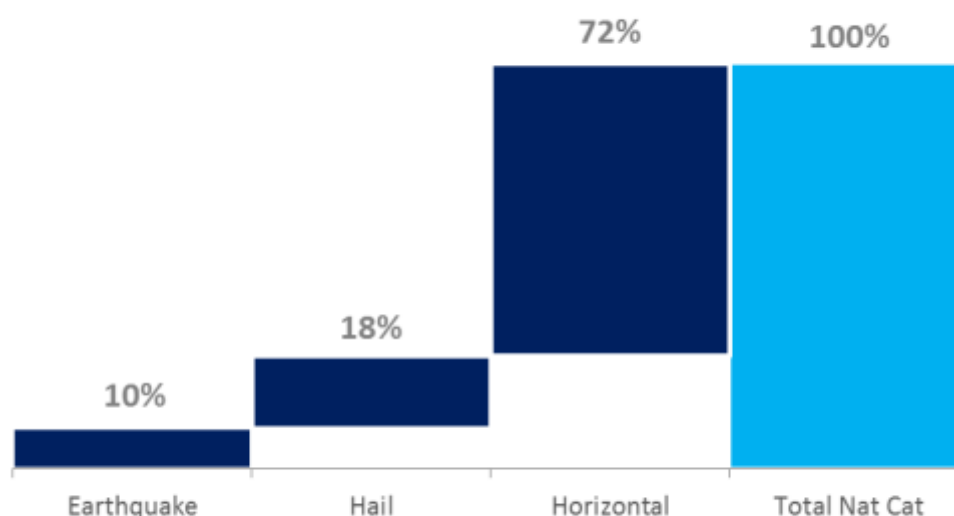


The factor-based method represents the greatest component of non-life catastrophe risk. The factor-based method applies where appropriate scenario-based methods are not possible – either due to exposures for which scenarios have not been constructed, or because insurers do not have sufficient data to assess a scenario. As such, the factor-based method may be somewhat more conservative than the scenario-based methods, given the inherent uncertainty.

- **Non-Life Underwriting Risk – Natural Catastrophe Risk**

Regarding natural catastrophe risk, the figure below shows how the various components relate to one another in terms of significance:

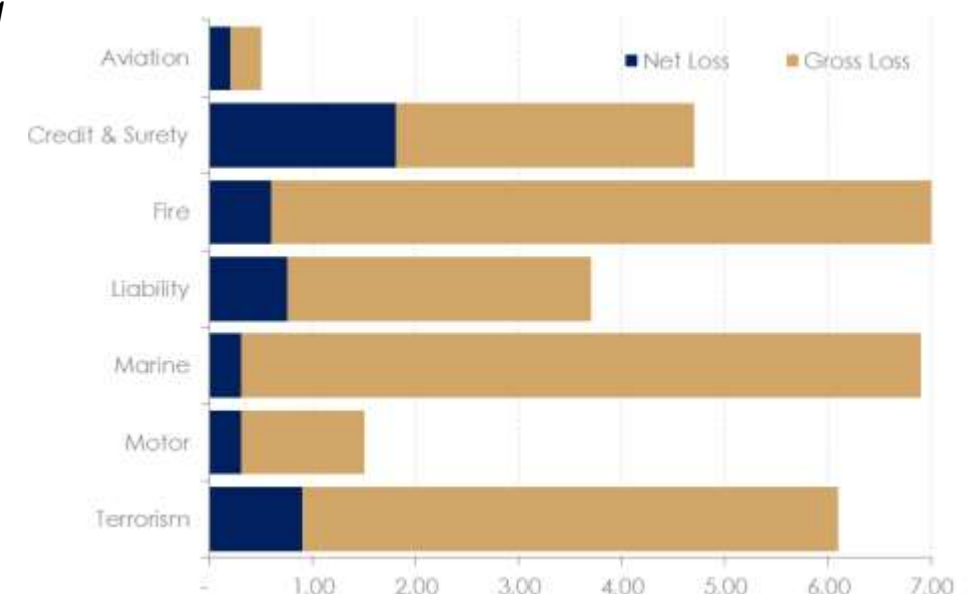
Figure 6.17: Contribution of earthquake risk, hail risk, and the horizontal scenario risk to total natural catastrophe risk (R'm)



The horizontal scenario contributes the largest component of natural catastrophe risk. This represents a significant change from SA QIS2, where earthquake risk represented more than 95% of the natural catastrophe capital. This is due to a recalibration of the horizontal scenario, and better reflects the risk exposures in the South African landscape.

Man-made catastrophe risk is an equally significant driver of scenario-based catastrophe capital requirements for non-life insurers. Figure 6.18 below shows the total gross and net capital requirements:

Figure 6.18: Sub-risks of the man-made catastrophe risk capital calculation showing gross and net losses (R'bn)



- **Non-Life Underwriting Risk – Man-made Catastrophe Risk**

Risk mitigation plays a significant role in reducing capital requirements for man-made catastrophe, with a reduction of approximately 84% from gross capital requirements. On a net basis, the largest contributor to capital required by the industry in credit and surety risk, followed by terrorism and liability.

■ First Party Insurance Simplifications

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:

Table 6.7: Effect of the first-party simplification calculation on overall capital requirements for captives and cell insurers (R'000)

	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%.

The results from the simplifications will be further analysed by the FSB and relevant task groups to consider the merits of simplifications for first party structures.

Table 6.10 below shows the impact of risk mitigation and the capital requirements associated with the risk of default of counterparties providing such risk mitigation:

Table 6.8: Capital charges for sub-risk categories of market risk, non-life underwriting risk and life underwriting risk showing the effect of risk mitigation and the counterparty default adjustment

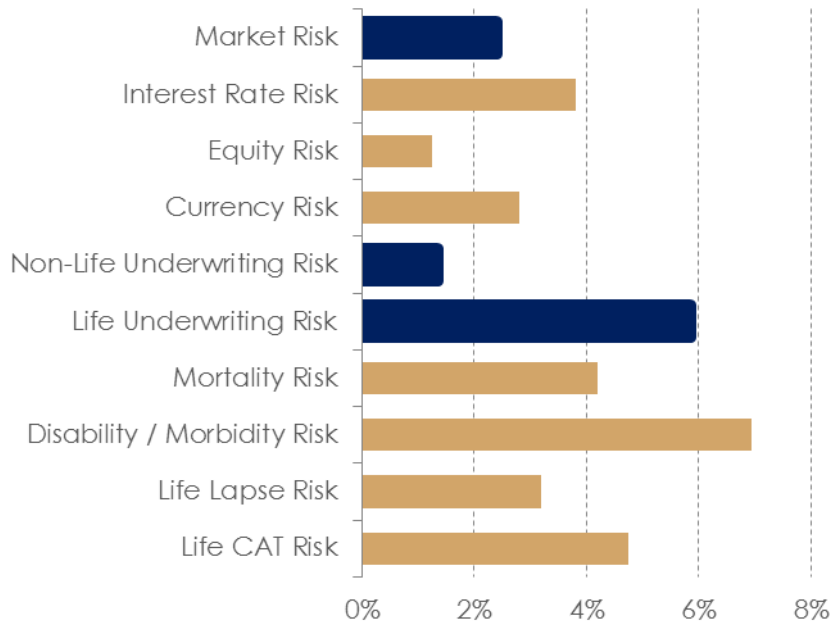
	(R'm)			
	Before Risk Mitigation	Effect of Risk Mitigation	Counterparty Default	Net Capital Charge
Market Risk				
Interest Rate Risk	28 522	5 183	199	23 538
Equity Risk	67 975	6 730	88	61 333
Property Risk	3 083	63	3	3 023
Currency Risk	11 057	1 332	37	9 762
Non-Life Underwriting Risk				
Premium & Reserve Risk	28 453	9 442		19 011
Catastrophe Risk	138 411	125 026		13 386
Aggregate counterparty default adjustment			1 788	
Life Underwriting Risk				
Mortality Risk	25 425	2 291	98	23 232
Longevity Risk	7 532	73	56	7 515
Disability / Morbidity Risk	16 541	1 958	136	14 719
Life Lapse Risk	78 842	1 292	42	77 593
Life Expense Risk	17 512	113	20	17 419
Life CAT Risk	16 747	2 904	138	13 981
Retrenchment Risk	1 029	118	23	935
Non-SLT Health underwriting risk	751	3	0	748

It is clear from Table 6.8 that risk mitigation is used widely to limit a range of risks. The most significant use is for non-life catastrophe risk, where reinsurance is used to reduce the capital required by more than 90%.

