



**EUROPEAN COMMISSION**  
Internal Market and Services DG  
**FINANCIAL INSTITUTIONS**  
**Insurance and pensions**

Brussels, 27 September 2010

# **Errata to the QIS5 Technical Specifications**

**Version of 27 September 2010**

## Explanation

This is an update of the errata list published on 10 August 2010. The first column of the table indicates which corrections are new and which where already included in the earlier version of the document.

"1" denotes the version of 10 August.

"2" denotes additions for the version of 27 September.

	Reference	Wording in QIS5 technical specification	Corrected wording
1	TP.1.23	In relation to their technical nature two types of health insurance can be distinguished: [...]	<b>Health insurance covers one or both of the following:</b> <ul style="list-style-type: none"> <li>• <b>the provision of preventive or curative medical treatment or care including medical treatment or care due to illness, accident, disability and infirmity, or financial compensation for such treatment or care;</b></li> <li>• <b>financial compensation in consequence of illness, accident, disability or infirmity.</b></li> </ul> In relation to their technical nature two types of health insurance can be distinguished: [...]
1	TP.2.162, row 1 of the table	$((1-RR) * PD / (1-PD) * \mathbf{Dur})$	$((1-RR) * PD / (1-PD) * \mathbf{Dur}_{\text{mod}})$
2	TP.5.15	[...] $SCR_{RU}(t) = BSCR_{RU}(t) + SCR_{RU,op}(t) - \mathbf{Adj}_{RU}(t),$	[...] $SCR_{RU}(t) = BSCR_{RU}(t) + SCR_{RU,op}(t) + \mathbf{Adj}_{RU}(t),$

		<p>where</p> <p><math>BSCR_{RU}(t)</math> = the Basic SCR <b>and</b> year <math>t</math> as calculated for the reference undertaking,</p> <p><math>SCR_{RU,op}(t)</math> = the partial SCR regarding operational risk <b>and</b> year <math>t</math> as calculated for the reference undertaking; and</p> <p><math>Adj_{RU}(t)</math> = the adjustment for the loss absorbing capacity of technical provisions <b>and</b> year <math>t</math> as calculated for the reference undertaking.</p>	<p>where</p> <p><math>BSCR_{RU}(t)</math> = the Basic SCR <b>for</b> year <math>t</math> as calculated for the reference undertaking,</p> <p><math>SCR_{RU,op}(t)</math> = the partial SCR regarding operational risk <b>for</b> year <math>t</math> as calculated for the reference undertaking; and</p> <p><math>Adj_{RU}(t)</math> = the adjustment for the loss absorbing capacity of technical provisions <b>for</b> year <math>t</math> as calculated for the reference undertaking.</p>
1	TP.7.60, TP.7.73	<b>Annex I provides a numerical example of this method.</b>	<i>shifted from the end of TP.7.60 to the end of TP.7.73</i>
2	TP.7.71	$R_{t-i}$ = claims reported in year $t$ , independently of accident year.	$R_t$ = claims reported in year $t$ , independently of accident year. <b><math>R_{t-i}</math> = claims reported in year <math>t-i</math>, independently of accident year.</b>
1	SCR.2.10	The adjustment for loss absorbency of technical provisions and deferred taxes should not be <b>negative</b> .	The adjustment for loss absorbency of technical provisions and deferred taxes should not be <b>positive</b> .
1	SCR.3.3	The inputs of this module are: [...]	The inputs of this module are: $pEarn_{nl}$ = Earned premium during the 12 months prior to the previous 12 months for non-life insurance obligations, without deducting premium ceded to reinsurance [...]

