

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: []	 Health insurance covers one or both of the following: 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; financial compensation in consequence of illness, accident, disability or infirmity. 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) * Dur)	((1-RR) * PD / (1-PD) * Dur _{mod})
2	TP.5.15	$[\dots]$ $SCR_{RU}(t) = BSCR_{RU}(t) + SCR_{RU,op}(t) - Adj_{RU}(t),$	[] $SCR_{RU}(t) = BSCR_{RU}(t) + SCR_{RU,op}(t) + Adj_{RU}(t),$

		where	where
		$BSCR_{RU}(t)$ = the Basic SCR and year <i>t</i> as calculated for the reference undertaking,	$BSCR_{RU}(t)$ = the Basic SCR for year t as calculated for the reference undertaking,
		$SCR_{RU,op}(t)$ = the partial SCR regarding operational risk and year <i>t</i> as calculated for the reference undertaking; and	$SCR_{RU,op}(t)$ = the partial SCR regarding operational risk for year <i>t</i> as calculated for the reference undertaking; and
		$Adj_{RU}(t)$ = the adjustment for the loss absorbing capacity of technical provisions and year <i>t</i> as calculated for the reference undertaking.	$Adj_{RU}(t)$ = the adjustment for the loss absorbing capacity of technical provisions for year <i>t</i> as calculated for the reference undertaking.
1	TP.7.60, TP.7.73	Annex I provides a numerical example of this method.	shifted from the end of TP.7.60 to the end of TP.7.73
2	TP.7.71	R_{t-i} = claims reported in year t, independently of accident	R_t = claims reported in year t, independently of accident year.
		year.	R_{t-i} = claims reported in year t-i, independently of accident year.
1	SCR.2.10	The adjustment for loss absorbency of technical provisions and deferred taxes should not be negative .	The adjustment for loss absorbency of technical provisions and deferred taxes should not be positive .
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	$Op_{premiums} = 0.04 \cdot (Earn_{life} - Earn_{life-ul}) + 0.03 \cdot Earn_{non-life} + \max(0, 0.04) \cdot (Earn_{life} - 1.1 \cdot pEarn_{life} - (Earn_{life-ul} - 1.1 \cdot pEarn_{life-ul}))) + \max(0, 0.03 \cdot Earn_{non-life} - 1.1 \cdot pEarn_{non-life})$	$\begin{aligned} Op_{premiums} &= 0.04 \cdot (Earn_{life} - Earn_{life-ul}) + 0.03 \cdot Earn_{nl} \\ &+ \max(0, 0.04 \cdot (Earn_{life} - 1.1 \cdot pEarn_{life} - (Earn_{life-ul} - 1.1 \cdot pEarn_{life-ul}))) \\ &+ \max(0, 0.03 \cdot (Earn_{nl} - 1.1 \cdot pEarn_{nl})) \end{aligned}$	
		and: $Op_{provisions} = 0.0045 \cdot \max(0, TP_{life} - TP_{life-ul})$ $+ 0.03 \cdot \max(0, TP_{non-life})$	and: $Op_{provisions} = 0.0045 \cdot \max(0, TP_{life} - TP_{life-ul})$ $+ 0.03 \cdot \max(0, TP_{nl})$	
1	SCR.5.3-7, SCR.5.18	See Annex 1		
1	SCR.5.22	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%. This constraint does not apply to index linked bonds (i.e. those which contain no material inflation risk).	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%.	
2	SCR.5.25	[] If $nMkt_{int}^{Up} > nMkt_{int}^{Down}$ then $nMkt_{int} = \max(nMkt_{in}^{Up}, 0)$ and $Mkt_{int} = Mkt_{int}^{Up}$ if $nMkt_{int} > 0$ and $= 0$ otherwise If $nMkt_{int}^{Down} \le nMkt_{int}^{Down}$ then $nMkt_{int} = \max(nMkt_{int}^{Down}, 0)$ and $Mkt_{int} = Mkt_{int}^{Down}$ if $nMkt_{int} > 0$ and $= 0$ otherwise.	[] If $nMkt_{int}^{Up} > nMkt_{int}^{Down}$ then $nMkt_{int} = \max(nMkt_{in}^{Up}, 0)$ and $Mkt_{int} = \max(Mkt_{int}^{Up}, 0)$ If $nMkt_{int}^{Up} \le nMkt_{int}^{Down}$ then $nMkt_{int} = \max(nMkt_{int}^{Down}, 0)$ and $Mkt_{int} = \max(Mkt_{int}^{Down}, 0)$.	