Figure 6.19 further demonstrates how the effect of risk mitigation on capital requirements relates to the additional capital requirements associated with the default risk of the providers of risk mitigation:

■ *Risk Mitigation
and
Counterparty
Default*

Figure 6.19: Ratio of capital charge for counterparty default on risk mitigation to the effect of risk mitigation



The graph above shows the counterparty default risk as a percentage of the reduction in capital required due to risk mitigation. The percentage ranges from approximately 1% to 7%. For the main risk categories, the smallest percentage is for non-life underwriting risk (1.5%), and the greatest for life underwriting risk (6%). Market risk has a ratio of approximately 2.5%.

7. Minimum Capital Requirement (MCR)

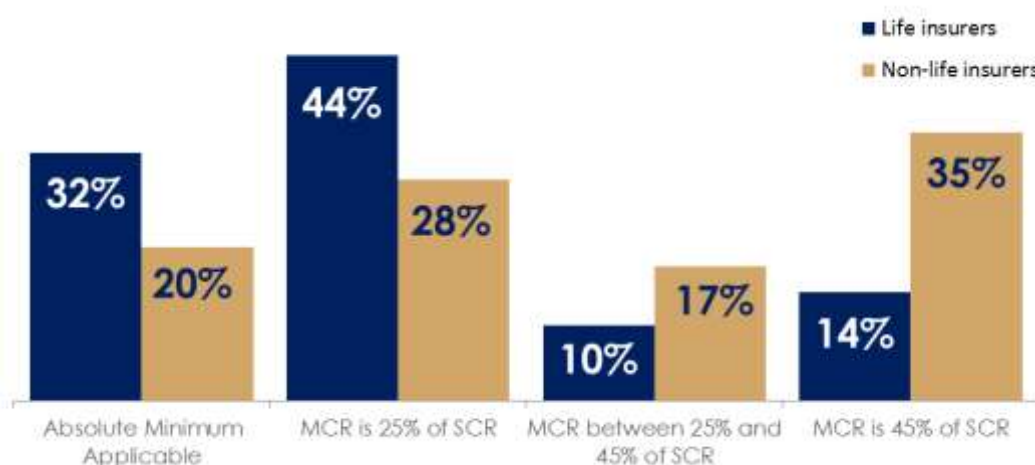
While the SCR is the amount of capital that insurers need to hold to remain solvent in a 1-in-200 year extreme event, the MCR is the amount of capital at which point the regulator would be expected to take immediate action to ensure that policyholders are protected. This is in line with the “ladder of intervention” that is integral to the FSB's risk-based approach to prudential supervision.

The structure of the MCR is set up as a relatively simple linear formula, but limits are imposed to ensure that the MCR falls between 25% and 45% of the SCR. There is also however an absolute minimum applicable of R15m, which all insurers are expected to hold.

There are nine insurers who do not meet MCR in SA QIS3. This comprises three non-life insurers and six life insurers. Four of the life insurers and 1 of the non-life insurers not meeting MCR do, however, meet SCR. This is due to the fact that, for these insurers, the absolute minimum MCR is applicable and exceeds the SCR.

The table below sets out the distribution of insurers holding the absolute minimum and the relation between the MCR and the SCR.

Figure 7.1: Results of the linear formula for MCR in relation to the restrictions placed on MCR



The results from Figure 7.1 show that a significant number of insurers will have an MCR which is based on the minimum amount of R15m rather than the results from the linear formula. Close to a third (32%) of all life insurers have this as their minimum, and a fifth (20%) of non-life insurers have the rand value minimum. The figure also clearly demonstrates the need for the limits to be placed on the linear formula for MCR: only 10% of

life insurers and 17% of non-life insurers have a linear formula which falls between 25% and 45% of the SCR. More life insurers tend to have a linear formula MCR which falls below 25% of SCR, while the majority of non-life insurers have a linear formula which results in an MCR higher than 45% of SCR.

8. Own Funds

- Recognition of Own Funds**

Part of the move towards a more holistic view of the (economic) balance sheet is a change in the recognition of assets used to back liabilities and capital requirements. Depending on the capital instruments and structures held, the impact of changes to the recognition of assets for statutory purposes will vary from insurer to insurer.

Figure 8.1: Overall own funds as a percentage of current capital resources



The results are broadly consistent with that of the previous impact studies. Life insurers reported higher levels of own funds relative to current capital resources than life insurers, and also higher variability. This is mainly due to the lower technical provisions calculated on a SAM basis compared to the current basis. The median life insurer has own funds of 1.5 times that of current capital resources, while 14 life insurers have basic own funds exceeding 300% of capital resources. For non-life insurers, basic own funds are much closer in value to current capital resources than for life insurers. For 90% of non-life insurers, basic own funds are less than 150% of current resources, and only 15 insurers have a ratio of more than 120%. The median non-life insurer has a ratio of approximately 100%.

- Tiering and Eligibility**

In order to have own funds count towards balance sheet strength, items comprising own funds have to be of a certain quality. To this end, assets are required to be tiered as either Tier1, Tier 2 or Tier 3, with Tier 1 being assets of the highest quality. Restrictions are then placed on what type of capital may count towards covering the MCR and the SCR. This is achieved by limiting the amount of assets from lower tiers that may count. As such, tiering could have a significant impact on the solvency of an insurer. For the SA QIS3 exercise, a total of four life insurers and eight non-life insurers reported

holding Tier 2 capital. Furthermore, three life insurers and three non-life insurers reported holding Tier 3 capital.

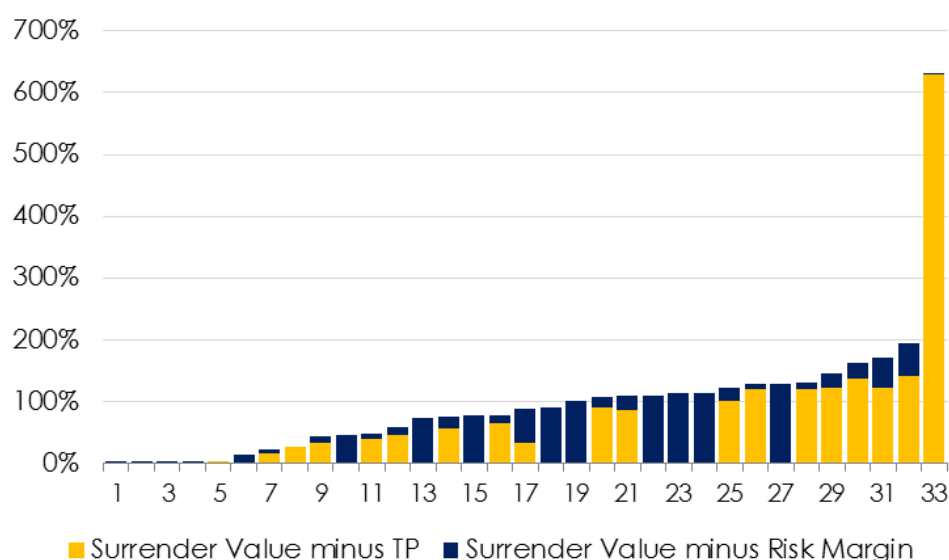
The impact of tiering as well as adjustments to own funds and ancillary items were mostly small. Approximately 10% of insurers reported having a reduction in basic own funds of more than 10% when considering tiering and adjustments, and 75% of insurers reported no reduction.

■ Surrender Value Gap

With the valuation approach under SAM, a key feature of many life insurance contracts is that the technical provision for a contract can be lower than the surrender value. One example of this is for risk products (which effectively have a zero surrender value) that may have a negative best estimate, and even with a positive risk margin still have a technical provision less than zero. This is essentially akin to the recognition of future profits as an own funds item. In order to better understand this item further information was collected.

The true surrender value gap should take into account the full technical provision which would be released if a policy were to be surrendered. However, the risk margin component can be difficult to include, as the risk margin is calculated on a line of business basis as opposed to on a per policy basis. In SA QIS3, insurers were asked to calculate the surrender value gap, both including and excluding the risk margin. Figure 8.2 shows the value of the surrender value gap for all participants who reported such a value:

Figure 8.2: Total surrender value gap as a percentage of basic own funds (before adjustments) for life insurers



Where no value for the Surrender Value minus TP has been given, the bar represents Surrender Value minus Best Estimate and not only the Risk Margin.