1	SCR.3.6	$Op_{premiums} = 0.04 \cdot ( Earn_{life} - Earn_{life-ul} ) + 0.03 \cdot Earn_{non-life}$ $+ \max ( 0, 0.04 \cdot ( Earn_{life} - 1.1 \cdot p Earn_{life} - ( Earn_{life-ul} - 1.1 \cdot p Earn_{life-ul} ) ) )$ $+ \max ( 0, 0.03 \cdot Earn_{non-life} - 1.1 \cdot p Earn_{non-life} )$ <p>and:</p> $Op_{provisions} = 0.0045 \cdot \max ( 0, TP_{life} - TP_{life-ul} )$ $+ 0.03 \cdot \max ( 0, TP_{non-life} )$	$Op_{premiums} = 0.04 \cdot ( Earn_{life} - Earn_{life-ul} ) + 0.03 \cdot Earn_{nl}$ $+ \max ( 0, 0.04 \cdot ( Earn_{life} - 1.1 \cdot p Earn_{life} - ( Earn_{life-ul} - 1.1 \cdot p Earn_{life-ul} ) ) )$ $+ \max ( 0, 0.03 \cdot ( Earn_{nl} - 1.1 \cdot p Earn_{nl} ) )$ <p>and:</p> $Op_{provisions} = 0.0045 \cdot \max ( 0, TP_{life} - TP_{life-ul} )$ $+ 0.03 \cdot \max ( 0, TP_{nl} )$
1	SCR.5.3-7, SCR.5.18	See Annex 1	
1	SCR.5.22	<p>Irrespective of the above stress factors, the absolute change of interest rates in the downward scenario should at least be one percentage point. Where the unstressed rate is lower than 1%, the shocked rate in the downward scenario should be assumed to be 0%. <b>This constraint does not apply to index linked bonds (i.e. those which contain no material inflation risk).</b></p>	<p>Irrespective of the above stress factors, the absolute change of interest rates in the downward scenario should at least be one percentage point. Where the unstressed rate is lower than 1%, the shocked rate in the downward scenario should be assumed to be 0%.</p>
2	SCR.5.25	<p>[...]</p> <p>If <math>nMkt_{int}^{Up} &gt; nMkt_{int}^{Down}</math> then <math>nMkt_{int} = \max(nMkt_{int}^{Up}, 0)</math> and <math>Mkt_{int} = Mkt_{int}^{Up}</math> if <math>nMkt_{int} &gt; 0</math> and = 0 otherwise</p> <p>If <math>nMkt_{int}^{Down} \leq nMkt_{int}^{Down}</math> then <math>nMkt_{int} = \max(nMkt_{int}^{Down}, 0)</math> and <math>Mkt_{int} = Mkt_{int}^{Down}</math> if <math>nMkt_{int} &gt; 0</math> and = 0 otherwise.</p>	<p>[...]</p> <p>If <math>nMkt_{int}^{Up} &gt; nMkt_{int}^{Down}</math> then <math>nMkt_{int} = \max(nMkt_{int}^{Up}, 0)</math> and <math>Mkt_{int} = \max(Mkt_{int}^{Up}, 0)</math></p> <p>If <math>nMkt_{int}^{Up} \leq nMkt_{int}^{Down}</math> then <math>nMkt_{int} = \max(nMkt_{int}^{Down}, 0)</math> and <math>Mkt_{int} = \max(Mkt_{int}^{Down}, 0)</math>.</p>