1	SCR.5.59- 66	See Annex 2	
1	SCR.5.119	 In order to provide mortgage covered bonds and public sector covered bonds with a treatment in concentration risk submodule according their specific risk features, the threshold applicable should be 15% when all the following requirements are met: the asset has a AA credit quality the covered bond meets the requirements defined in Article 22(4) of the UCITS directive 85/611/EEC 	 In order to provide mortgage covered bonds and public sector covered bonds with a treatment in concentration risk submodule according their specific risk features, the threshold applicable should be 15% when all the following requirements are met: the asset has a AA credit quality or better the covered bond meets the requirements defined in Article 22(4) of the UCITS directive 85/611/EEC
1	SCR.5.134	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. ³⁶	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. ³⁶ The 65% fall is restricted to the illiquidity premium that is used for the calculation of technical provisions.
1	SCR.5.134, footnote 36	The calibration of this shock is explained in Annex A .	The calibration of this shock is explained in Annex K .
1	SCR.6.14,	[]	[]
	table	B 5 6.04%	B 5 4.175%
		CCC or lower 6 30.41%	CCC or lower 6 4.175%

1	SCR.6.16	[]	[]
		≤80% 10%	≤80% 4.175%
		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 30% . For other unrated counterparties, the probability of default should be 10% .	For unrated counterparties that are undertakings that will be subject to Solvency 2 and that would not meet their MCR, the probability of default used in the calculation should be 4.175% . For other unrated counterparties, the probability of default used in the calculation should be 4.175% .
1	SCR.7.48	See Annex 3	
2	SCR.8.102	[]	[]
		$H_{CAT} = \sqrt{\left(H_{CAT}Arena\right)^{2} + \left(H_{CAT}Concentration\right)^{2} + \left(H_{CAT}Pandemc\right)^{2}}$	$H_{CAT} = \sqrt{\left(H_{CAT}_{Arena}\right)^2 + \left(H_{CAT}_{Concentration}\right)^2 + \left(H_{CAT}_{Pandemc}\right)^2}$
1	SCR.8.103	Where the XL cover follows a proportional cover:	Where the XL cover follows a proportional cover:
		MAX ((L*MS*QS)-XLC, 0) +MIN ((L*MS*QS), XLF) + REINST Where a proportional cover follows an XL cover: MAX ((L*MS)-XLC, 0) *QS +MIN((L*MS), XLF) *QS + REINST	MAX (L*QS-XLC, 0) +MIN (L*QS, XLF) + REINST
			Where a proportional cover follows an XL cover:
			MAX (L-XLC, 0) *QS +MIN(L, XLF) *QS + REINST
		Where	Where
		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.MS= the market share. This proportion might be	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.
			QS= quota share retention. Allowance must be made for any limitations, e.g. event limits which are frequently applied to

		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. QS= quota share retention. Allowance must be made for any limitations, e.g. event limits which are frequently applied to QS treaties []	QS treaties []
1	SCR.8.108- 109	E_p = exposure measure i.e. total sum insured by product type p MS_p = market share by product type p as listed below Each undertaking will be required to provide its total sum insured by product type, E_p .	E_p = exposure measure i.e. average sum insured per insured person for product type p $R_p = IP_p/Pop$ where IP_p 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 Each undertaking will be required to provide its average sum insured per insured person for product type, E_p .
1	SCR.8.113	The market share by product type MS _P 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	The total population figures Pop which are to be used for the calculation of the ratio R_p will be provided in the helper spreadsheet for CAT risk.