A total of 33 life insurers reported a surrender value gap excluding the risk margin. The average value of this gap as a percentage of basic own funds is close to 100%. There were 15 insurers who reported a ratio of more than 100% of basic own funds, and the total value of the gap across the 33 insurers amounted to R185bn. A single insurer has a ratio of more than 6 times, which

is as a result of a large surrender value gap combined with a relatively low value of basic own funds.

Of the 33 life insurers, 22 also reported the surrender value gap including the risk margin. The inclusion of this margin led to a 21% average decrease in the surrender value gap.

Clearly profits in future cash flows play a significant role in the life industry, and establishing appropriate treatment for recognition of such an item is important. The FSB is in the process of establishing steer for the appropriate treatment of the surrender value gap, and is engaging with select insurers to test certain proposals.

9. Ring-Fenced Funds

- **Overview** Ring-fenced funds relate to funds held within insurers where there may be limits on the extent to which losses can be shared with other funds held by the insurer. There may be legal or operational reasons why funds may be ring-fenced. Specific areas currently being investigated as to whether ring-fencing should be applied, include:
 - With-profit funds, where the insurer may not be able to meet losses in one fund with profits made in another fund due to policyholders' reasonable expectations;
 - Cells, where the insurer manages a block of business separately.

There could be two areas where ring-fenced funds may impact the financial position of the insurer:

- Own funds may be limited, as the insurer may not be able to access own funds held in a ring-fenced fund to meet losses occurring outside that ring-fenced fund;
- It may not be appropriate to recognise diversification benefits between ring-fenced funds, as it may not be possible to offset losses occurring in different ring-fenced funds.

Eight insurers in total provided information regarding ring-fencing of with-profit funds. Table 9.1 below shows the impact of ring-fencing for providers of with-profit products:

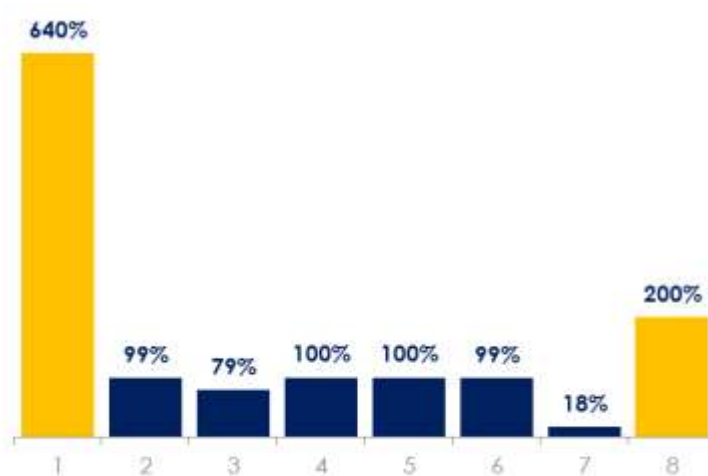
Table 9.1: Ring-fenced funds results for with-profit insurers (R'bn)

- **With-Profit Insurance Funds**

	No ring fencing	With ring fencing
Eligible Own Funds	115.3	112.9
SCR	66.1	66.2
Surplus	49.2	46.7

Ring-fencing applied to with-profit funds led to a significant reduction in Eligible Own Funds of R2.4bn. The impact on the SCR was an increase of R100m, and the net result a drop in surplus of approximately R2.5bn. Figure 9.1 below shows how the individual insurers were impacted by ring-fencing:

Figure 9.1: Ratio of surplus/deficit under ring-fenced calculation to surplus under base calculation (%)



The two insurers reporting a ratio of more than 100% were insurers who reported a deficit both with and without the application of ring-fencing. As such, the impact of ring-fencing for these insurers was thus an increase in deficit of 640% and 200% respectively. For the remainder of respondents, the ratio is a reduction in surplus. Ring-fencing had little to no impact on four of the insurers. The insurer reporting a reduction in surplus of 82% was also impacted by ring-fencing on cell arrangements, and the results should thus be interpreted in this context.

In terms of cell arrangements, results were reported by nine insurers. The impact is shown below in Table 9.2:

Table 9.2: Ring-fencing results for insurers with cell arrangements (R'bn)

	No ring fencing	With ring fencing
Eligible Own Funds	7.6	2.6
SCR	6.8	8.7
Surplus	0.8	-6.0

The overall impact on the nine insurers was a change from a surplus of R800m to a deficit of R6bn. Four of the nine insurers reported deficits after applying ring-fencing, two of which also reported a deficit before applying ring-fencing. The most significant impact of ring-fencing was a reduction in the Eligible Own Funds. The impact on SCR due to the treatment of diversification was smaller in impact for most insurers, with three of the insurers reporting sufficient capital outside ring-fenced structures to fund the diversification benefit and thus report no change in SCR.

■ Further Work Required

The treatment of diversification in the context of ring-fencing for cell providers remains an area where additional work is required. The FSB will be engaging with these providers in the course of 2015.

10. Taxation

The taxation implications of SAM can have a significant effect on some insurers, and understanding what this impact will be is difficult given the uncertainty over the future tax regime. Table 10.1 below shows the impact of the SA QIS3 tax assumptions:

Table 10.1: Impact of taxation on the SA QIS3 results (R'm)

	Life insurers	Non-life insurers	All insurers
<i>Deferred tax assets</i>	890	837	1 727
<i>Deferred tax liabilities</i>	44 376	1 483	45 858
<i>Net deferred tax assets relegated to Tier 3</i>	134	506	640
<i>Loss absorbing adjustment to SCR</i>	37 237	2 804	40 042

Under SA QIS3 deferred tax assets were only permissible if it was probable that they would be recoverable from future profits. The impact of tax on the SAM balance sheet is mostly absorbed by the deferred tax liabilities, which accounts for the difference in timing of the recognition of profits between the SAM and tax balance sheets. The tax environment however remains uncertain, but there are some indications that the preferred approach may be an adjusted IFRS basis for calculating the technical provisions for tax purposes.

Figure 10.1: Reduction in the SCR due the loss absorbing capacity of deferred taxes (%)

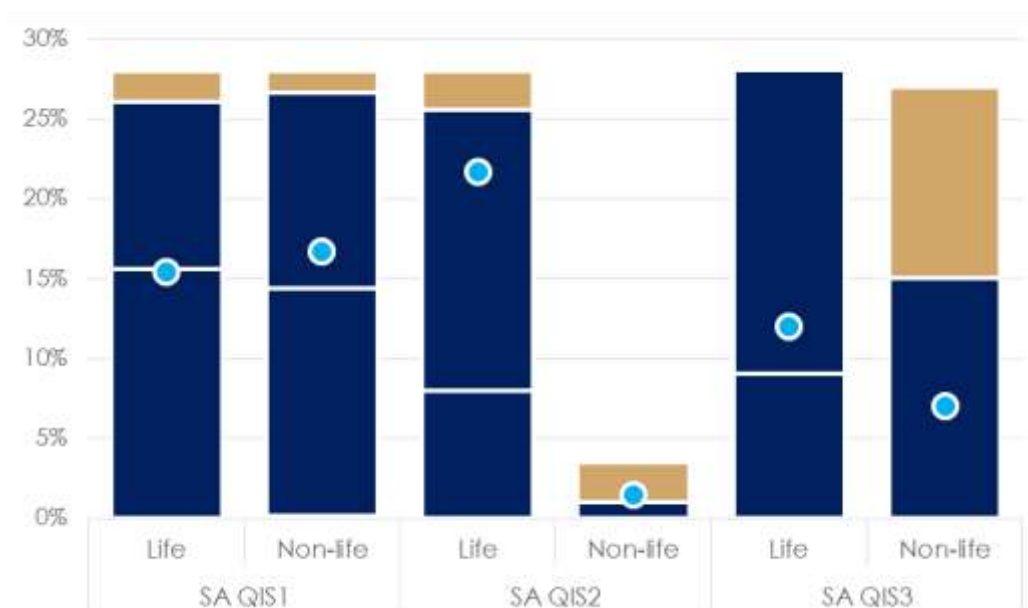


Figure 10.1 above shows the impact of the loss absorbing capacity of deferred taxes. SAQIS3 allowed insurers to create a deferred tax asset in a stressed event, subject to certain criteria. For non-life insurers, the creation of these tax assets increased the loss absorbency capacity of deferred taxes, leading to a reduction in their SCR.