1	SCR.5.59-66	<i>See Annex 2</i>														
1	SCR.5.119	<p>In order to provide mortgage covered bonds and public sector covered bonds with a treatment in concentration risk sub-module according their specific risk features, the threshold applicable should be 15% when all the following requirements are met:</p> <ul style="list-style-type: none"> <li>• the asset has a AA credit quality</li> <li>• the covered bond meets the requirements defined in Article 22(4) of the UCITS directive 85/611/EEC</li> </ul>		<p>In order to provide mortgage covered bonds and public sector covered bonds with a treatment in concentration risk sub-module according their specific risk features, the threshold applicable should be 15% when all the following requirements are met:</p> <ul style="list-style-type: none"> <li>• the asset has a AA credit quality <b>or better</b></li> <li>• the covered bond meets the requirements defined in Article 22(4) of the UCITS directive 85/611/EEC</li> </ul>												
1	SCR.5.134	<p>The illiquidity premium shock is the immediate effect on the net value of asset and liabilities expected in the event of a 65% fall in the value of the illiquidity premium observed in the financial markets.<sup>36</sup></p>		<p>The illiquidity premium shock is the immediate effect on the net value of asset and liabilities expected in the event of a 65% fall in the value of the illiquidity premium observed in the financial markets.<sup>36</sup> <b>The 65% fall is restricted to the illiquidity premium that is used for the calculation of technical provisions.</b></p>												
1	SCR.5.134, footnote 36	<p>The calibration of this shock is explained in <b>Annex A.</b></p>		<p>The calibration of this shock is explained in <b>Annex K.</b></p>												
1	SCR.6.14, table	<p>[...]</p> <table> <tr> <td>B</td> <td>5</td> <td><b>6.04%</b></td> </tr> <tr> <td>CCC or lower</td> <td>6</td> <td><b>30.41%</b></td> </tr> </table>		B	5	<b>6.04%</b>	CCC or lower	6	<b>30.41%</b>	<p>[...]</p> <table> <tr> <td>B</td> <td>5</td> <td><b>4.175%</b></td> </tr> <tr> <td>CCC or lower</td> <td>6</td> <td><b>4.175%</b></td> </tr> </table>	B	5	<b>4.175%</b>	CCC or lower	6	<b>4.175%</b>
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1	SCR.6.16	<p>[...]</p> <p>≤80%                      <b>10%</b></p> <p>For unrated counterparties that are undertakings that will be subject to Solvency 2 and that would not meet their MCR, the probability of default should be <b>30%</b>.</p> <p>For other unrated counterparties, the probability of default should be <b>10%</b>.</p>	<p>[...]</p> <p>≤80%                      <b>4.175%</b></p> <p>For unrated counterparties that are undertakings that will be subject to Solvency 2 and that would not meet their MCR, the probability of default <b>used in the calculation</b> should be <b>4.175%</b>.</p> <p>For other unrated counterparties, the probability of default <b>used in the calculation</b> should be <b>4.175%</b>.</p>
1	SCR.7.48	See Annex 3	
2	SCR.8.102	<p>[...]</p> $H_{CAT} = \sqrt{(H_{CAT\_Arena})^2 + (H_{CAT\_Concentration})^2 + (H_{CAT\_Pandemic})^2}$	<p>[...]</p> $H_{CAT} = \sqrt{(H_{CAT\_Arena})^2 + (H_{CAT\_Concentration})^2 + (H_{CAT\_Pandemic})^2}$
1	SCR.8.103	<p>Where the XL cover follows a proportional cover:</p> <p>MAX ((L*MS*QS)-XLC, 0) +MIN ((L*MS*QS), XLF) + REINST</p> <p>Where a proportional cover follows an XL cover:</p> <p>MAX ((L*MS)-XLC, 0) *QS +MIN((L*MS), XLF) *QS + REINST</p> <p>Where</p> <p>L= the total gross loss amount. The total gross loss amount of the catastrophe will be provided as part of the information of the scenario.</p> <p><b>MS= the market share. This proportion might be</b></p>	<p>Where the XL cover follows a proportional cover:</p> <p>MAX (L*QS-XLC, 0) +MIN (L*QS, XLF) + REINST</p> <p>Where a proportional cover follows an XL cover:</p> <p>MAX (L-XLC, 0) *QS +MIN(L, XLF) *QS + REINST</p> <p>Where</p> <p>L= the total gross loss amount. The total gross loss amount of the catastrophe will be provided as part of the information of the scenario.</p> <p>QS= quota share retention. Allowance must be made for any limitations, e.g. event limits which are frequently applied to</p>

		<p><b>determined with reference to exposure estimates, historical loss experience or the share of total market premium income received. The total market loss amount of the catastrophe will be provided as part of the information of the scenario.</b></p> <p>QS= quota share retention. Allowance must be made for any limitations, e.g. event limits which are frequently applied to QS treaties</p> <p>[...]</p>	<p>QS treaties</p> <p>[...]</p>
1	SCR.8.108-109	<p><math>E_p</math> = exposure measure i.e. <b>total sum insured by product type p</b></p> <p><b>MS<sub>p</sub> = market share by product type p as listed below</b></p> <p>Each undertaking will be required to provide its <b>total sum insured by product type, <math>E_p</math>.</b></p>	<p><math>E_p</math> = exposure measure i.e. <b>average sum insured per insured person for product type p</b></p> <p><b>R<sub>p</sub> = IP<sub>p</sub>/Pop where IP<sub>p</sub> is the number of insured persons of the undertaking in the country which are covered by product type p and Pop is the total population in the country</b></p> <p>Each undertaking will be required to provide its <b>average sum insured per insured person for product type, <math>E_p</math>.</b></p>
1	SCR.8.113	<p>The market share by product type MS<sub>p</sub> should be provided by the undertaking. The factors should be estimated according to their share of the market for each of the respective countries where they have exposure. The volume measure used to estimate this should be written premiums. If this information is not readily available, the undertakings should be able to make some estimation based on their knowledge of their market. Information could be supplied by the local supervisors and probably also accessed from local associations of insurance companies. Undertakings should</p>	<p><b>The total population figures Pop which are to be used for the calculation of the ratio R<sub>p</sub> will be provided in the helper spreadsheet for CAT risk.</b></p>