		provide a short explanation of how they have arrived at their estimation.		
1	SCR.8.114	The total capital requirement as a result of an arena disaster is estimated as follows:	The total capital requirement as a result of an arena disaster is estimated as follows:	
		$H_{CAT_ARENA_CTRY} = 0.5 * S * \sum_{products} * I_p * x_p * E_p * MS_p$	$H_{CAT_ARENA_CTRY} = 0.5 * S * \sum_{products} * R_p * x_p * E_p$	
		$H_{CAT_ARENA} = \sqrt{\sum_{CTRY} ((H_{CAT_ARENA_CTRY})^2)}$	$H_{CAT_ARENA} = \sqrt{\sum_{CTRY} ((H_{CAT_ARENA_CTRY})^2)}$	
		where	where	
		S = arena capacities as outlined in Annex L.1	S = arena capacities as outlined in Annex L.1	
		$\mathbf{I}_{p}=$ insurance penetration for product type and by country	$R_p = IP_p/Pop$ where IP_p is the number of insured persons of the undertaking in the country which are covered by	
		x_p = proportion of accidental deaths/disabilities (short and long term) and injuries	product type p and Pop is the total population in the country	
		p = product types	x_p = proportion of accidental deaths/disabilities (short and long term) and injuries	
			p = product types	
1	SCR.8.121- 122	E_p = exposure measure i.e. total sum insured by product type p	E_p = exposure measure i.e. average sum insured per insured person for product type p	
		[]	[]	
		Each undertaking will be required to provide its total sum insured by product type, E_p .	Each undertaking will be required to provide its average sum insured per insured person for product type, E_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	Assumptions include:	Assumptions include:	
		• Factors represent a single event. This is a simplification of the standard formula.	• Factors represent a single event. This is a simplification of the standard formula.	
		\circ The premium for a given line of business should be	• The factors are gross.	
		split between different events before applying the factors.	\circ The premium input is <u>gross</u> written premium.	
		• The factors are gross.		
		• The premium input is gross written premium.		
2	SCR-10.17,	[]	[]	
	SCR.10.21	$V_{lob} = \text{The result from the volume calculation from the current} V$ year $V_{lob} = \text{max}(estimate of net written premium during the forthcoming year, estimate of net earned premium during the previous year)+ expected present value of net claims and expense payments which relate to claims incurred after the following year and covered by existing contracts$	V_{lob} = The result from the volume calculation from the current year. V_{lob} is defined in the same way as $V_{(prem,lob)}$ in paragraph SCR.9.23	
1	SCR.10.27	The additional data requirements for this undertaking-specific parameter are stated in paragraph SCR.10.20 .	The additional data requirements for this undertaking-specific parameter are stated in paragraph SCR.10.19 .	

SCR.15.3, row 4 of the table	Specific equity risk charge (22% shock).	Specific equity risk charge (22% shock). No concentration risk charge.
MCR.7(i)	[] in one of the classes 10 to 15 listed in part A of Annex I ⁶¹ []	[] in one of the classes 10 to 15 listed in part A of Annex I of the Solvency II Framework Directive ⁶¹ []
2 MCR.29	[]	
	MCR_{Nlnl} = the linear formula component for non-life insurance or reinsurance obligations relating to non-life activities	MCR_{NLnl} = the linear formula component for non-life insurance or reinsurance obligations relating to non-life activities
	[]	[]
	MCR_{LNI} = the linear formula component for 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	$AMCR_{NL}$ = 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.6	$AMCR_{Life}$ = the life absolute floor, i.e. the amount set out in point (ii) of MCR.7
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 OF.5(1)(g) 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 $OF.4(1)(g)$ is no greater than 20% of total Tier 1 own funds.

2	G.26	The risk margin of technical provisions for a group should be equal to the sum of the following:	The risk margin of technical provisions for a group should be equal to the sum of the following:		
		(a) the risk margin of the participating insurance reinsurance undertaking;	r (a) the risk margin of the participating insurance or reinsurance undertaking;		
		(b) the proportional share of the participatir undertaking in the risk margin of the related insurance of reinsurance undertakings.	(b) the percentages used for the establishment of the consolidated accounts of the participating undertaking in the risk margin of the related insurance or reinsurance undertakings.		
2	G.102	[]	[]		
		$SCR_{group} = \sum SCR_{solo-unadjusted} + CR_{ot}$	$SCR_{group} = \sum SCR_{solo-adjusted} + CR_{ot}$		
1	Annex I,	[]	[]		
	paragraph 1 C_t = 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.[]		C_t = average cost of IBNR claims if it is available or average cost of claim , after taking into account inflation and discounting. This cost should be based on the average cost of former IBNR claims or 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.		
			[]		
1	Annex K,	JPY 42 15 -64%	JPY 42 9 -79%		
	table after paragraph 1	CHF 32 9 -72%	CHF 32 15 -53%		

1	Annex K, paragraph 2	On average, for all those currencies, the variation was of - 62% .	On average, for all those currencies, the variation was of - 61% .
2	Annex N, paragraph 3	[] N = Number of claims during the last N years []	[] N = Number of claims during the last <i>n</i> years []
2	Annex N, paragraph 4	$\begin{bmatrix} \dots \end{bmatrix}$ $\Omega_{lob}^{net} = \left(\begin{bmatrix} \dots \end{bmatrix} - M_{lob}^{net} \right)^{1/2}$	$[\dots] \Omega_{lob}^{net} = \left([\dots] - \left(M_{lob}^{net} \right)^2 \right)^{1/2}$
2	Annex Q, row (i), second column	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.	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.

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
<mark>Mkt_{int}</mark>	=	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
<i>Mkt</i> _{fx}	=	Capital requirement for currency risk
<i>Mkt</i> _{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:

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

where



and the correlation matrix *CorrMkt* is defined as:

<mark>CorrMkt</mark>	Interest	Equity	Property	Spread	Currency	Concen- tration	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 de	elivers 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
<i>Lapse</i> _{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