As part of the information collected in the SA QIS3 exercise, life insurers were asked to provide information on the amount of negative rand reserves and deferred acquisition costs zeroised for tax purposes. The results are shown in Table 10.2:

Table 10.2: Zeroisation of NRR and DAC by life insurers for the calculation of deferred tax liabilities (R'bn)

<i>NRR zeroised</i>	59.6
<i>DAC zeroised</i>	1.5
<i>Tax impact of the zeroisation of NRR and DAC</i>	13.5
<i>Effective tax rate used</i>	22%

Not all life insurers provided this information, and analysis and interpretation of results is therefore limited. Given recent legislative amendments with regards to the taxation of risk policies in a separate policyholder fund and SARS's published intention not to allow offset between losses in this proposed fund and other profitable policyholder funds, additional work will be undertaken to establish the effect this may have on the solvency position of life insurers.

11. Liquidity Risk Assessment

■ Introduction

SA QIS3 was the first quantitative impact study in which measures were considered to understand the potential liquidity issues that insurers may have under SAM. Liquidity is not traditionally a significant risk faced by the insurance model. However, given the use of a best estimate approach as the basis for the calculation of the technical provisions, there is a potentially large part of the own funds of a life insurer that can consist of the surrender value gap. This can be seen in Fig 8.2.

The large surrender value gap may mean that insurers could place themselves in a position where they have increased exposure to liquidity risk where they are over reliant on the illiquid surrender value gap to meet losses that need to be met in the short term.

Within the SAM Framework, the FSB would expect the insurers to manage this risk through the Pillar 2 process, especially within the Own Risk and Solvency Assessment (ORSA). However, in order to monitor the potential exposure that the insurers may have to liquidity risk, two measures of liquidity shortfall were developed to be tested in SA QIS3.

These liquidity shortfall measures developed effectively consider the amount of liquid assets that would be available to the insurer after a stressed event in line with the confidence level used to determine the solvency capital requirement. This amount of available liquid assets is then compared to the stressed cash flow position of the insurer after the stressed event.

■ Results

The liquidity shortfall measures were only required to be calculated by the life insurers. The table below shows the number of life insurers completing the calculations and the number of life insurers showing a liquidity shortfall.

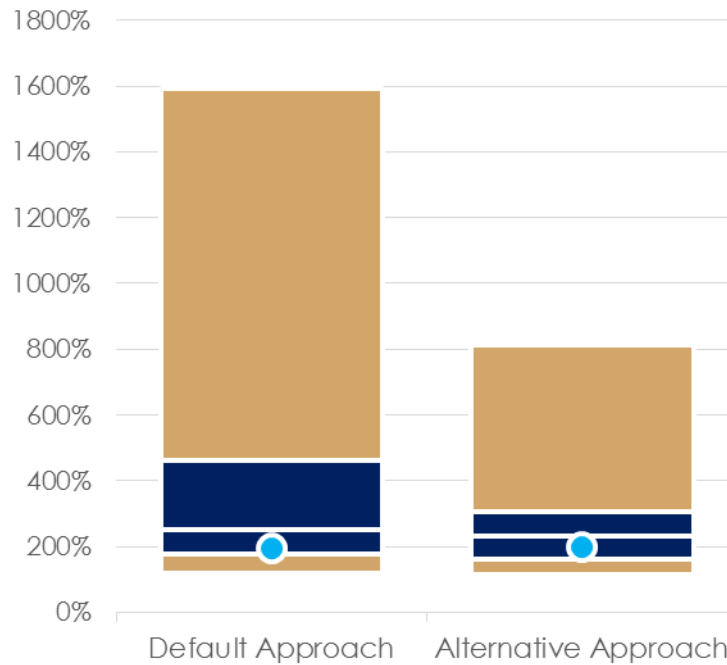
Table 11.1 Life insurers completing the liquidity shortfall calculations

	Default Approach	Alternative Approach
Total	72	72
Completed Liquidity Shortfall calculation	38	26
Reporting Liquidity shortfall	1	1

The table above is reassuring in that only one insurer showed a liquidity shortfall for each of the two approaches tested. It was not the same insurer that reported a shortfall on both approaches. However, the insurers reporting a shortfall were not insurers that had reported large surrender value gaps.

The distribution of the liquidity ratios for the different approaches is shown in the figure below:

Figure 11.1 Distribution of liquidity ratios for the default and alternative approaches tested in SA QIS3



This figure shows that the overall distribution of the two methods is very similar, and that overall no liquidity concerns are highlighted by the high-level indicators used. For both approaches, the aggregate liquidity ratio where both the liquid assets as well as the cash outflows are stressed is just under 200%.

12. Own Capital Models

Some insurers will make use of their own capital models for decision-making. The extent of the use of such models will vary greatly across insurers. In SA QIS1 and SA QIS2, questions relating to internal models were asked specifically in the context of models which insurers intend using to apply for use as a regulatory capital model. In SA QIS3 this was broadened for the purpose of collecting more information on how internal capital models fare against the requirements under the standard formula of SA QIS3. It was hoped that insurers who had used such models internally for some time, or those who had more recently developed models for ORSA purposes, would have figures to report. Table 12.1 shows the results of the own capital models:

Table 12.1: Impact of the use of capital models on capital requirements – life and non-life insurers

	Overall SCR	Life Underwriting Risk	Non-Life Underwriting Risk	Market Risk	Operational Risk
<i>Lower capital requirement than Standard Formula</i>	8	2	6	6	2
<i>Higher capital requirement than Standard Formula</i>	2	0	2	3	5
<i>Median capital model as % of Standard Formula Capital</i>	77%	80%	72%	82%	109%

A total of 10 insurers submitted data on their internal models. In most cases, the use of an internal model leads to lower capital than that derived from the standard formula. For two insurers however, the overall capital requirement was higher than that under the standard formula. This was most prevalent for operational risk, where five of the seven insurers who have internal models for operational risk reported higher capital requirements under their internal models than that produced by the standard formula. Work on internal models is expected to continue for many insurers in preparation for their ORSA projections ahead of the SAM implementation date. Further work will also be done for those insurers who have entered the Internal Models Application Process of the FSB, and the FSB is currently reviewing these models.

13. Groups

- **Introduction** SA QIS3 was the second exercise to test the impact of completing a group solvency calculation under the proposed SAM framework. As opposed to the approach taken in SA QIS2 where insurance groups were asked to complete a large number of calculations, SA QIS3 focussed on the completion of fewer calculations in line with the expectation of what the final group calculation will consist of under the SAM Framework.

Whereas SA QIS2 requested the completion of the group solvency position under six potential different bases, the following three different group solvency calculations were requested in the SA QIS3 exercise:

- **Current:** Using the deduction and aggregation approach⁴ where the current capital requirements for insurers are used in the calculation;
- **SAM Alternative 1:** Using the deduction and aggregation approach where the SA QIS3 specification is used for South African insurers and the treatment for non-South African insurers is dependent on the strategic importance of the insurer;
- **SAM Alternative 2:** Using the accounting consolidation⁵ approach for South African insurers, with the remainder of the group using the deduction and aggregation approach outlined in SAM Alternative 1.

For more detail on the different approaches tested, please refer to the Groups section of the SA QIS3 technical specification.

It should be noted that although the terminology for the methods used in SA QIS3 are similar to that used for some of the methods tested in SA QIS2, there are some important differences. Care should therefore be taken when making comparisons between results in SA QIS2 and SA QIS3.

Specifically, SAM Alternative 1 under SA QIS3 is not the same as SAM Alternative 1 under SA QIS2. Under SAM Alternative 1 for SA QIS3, insurance groups were requested to follow the treatment of non-South African insurers in line with the approach set out in Position Paper 85. This allows foreign insurance subsidiaries to be excluded from the calculation if they are not deemed as strategically important and if they are solvent on a local basis.