		provide a short explanation of how they have arrived at their estimation.	
1	SCR.8.114	<p>The total capital requirement as a result of an arena disaster is estimated as follows:</p> $H_{CAT\_ARENA\_CTRY} = 0.5 * S * \sum_{products} * I_p * x_p * E_p * MS_p$ $H_{CAT\_ARENA} = \sqrt{\sum_{CTRY} ((H_{CAT\_ARENA\_CTRY})^2)}$ <p>where  S = arena capacities as outlined in Annex L.1  <b>I<sub>p</sub></b> = <b>insurance penetration for product type and by country</b>  x<sub>p</sub> = proportion of accidental deaths/disabilities (short and long term) and injuries  p = product types</p>	<p>The total capital requirement as a result of an arena disaster is estimated as follows:</p> $H_{CAT\_ARENA\_CTRY} = 0.5 * S * \sum_{products} * R_p * x_p * E_p$ $H_{CAT\_ARENA} = \sqrt{\sum_{CTRY} ((H_{CAT\_ARENA\_CTRY})^2)}$ <p>where  S = arena capacities as outlined in Annex L.1  <b>R<sub>p</sub></b> = <b>IP<sub>p</sub>/Pop</b> where <b>IP<sub>p</sub></b> is the number of insured persons of the undertaking in the country which are covered by <b>product type p</b> and <b>Pop</b> is the total population in the country  x<sub>p</sub> = proportion of accidental deaths/disabilities (short and long term) and injuries  p = product types</p>
1	SCR.8.121-122	<p>E<sub>p</sub> = exposure measure i.e. <b>total sum insured by product type p</b>  [...]  Each undertaking will be required to provide its <b>total sum insured by product type, E<sub>p</sub></b>.</p>	<p>E<sub>p</sub> = exposure measure i.e. <b>average sum insured per insured person for product type p</b>  [...]  Each undertaking will be required to provide its <b>average sum insured per insured person for product type, E<sub>p</sub></b>.</p>

1	SCR.9.69	See correction of SCR.8.103	
2	SCR.9.116, SCR.9.126	$-\log_e(0.005) = F_{UNLIM}(CAT_{Motor}) + F_{LIM}(CAT_{Motor})$	$-\log_e(0.995) = F_{UNLIM}(CAT_{Motor}) + F_{LIM}(CAT_{Motor})$
2	SCR.9.174	<p>Assumptions include:</p> <ul style="list-style-type: none"> <li>○ Factors represent a single event. This is a simplification of the standard formula.</li> <li>○ <b>The premium for a given line of business should be split between different events before applying the factors.</b></li> <li>○ The factors are gross.</li> <li>○ The premium input is <u>gross</u> written premium.</li> </ul>	<p>Assumptions include:</p> <ul style="list-style-type: none"> <li>○ Factors represent a single event. This is a simplification of the standard formula.</li> <li>○ The factors are gross.</li> <li>○ The premium input is <u>gross</u> written premium.</li> </ul>
2	SCR-10.17, SCR.10.21	<p>[...]</p> <p><math>V_{lob}</math> = The result from the volume calculation from the current year <b><math>V_{lob} = \max(\text{estimate of net written premium during the forthcoming year, estimate of net earned premium during the forthcoming year, net written premium during the previous year}) + \text{expected present value of net claims and expense payments which relate to claims incurred after the following year and covered by existing contracts}</math></b></p>	<p>[...]</p> <p><math>V_{lob}</math> = The result from the volume calculation from the current year. <b><math>V_{lob}</math> is defined in the same way as <math>V_{(prem,lob)}</math> in paragraph SCR.9.23</b></p>
1	SCR.10.27	The additional data requirements for this undertaking-specific parameter are stated in paragraph <b>SCR.10.20</b> .	The additional data requirements for this undertaking-specific parameter are stated in paragraph <b>SCR.10.19</b> .