Furthermore, the accounting consolidation tested in SAM Alternative 2 for SA QIS3 differs greatly from the accounting consolidation method tested in SAM Alternative 4 for SA QIS2. The approach taken in SA QIS2 allowed for

⁴ Deduction & aggregation is an approach where the capital position for the group is calculated by adding together all the capital positions of the entities within the group and deducting the intragroup exposures to avoid double-counting of capital.

⁵ Accounting consolidation approach is an approach where the SAM requirements are applied to the consolidated balance sheet of the whole group.

the consolidation of the entire insurance group. This is in contrast to the SA QIS3 approach where the consolidation is only for South African insurers and the deduction and aggregation approach is used for the remainder of the entities within the insurance group. In this respect, the accounting consolidation approach tested in SA QIS3 is more similar to the combination approach tested in SAM Alternative 5 for SA QIS2.

Although much progress has been made in calculating the group solvency position for the insurance groups, the SA QIS3 exercise has highlighted that there are still a number of uncertainties in the calculation, with a number of areas requiring further guidance to facilitate a consistent approach across the industry.

■ **Participation**

Under SA QIS3, the completion of the group solvency calculation was made compulsory for insurance groups identified by the FSB. All groups participating in the exercise were required to complete both the Current and SAM Alternative 1 methods, and the use of SAM Alternative 2 was optional.

Given the compulsory nature of the exercise, it was expected to see an increase in submissions, with 38 useable group returns submitted to the FSB and taken into account for this report. This is almost a 50% increase from the 26 submissions which were submitted under SA QIS2.

Table 13.1: Number of insurance groups completing the various calculation methods requested for SA QIS3

Method	Description of method	Groups completing this method
Current	Deduction & Aggregation approach applied to the current regulatory requirements	38
SAM Alternative 1	Deduction & Aggregation approach using the SAM basis for South African insurers	38
SAM Alternative 2	Accounting Consolidation approach under the SAM basis for the South African insurers and the Deduction & Aggregation approach for all other entities	10

As shown in Table 13.1, all submissions included results on both the Current and SAM Alternative 1 basis, with 10 insurance groups also completing the SAM Alternative 2 basis. There were a number of insurance groups that completed the SAM Alternative 2 basis, but where the results were identical to the results for the SAM Alternative 1 basis. This would be expected where there is only one South African insurer within an insurance group. For the purpose of the analysis in this document, the results for SAM Alternative 2 for these cases have been removed.

The participation in SA QIS3 represents a significant proportion of the overall percentage of insurance groups within the South African market. The table below compares the participation of the SA QIS3 exercise compared to the data which was gathered from the compulsory insurance groups' information letter sent out for completion in 2012.

Table 13.2: Number of entities included in the SA QIS3 insurance groups submission, compared to the insurance groups information letter

Insurance Groups Entities per type	From Groups Information letter	QIS3	
		<i>Reported</i>	<i>Included in calculation</i>
Ultimate Holding Company	35	33	24
SA Regulated Insurance	110	112	94
SA Regulated Banking	3	2	2
SA Other financial regulated entity	326	231	152
SA Non-regulated entities	685	327	273
Non-SA Regulated Insurance	84	74	59
Non-SA Regulated Banking	0	0	0
Non-SA Other financial regulated entity	105	67	60
Non-SA Non-regulated entities	256	121	109
Total	1604	967	773

The locations of the 74 Non-South African insurers included in the submissions are worth noting.

Table 13.3: Split of non-South African insurers by jurisdiction⁶

	Included in calculations	Excluded from calculations	Total
Australia	1	0	1
Botswana	8	1	9
China	1	0	1
Ghana	2	0	2
Ireland	1	0	1
Kenya	3	2	5
Lesotho	1	0	1
Malawi	1	0	1
Malaysia	1	0	1
Mauritius	6	2	8
Mozambique	2	0	2
Namibia	14	5	19
Nigeria	2	1	3
Other	1	0	1
Swaziland	2	2	4
Tanzania	3	1	4
Uganda	0	1	1
United Kingdom	6	0	6
Zambia	4	0	4
Total	59	15	74

The table shows that almost 80% of the non-South African insurers included in the submission have been included in the calculation.

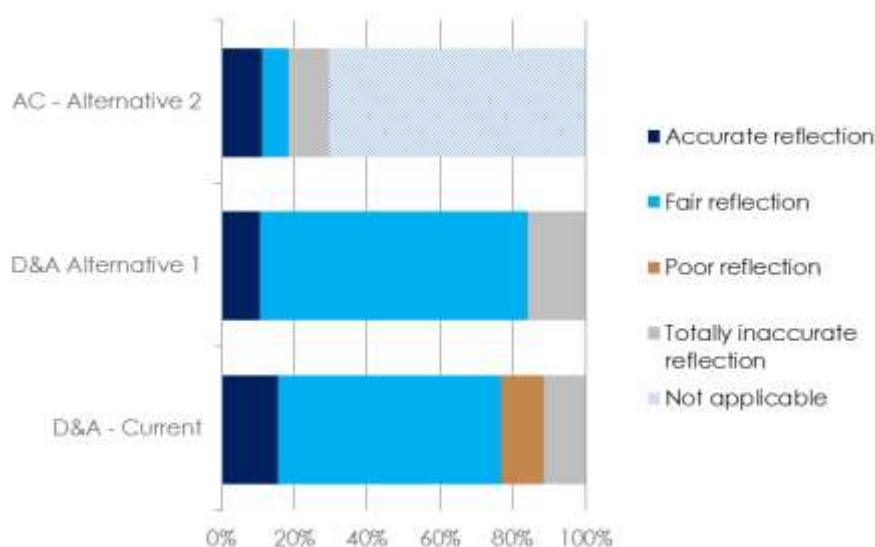
The vast majority of non-South African insurers reported in the SA QIS3 submissions are from sub-Saharan Africa with this region representing 63 of the 74 non-South African insurers. However, it is interesting to see that all 15 insurers that have been excluded from the calculation are also from this region.

Outside of the sub-Saharan region, the United Kingdom is the jurisdiction with the most subsidiaries reported under SA QIS3, with 6 insurers reported.

- **Preference of methodology** The graph below sets out the extent to which groups believe the various calculations provide a fair reflection of the financial position of the group.

⁶ For the purpose of Table 12.7, the basis used to determine whether the insurers are included or excluded is the SAM Alternative 1 basis.

Figure 13.1: Self-assessment results of the extent to which the various calculation methods provide a fair reflection of the financial position⁷



Please note that the figure above includes the responses from all insurance groups, regardless of whether the method was completed or not.

The Current approach had the most responses for an “accurate reflection”. One of the main concerns highlighted by respondents for the SAM Alternative 1 approach was a lack of diversification.

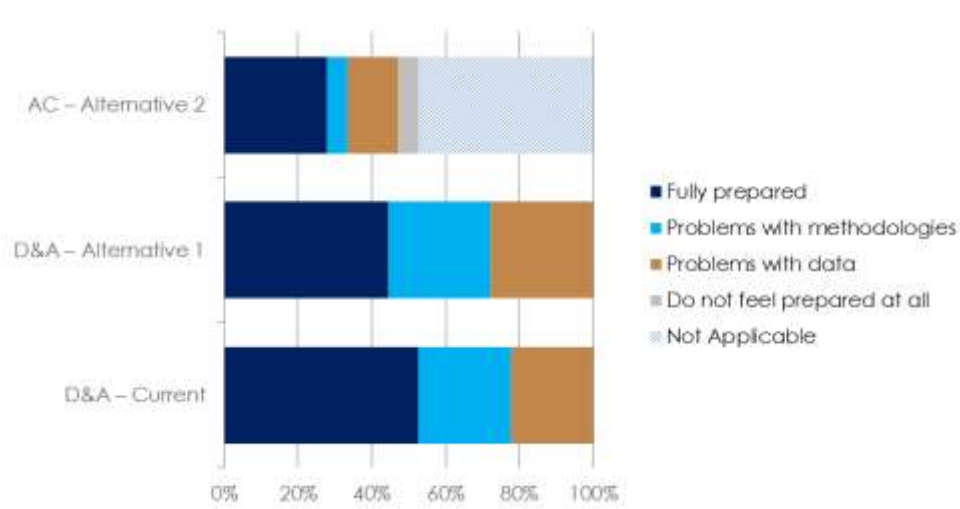
More than half of the insurance groups did not give a view for SAM Alternative 2.

Insurance groups also highlighted that the capital requirement for unregulated entities under SAM Alternative 1 may not be appropriate, and that it was unclear what to do if the net asset value of a subsidiary was negative.

- **Preparedness** The graph below sets out the level of preparedness for the insurance groups that provided submissions.

⁷ Please note that figure 12.1 includes the responses from all groups, regardless of whether the method was completed or not

Figure 13.2: Self-assessment of the extent to which insurance groups are prepared for the provision of information as required by the various calculation methods



Please note that the figure above includes the responses from all insurance groups, regardless of whether the method was completed or not.

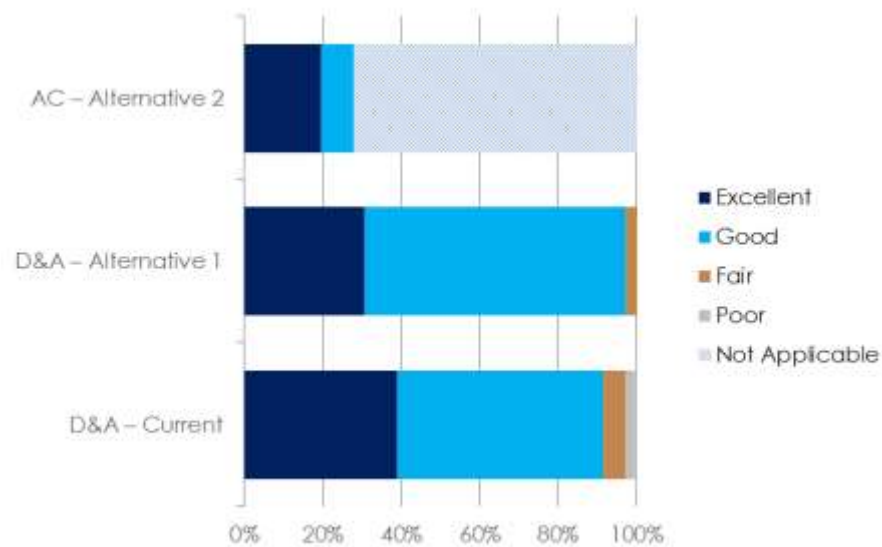
As would be expected, more insurance groups feel better prepared for the Current approach compared to the SAM Alternative 1 approach, given that a number of insurance groups are already required to submit group returns on the Current basis.

For the SAM Alternative 2 basis, there were 2 insurance groups that did not feel prepared at all to for the calculations, and these insurers did not submit results on the SAM Alternative 2 basis.

■ **Reliability**

The ratings given by insurance groups for the reliability of their results are in the table below.

Figure 13.3: Self-assessment of the reliability of information provided for each of the calculation methods



Please note that the figure above only includes the responses for those insurance groups that completed the method.

The majority of the groups have reported that their results are reliable, with more than 90% of the insurance groups rating themselves as either “Excellent” or “Good” for the Current and the SAM Alternative 1 methods.

For the SAM Alternative 2 method, all 10 insurance groups that completed the calculation rated the reliability of their results as “Excellent” or “Good”, with 70% rating the reliability of their results as “Excellent”.

■ *Data*

The following graphs set out the ratings that insurance groups have given to the data which they have used in the calculations, with respect to the appropriateness, completeness and accuracy of the data.

Figure 13.4: Self-assessment of the appropriateness of data used for each of the calculation methods

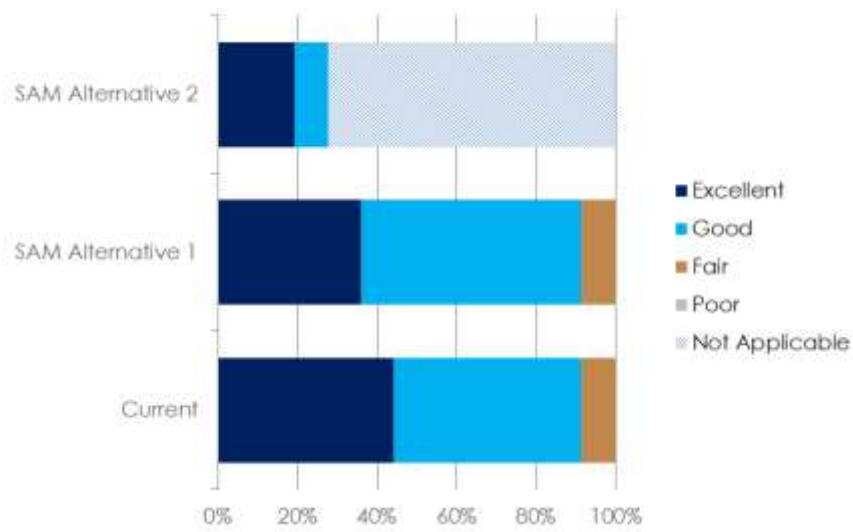


Figure 13.5: Self-assessment of the completeness of data used for each of the calculation methods

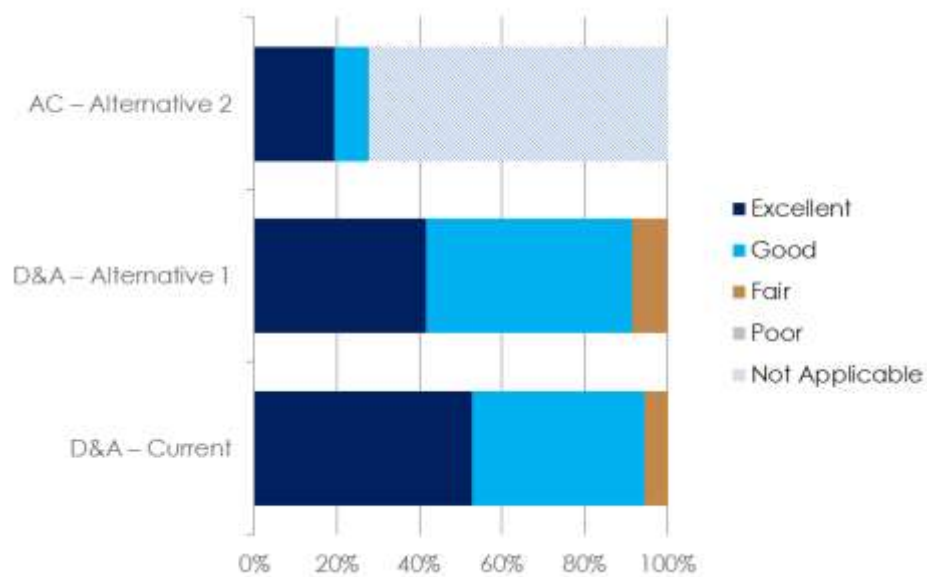
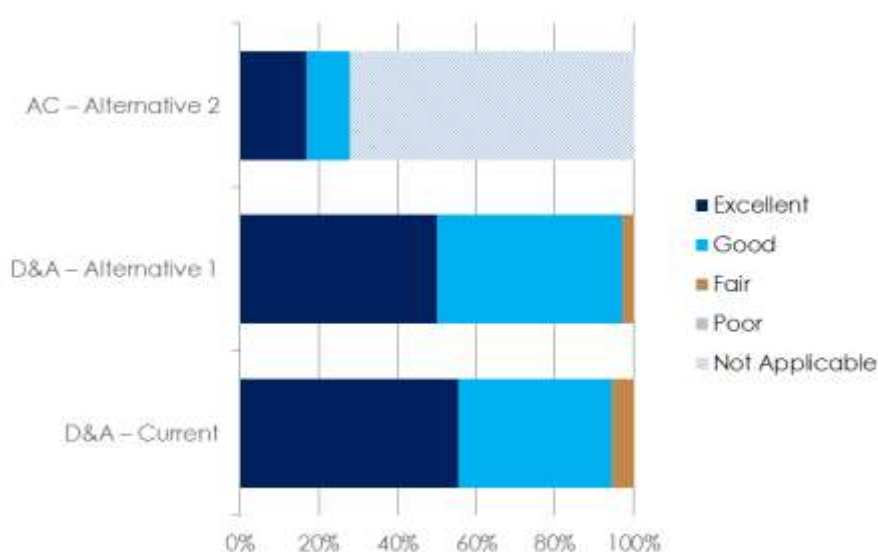


Figure 13.6: Self-assessment of the accuracy of data used for each of the calculation methods



Please note that the figures above only include the responses for those insurance groups that completed the method.