1	SCR.15.3, row 4 of the table	Specific equity risk charge (22% shock).	Specific equity risk charge (22% shock). <b>No concentration risk charge.</b>
1	MCR.7(i)	[...] in one of the classes 10 to 15 listed in part A of Annex I <sup>61</sup> [...]	[...] in one of the classes 10 to 15 listed in part A of Annex I <b>of the Solvency II Framework Directive</b> <sup>61</sup> [...]
2	MCR.29	[...] $MCR_{Nnl}$ = the linear formula component for non-life insurance or reinsurance obligations relating to non-life activities [...] $MCR_{Lnl}$ = the linear formula component for life insurance or reinsurance obligations relating to non-life activities [...] $AMCR_{NL}$ = the non-life absolute floor, i.e. the amount set out in point (i) of MCR.6 $AMCR_{Life}$ = the life absolute floor, i.e. the amount set out in point (ii) of MCR.6	[...] $MCR_{Nnl}$ = the linear formula component for non-life insurance or reinsurance obligations relating to non-life activities [...] $MCR_{Lnl}$ = the linear formula component for life insurance or reinsurance obligations relating to non-life activities [...] $AMCR_{NL}$ = the non-life absolute floor, i.e. the amount set out in point (i) of MCR.7 $AMCR_{Life}$ = the life absolute floor, i.e. the amount set out in point (ii) of MCR.7
1	OF.45(i)	Items which satisfy the criteria in paragraph OF.43 may be included in Tier 1 own funds provided that the total of Tier 1 grandfathered basic own fund items and the other paid in capital instruments referred to in paragraph <b>OF.5(1)(g)</b> is no greater than 20% of total Tier 1 own funds.	Items which satisfy the criteria in paragraph OF.43 may be included in Tier 1 own funds provided that the total of Tier 1 grandfathered basic own fund items and the other paid in capital instruments referred to in paragraph <b>OF.4(1)(g)</b> is no greater than 20% of total Tier 1 own funds.

2	G.26	<p>The risk margin of technical provisions for a group should be equal to the sum of the following:</p> <p>(a) the risk margin of the participating insurance or reinsurance undertaking;</p> <p>(b) the <b>proportional share</b> of the participating undertaking in the risk margin of the related insurance or reinsurance undertakings.</p>	<p>The risk margin of technical provisions for a group should be equal to the sum of the following:</p> <p>(a) the risk margin of the participating insurance or reinsurance undertaking;</p> <p>(b) the <b>percentages used for the establishment of the consolidated accounts</b> of the participating undertaking in the risk margin of the related insurance or reinsurance undertakings.</p>																
2	G.102	<p>[...]</p> $SCR_{group} = \sum SCR_{solo-unadjusted} + CR_{ot}$	<p>[...]</p> $SCR_{group} = \sum SCR_{solo-adjusted} + CR_{ot}$																
1	Annex I, paragraph 1	<p>[...]</p> <p><math>C_t</math> = average cost of IBNR claims, after taking into account inflation and discounting. This cost should be based on the average cost of claims reported in the year t. Since a part of the overall cost of claims reported in the year t comes from provisions, a correction for the possible bias should be applied.</p> <p>[...]</p>	<p>[...]</p> <p><math>C_t</math> = average cost of IBNR claims <b>if it is available or average cost of claim</b>, after taking into account inflation and discounting. This cost should be based on the <b>average cost of former IBNR claims or</b> average cost of claims reported in the year t. Since a part of the overall cost of claims reported in the year t comes from provisions, a correction for the possible bias should be applied.</p> <p>[...]</p>																
1	Annex K, table after paragraph 1	<table border="0"> <tr> <td>JPY</td> <td>42</td> <td><b>15</b></td> <td><b>-64%</b></td> </tr> <tr> <td>CHF</td> <td>32</td> <td><b>9</b></td> <td><b>-72%</b></td> </tr> </table>	JPY	42	<b>15</b>	<b>-64%</b>	CHF	32	<b>9</b>	<b>-72%</b>	<table border="0"> <tr> <td>JPY</td> <td>42</td> <td><b>9</b></td> <td><b>-79%</b></td> </tr> <tr> <td>CHF</td> <td>32</td> <td><b>15</b></td> <td><b>-53%</b></td> </tr> </table>	JPY	42	<b>9</b>	<b>-79%</b>	CHF	32	<b>15</b>	<b>-53%</b>
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1	Annex K, paragraph 2	On average, for all those currencies, the variation was of - <b>62%</b> .	On average, for all those currencies, the variation was of - <b>61%</b> .
2	Annex N, paragraph 3	[...] $N =$ Number of claims during the last $N$ years [...]	[...] $N =$ Number of claims during the last $n$ years [...]
2	Annex N, paragraph 4	[...] $\Omega_{lob}^{net} = ([...] - M_{lob}^{net})^{1/2}$	[...] $\Omega_{lob}^{net} = ([...] - (M_{lob}^{net})^2)^{1/2}$
2	Annex Q, row (i), second column	<b>In addition, although the item may not exhibit the characteristics which are specifically linked to compliance with the SCR under Solvency II, it should possess some features which enable it to absorb losses on a going concern basis. These might include some form of conversion or write-down mechanism and features requiring cancellation of coupon/dividend or other similar payments even if they are not expressed in terms of the relevant Solvency II criteria in respect of these matters.</b>	<b>The undertaking must be able to cancel or defer coupon/dividend or other similar payments in a period of stress. Instruments may have a range of provisions relating to the waiver of coupon/dividend or other similar payments. These may range from full discretion at all times to mandatory cancellation under certain conditions.</b>