The majority of the ratings given by the insurance groups indicate that they have “Excellent” or “Good” quality data in all the dimensions on which responses were collected. Very few gave a rating of “Fair” and no insurance group gave a “Poor” rating for any aspect of data.

The 10 insurers who completed the calculations for the SAM Alternative 2 method have indicated that they all have either “Excellent” or “Good” quality data.

■ *Results of the calculations*

Under the Current calculation, there were 2 out of the 38 groups that did not have sufficient available capital to meet the group capital requirements. Both of the two groups only completed the Current and SAM Alternative 1 methods, and both were not able to meet the capital requirement under SAM Alternative 1 method either.

All other groups had sufficient group capital to meet the group capital requirement for all the different calculations that were conducted.

In order to draw a meaningful comparison between the results of the different calculations, the results should only be compared where groups have completed the same calculations. The following sections consider the results of the different calculations.

■ *Results of the calculations –*

All groups completed both the Current calculation as well as the SAM Alternative 1 calculation under SA QIS3. The aggregate position of the 38 insurance groups is shown in the table below.

SAM Alternative 1

Table 13.4: Aggregate results of group solvency position under Current position and SAM Alternative 1

All Groups		
	D&A Current	D&A Alternate 1
Available Capital	189.1	271.9
Capital Requirements	103.8	175.8
Surplus Capital	85.2	96.1
Capital Adequacy Ratio	1.82	1.55

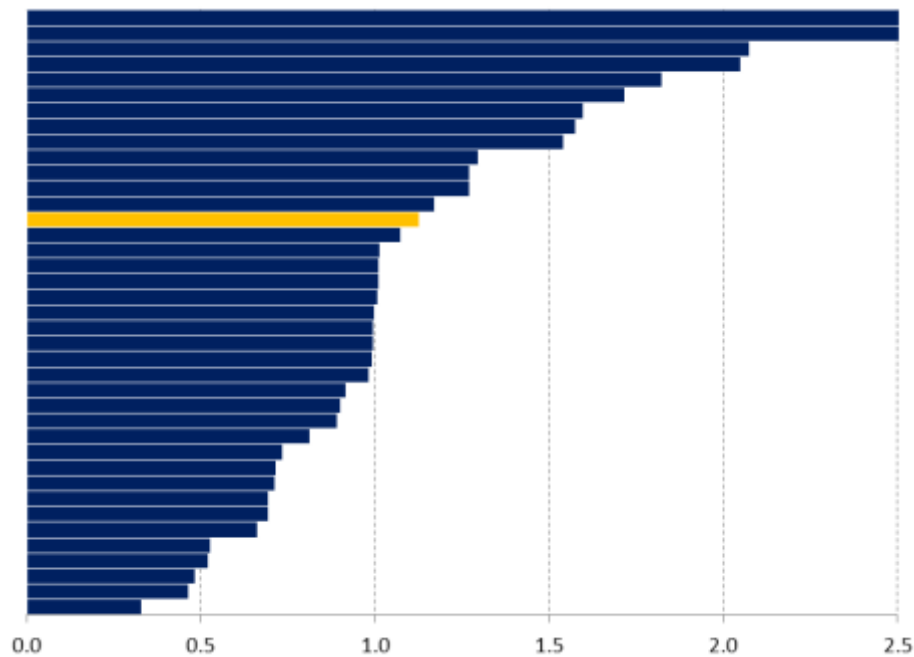
It should be noted that both the available capital as well as the capital requirement have increased significantly from the Current calculation to the SAM Alternative 1 calculation. This is largely driven by the groups with large life insurance subsidiaries. As set out earlier in the report, life insurers have generally experienced an increase in own funds, due to the release of margins in the technical provisions. However, this has been offset by an increased SCR.

The increase in available capital is greater than the increase in capital requirement, leading to an increase in the surplus capital by 12.8%.

Care should be taken when considering the decrease in the capital adequacy ratio. Even though the decrease appears considerable, there is actually an increase to the surplus capital. The large decrease in the capital adequacy ratio is due to both the available capital and capital requirement having increased, as explained above.

Even though there was only a 12.8% increase in the overall surplus from the Current calculation to the SAM Alternative 1 calculation, the position for individual groups differed significantly. The following graph shows the ratio of the surplus capital under SAM Alternative 1 over the surplus capital under the Current calculation, ordered from highest to lowest.

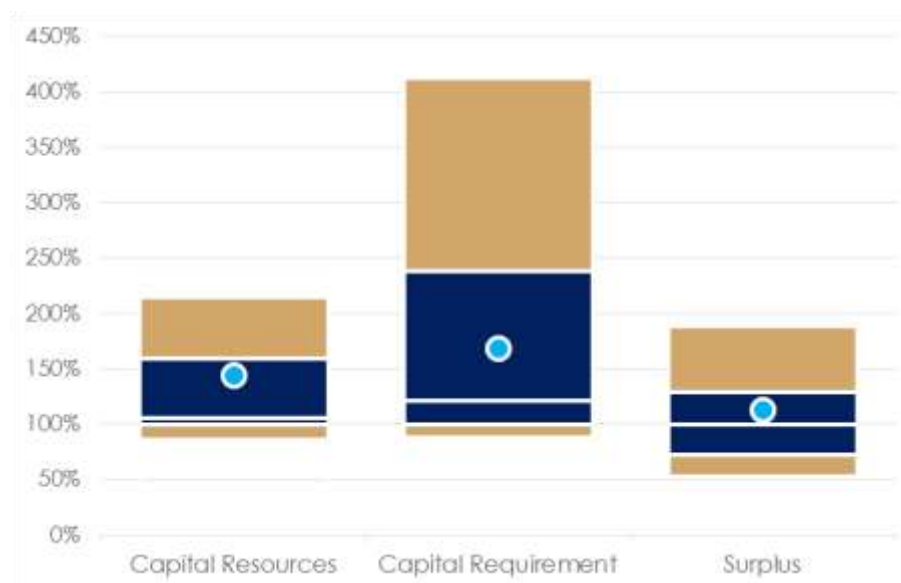
Figure 13.7: Ratio of surplus capital under SAM Alternative 1 to surplus capital under the Current basis



The yellow bar above gives the aggregate ratio, taking into account all group submissions.

Further detail of the distribution of the results for SAM Alternative 1 method compared to those of the Current method is given in the figure below.

Figure 13.8: Ratio of results under Alternative 1 to results derived from Current



■ **Results of the calculations – SAM Alternative 2**

The SAM Alternative 2 calculation uses the accounting consolidation approach for the regulated South African insurers along with the deduction and aggregation approach for all other entities to determine the solvency position of the insurance group. With this approach, the balance sheets of the South African insurers is consolidated, with the various stresses being applied to this consolidated balance sheet to determine the overall group capital requirement for the South African insurers. In this approach there is some diversification between the South African insurance entities, compared to the deduction and aggregation approach in SAM Alternative 1 where there is no diversification benefit.

As set out earlier, there were 10 insurance groups that completed the SAM Alternative 2 calculation, and these 10 insurance groups completed all the different methodologies tested in the SA QIS3 groups section. The table below shows the aggregate position of these groups across all the methods.

Table 13.5: Aggregate results of group solvency position under Current position, SAM Alternative 1 and SAM Alternative 2

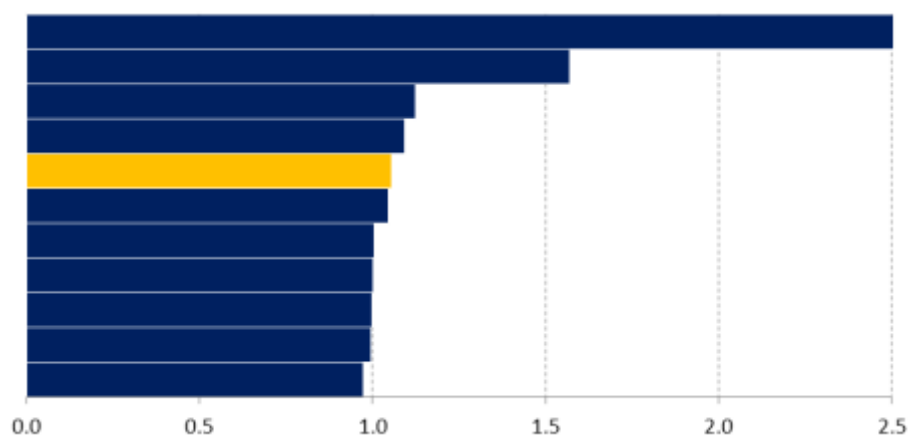
	D&A Current	D&A Alternate 1	AC Alternative 2
Available Capital	38.1	67.0	68.9
Capital Requirements	21.8	48.8	49.6
Surplus Capital	16.2	18.2	19.2
Capital Adequacy Ratio	1.74	1.37	1.39

It is interesting to note from the table above that the capital requirement under SAM Alternative 2 has actually increased, even though the diversification benefit should actually lead to a decrease in the capital requirement. This result is mainly due to a few outliers. Two of the ten insurers showed an increase in capital requirement under SAM Alternative 2 compared to SAM Alternative 1. Of the insurance groups that have shown a decrease in capital requirement, the average decrease in the capital requirement is 4.3% compared to the capital requirement under SAM Alternative 1.

Even though there has been a slight increase in the aggregate capital requirement under SAM Alternative 2 compared to SAM Alternative 1, the surplus capital has increased due to higher capital resources reported under SAM Alternative 2.

Further insight can be obtained by considering the distribution of the surplus under SAM Alternative 2 compared to the surplus under SAM Alternative 1.

Figure 13.9: Ratio of surplus capital under SAM Alternative 1 to surplus capital under the Current basis

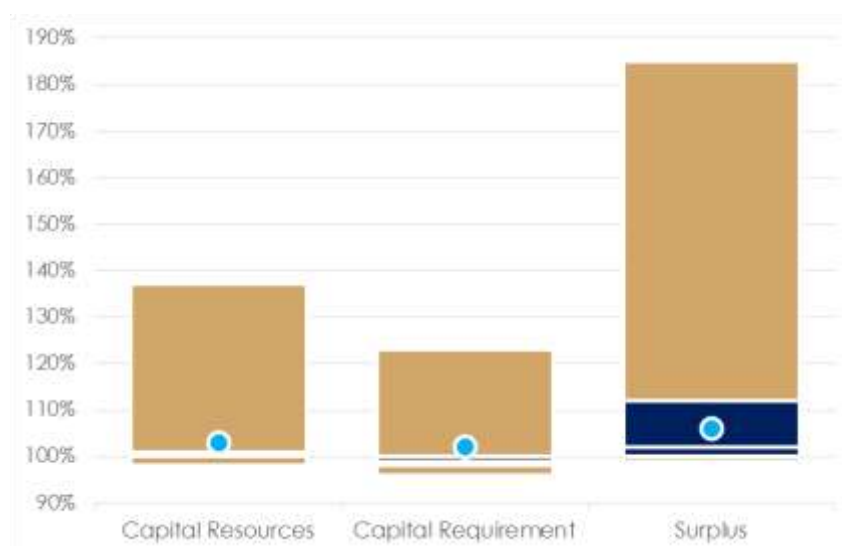


The yellow bar above gives the aggregate ratio, taking into account all group submissions.

This figure shows that many of the insurance groups showed very little movement in surplus capital from SAM Alternative 1 to SAM Alternative 2, but also that there are some outliers for which the change has been greater.

Further detail on the distribution of the movement in capital resources, capital requirements and surplus capital from SAM Alternative 1 to SAM Alternative 2 is given in the figure below.

Figure 13.10: Ratio of results under Alternative 1 to results derived from Current



■ *Intragroup transactions*

The completion of the intragroup transactions varied widely by insurance groups. Two of the insurance groups did not provide any details of their

intragroup transactions. For the remaining 36 groups, the number of intragroup transactions reported ranged from one to 348.

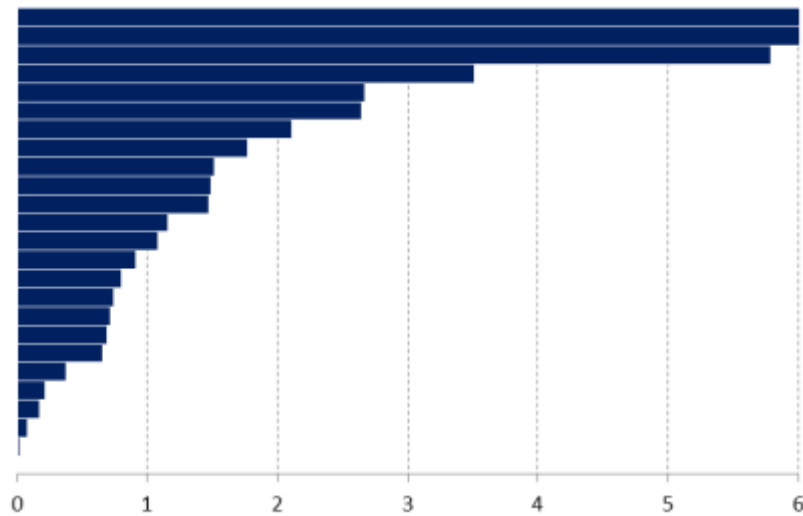
The table below sets out a summary of all the intragroup transactions reported, as well as whether or not the intragroup transactions were taken into account in determining the group capital position.

Table 13.6: Intragroup transactions by type and the extent of inclusion in the SA QIS3 group calculations

	Number of transactions reported	Number included in the group solvency calculation
Loans	715	655
Guarantees and off-balance sheet transactions	12	0
Business dealings and transactions	35	19
Capital investments	239	223
Reinsurance transactions	36	27
Cost-sharing agreements	155	106
Other risk-transfer transactions	0	0
Other	255	100
Total	1447	1130

In order to understand the impact of intragroup transactions on the group solvency position, it is useful to consider the ratio of intragroup transactions to net group capital. The figure below provides the distribution of this ratio on the SAM Alternative 1 basis.

Figure 13.11: Ratio of net intragroup transactions to group surplus capital under the SAM Alternative 1 method ⁸



From the figure, we can see that the ratio varies widely, implying that the extent to which intragroup transactions are taken into account varies widely between insurance groups. It is also clear that the ratio is quite high for some of the insurance groups, so this is likely to be something that the FSB will need to monitor closely in the future.

■ *Further work*

Although the calculations submitted in SA QIS3 shows that the insurance industry is better prepared than in SA QIS2, the insurance group solvency calculation remains one of the areas requiring further effort before full implementation.

Some of this work is to provide more clarity on the detail of the calculation. Specifically the following areas require more work:

- Materiality to be applied in determining which entities to include and exclude from the calculation;
- Scope of the application of the group solvency calculation;
- Calculation of the group eligible own funds and the application of the tiering criteria and fungibility restrictions to the group own funds; and
- Calculation of the group solvency capital requirement, especially with regard to the capital requirement for non-regulated entities, and the treatment of non-South African regulated insurers.

Once more clarity is provided in these areas, it is expected that the calculations completed by the insurance groups will be more consistent and in line with the expectations from the FSB.

⁸ Please note that the figure above excludes groups who have not given information for intragroup transactions, and groups that had a negative net group capital position.

14. Conclusion

The SAM framework has evolved significantly from the time that the first quantitative impact study was conducted to the conclusion of SA QIS3. As with the previous exercises, participants' results have been invaluable in terms of testing proposals and assumptions.

The FSB would like to thank all insurers who participated in the SA QIS3 exercise and provided the information that will be used to help finalise the new SAM framework. The aim of QIS3 was to test near-final proposals, and this was reflected in the exercise with few if any alternative calculations. A number of key issues do however remain, and the FSB is committed to finalising these items. Specifically, the FSB recently communicated some key decisions regarding elements of the framework.

One of the key remaining activities prior to the intended implementation date of 1 January 2016 is the parallel run. At the time of completing this report, insurers have concluded their submissions required under the light parallel run. The focus is now on the comprehensive parallel run, which will span the whole of 2016, and include quarterly, annual, and group submissions on the templates developed for SAM final measures. It will also be an important time for the FSB in developing its supervisory approach under SAM.

The FSB would like to once again thank the working groups and task groups that actively participated in the SAM governance structures to help with the SA QIS3 exercise. The time spent by the members of these groups has contributed significantly to achieving the current quality of the framework.