## Annex 1

The correction relates to the way the market risks are aggregated. According to the formulas in the QIS5 technical specifications it could happen that the requirements  $SCR_{mkt}$  and  $nSCR_{mkt}$  are derived with different aggregation matrices. The following changes ensure that for both capital requirements the same matrix is used. Changed parts are marked yellow.

SCR.5.3. The following input information is required:

$Mkt_{int}^{Up}$	=	Capital requirement for interest rate risk for the “up” shock
$Mkt_{int}^{Down}$	=	Capital requirement for interest rate risk for the “down” shock
$Mkt_{int}$	=	Capital requirement for interest rate risk
$Mkt_{eq}$	=	Capital requirement for equity risk
$Mkt_{prop}$	=	Capital requirement for property risk
$Mkt_{sp}$	=	Capital requirement for spread risk
$Mkt_{conc}$	=	Capital requirement for risk concentrations
$Mkt_{fx}$	=	Capital requirement for currency risk
$Mkt_{ip}$	=	Capital requirement for illiquidity premium risk
$nMkt_{int}^{Up}$	=	Capital requirement for interest rate risk for the “up” shock including the loss absorbing capacity of technical provisions
$nMkt_{int}^{Down}$	=	Capital requirement for interest rate risk for the “down” shock including the loss absorbing capacity of technical provisions
$nMkt_{int}$	=	Capital requirement for interest rate risk including the loss absorbing capacity of technical provisions
$nMkt_{prop}$	=	Capital requirement for property risk including the loss absorbing capacity of technical provisions
$nMkt_{sp}$	=	Capital requirement for spread risk including the loss-absorbing capacity of technical provisions
$nMkt_{conc}$	=	Capital requirement for concentration risk including the loss-absorbing capacity of technical provisions
$nMkt_{fx}$	=	Capital requirement for currency risk including the loss-absorbing capacity of technical provisions
$nMkt_{eq}$	=	Capital requirement for equity risk including the loss-absorbing capacity of technical provisions
$nMkt_{ip}$	=	Capital requirement for illiquidity premium risk including the

loss-absorbing capacity of technical provisions

[...]

SCR.5.5. The market sub-risks should be combined to an overall capital requirement  $SCR_{mkt}$  for market risk using a correlation matrix as follows:

$$SCR_{mkt} = \sqrt{\sum_{r,c} CorrMkt_{r,c} \cdot Mkt_r \cdot Mkt_c}$$

where

$CorrMkt$  = the entries of the correlation matrix  $CorrMkt$

$Mkt_r, Mkt_c$  = Capital requirements for the individual market risks according to the rows and columns of the correlation matrix  $CorrMkt$

and the correlation matrix  $CorrMkt$  is defined as:

<b>CorrMkt</b>	Interest	Equity	Property	Spread	Currency	Concentration	Illiquidity premium
Interest	1						
Equity	A	1					
Property	A	0.75	1				
Spread	A	0.75	0.5	1			
Currency	0.25	0.25	0.25	0.25	1		
Concentration	0	0	0	0	0	1	
Illiquidity premium	0	0	0	-0.5	0	0	1

The factor A shall be equal to 0 when the capital requirement for interest rate risk as determined in paragraph SCR 5.25, below, is derived from the capital requirement for the risk of an increase in the interest rate term structure including the loss absorbing capacity of technical provisions. Otherwise, the factor A shall be equal to 0.5.

[...]

SCR.5.7. The capital requirement for  $nSCR_{mkt}$  is determined as follows:

$$nSCR_{mkt} = \sqrt{\sum_{rxc} CorrMkt_{r,c} \cdot nMkt_r \cdot nMkt_c}$$

[...]

SCR.5.18. The module delivers the following output:

$Mkt_{int}^{Up}$  = Capital requirement for interest rate risk after upward shocks

$Mkt_{int}^{Down}$  = Capital requirement for interest rate risk after downward shocks

$Mkt_{int}$  = Capital requirement for interest rate risk

$nMkt_{int}^{Up}$  = Capital requirement for interest rate risk after upward shock including the loss absorbing capacity of technical provisions

$nMkt_{int}^{Down}$  = Capital requirement for interest rate risk after downward shock including the loss absorbing capacity of technical provisions

$nMkt_{int}$  = Capital requirement for interest rate risk including the loss absorbing capacity of technical provisions

## Annex 2

The correction relates to calculation of the currency risk sub-module. Changed parts are marked yellow.

SCR.5.59. The module delivers the following output:

$Mkt_{fx}$  = Capital requirement for currency risk

$nMkt_{fx}$  = Capital requirement for currency risk including the loss absorbing capacity of technical provisions

[...]

SCR.5.62. All of the participant's individual currency positions and its investment policy (e.g. hedging arrangements, gearing etc.) should be taken into account. Additionally, the result of the scenarios should be determined under the condition that the value of future discretionary benefits can change and that undertaking is able to vary its assumptions in future bonus rates in response to the shock being tested. The resulting capital requirements are  $nMkt_{fx,C}^{Up}$  and  $nMkt_{fx,C}^{Down}$ .

[...]

SCR.5.65. For each currency, the capital requirement  $nMkt_{fx,C}$  should be determined as the maximum of the values  $nMkt_{fx,C}^{Up}$  and  $nMkt_{fx,C}^{Down}$ . The total capital requirement  $nMkt_{fx}$  will be the sum over all currencies of  $nMkt_{fx,C}$ .

SCR.5.66. For each currency,  $Mkt_{fx,C}$  should be equal to  $Mkt_{fx,C}^{Up}$  if  $nMkt_{fx,C} = nMkt_{fx,C}^{Up}$  and otherwise equal to  $Mkt_{fx,C}^{Down}$ . The total capital requirement  $Mkt_{fx}$  will be the sum over all currencies of  $Mkt_{fx,C}$ .

### Annex 3

The correction relates to the way the most adverse lapse scenario is chosen. The most adverse scenario is the one that results in the largest change in net asset value, taking into account the loss-absorbing capacity of technical provisions. The following changes specify the approach. Changed parts are marked yellow.

SCR.7.48 The capital requirement for lapse risk should be calculated as follows:

If  $\max( nLapse_{down} ; nLapse_{up} ; nLapse_{mass} ) = nLapse_{down}$  then  $Lapse = Lapse_{down}$  and  $nLapse = nLapse_{down}$ ;

otherwise, if  $\max( nLapse_{down} ; nLapse_{up} ; nLapse_{mass} ) = nLapse_{up}$  then  $Lapse = Lapse_{up}$  and  $nLapse = nLapse_{up}$ ;

otherwise  $Lapse = Lapse_{mass}$  and  $nLapse = nLapse_{mass}$ .

where

$Life_{lapse}$  = Capital requirement for lapse risk

$Lapse_{down}$  = Capital requirement for the risk of a permanent decrease of the rates of lapsation

$Lapse_{up}$  = Capital requirement for the risk of a permanent increase of the rates of lapsation

$Lapse_{mass}$  = Capital requirement for the risk of a mass lapse event

$nLife_{lapse}$  = Capital requirement for lapse risk including the loss-absorbing capacity of technical provisions

$nLapse_{down}$  = Capital requirement for the risk of a permanent decrease of the rates of lapsation, including the loss-absorbing capacity of technical provisions

$nLapse_{up}$  = Capital requirement for the risk of a permanent increase of the rates of lapsation, including the loss-absorbing capacity of technical provisions

$nLapse_{mass}$  = Capital requirement for the risk of a mass lapse event, including the loss-absorbing capacity of technical provisions