

# Chief Risk Officer Forum



## Comments on QIS4 Draft Technical Specification

## Preface

The Chief Risk Officer Forum comprises risk officers of the major European insurance companies and financial conglomerates, and was formed to address the key relevant risk issues for its industry. It is a technical group focused on developing and promoting industry best practices in risk management. The membership comprises:

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The CRO Forum is delighted in presenting this paper “CRO Forum, Comments on QIS 4 Draft Technical Specification”, representing the CRO Forum’s contribution to the consultation process of the European Commission on the draft QIS 4 specifications. Our key topics addressed in this paper are dealing with structural issues we have identified in the current draft technical specification. These are grouped into general modelling principles, diversification, calibration, own funds and other structural issues. We hope that this paper and the corresponding drafting suggestions will be of help in the consultation phase for the QIS 4 specifications and the forthcoming implementing measures of Solvency II.

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## 1. Introduction

### 1.1 Risk modelling principles

In the determination of the Solvency Capital Requirements (SCR) within Solvency II the Standard Formula has to strike a balance between risk sensitivity, simplicity and robustness. It is obvious that the Standard Formula does not exhibit full risk sensitivity at every individual company level, as the sensitivity to risks is individually set e.g. through risk mitigation measures the company might have chosen. We welcome the steps taken in the framework directive to promote good risk management and want to encourage the Commission to appropriately reflect the diversity in risk exposure and risk profiles existing in the insurance industry. Solvency II should make use of data and expertise in the industry to the largest extent possible. This could for example be achieved by allowing the use of portfolio specific data in the SCR calculation, as for example for premium and reserve risk (TS.VI.F.5). The CRO-Forum appreciates the progress being made here, but encourages the Commission to expand this approach further to risk sub-modules (see drafting suggestions on VII.A.6. in the appendix).

Going one step further the Commission should additionally encourage the use of partial internal models. The CRO Forum again appreciates that this was partly achieved e.g. for Cat-Risk (TS.XIII.C18). We want to stress that there should be broader acceptance of partial internal models also for other risk types. Therefore the CRO Forum suggests to add the possibility of a partial internal model application as a more general principle e.g. also for risk mitigation purposes (see drafting suggestions on VII.A.5. in the appendix).

### 1.2 Economic principles

In the context of the general valuation principles laid down by the Commission (TS.I.B and TS.I.C.) reference is made to accounting information based on IFRS and its use within QIS4 as proxies for a proper economic valuation<sup>1</sup>. Whilst we appreciate any efforts which foster consistency between Solvency II and IFRS accounting we would like to stress that IFRS4 – Phase II is still in under development and hence that reliance on accounting concepts which may materially change in the coming years is presumably premature.

Of particular concern is the fact that the “QIS4 – Technical Specifications” uses several concepts in the valuation of technical provisions (TPs). In our view TS.II.A.1. is based on the concept of “transfer value” for valuing TPs whereas TS.II.A.2. relies on the “exit value” in the calculation of TPs. Further, TS.II.A.11. seems to embrace the concept of “entry value” for determining the value of risk margin in the valuation of TPs. Additionally, TS.II.A.9 refers to settlement costs (possibly those of a potential purchaser) and TS.II.B7 to settlement based on own costs, derived from on own experience. Thus, four different concepts are used within the valuation of TPs each of which could lead to a materially different value.

<sup>1</sup> Cf. TS.I.C.7.: “CEIOPS has provided tentative views on the extent to which IFRS balance sheet figures could be used as a reasonable proxy for economic valuations under Solvency II.”

Moreover, although the guidance by the Commission concerning the use of IFRS does not seem to cover insurance liabilities (as “assets and other liabilities” are explicitly mentioned in TS.I.C.7) we caution against an isolated consideration of certain balance sheet items due to the intricate interrelation of certain items<sup>2</sup>. In sum, we want to encourage the Commission to allow for a more principles based approach in the use of the standard approach. A stronger focus on principle could allow companies to follow the underlying intention of the Commission rather than unquestioningly applying rules and seeking guidance for every detail. Finally, it is important that QIS4 focuses on testing the directive and that there is full clarity about any options that are being tested. This is particularly relevant for groups where QIS 4 should focus on testing concrete alternatives. The default method should include non-EEA and cross-sector entities, because the CRO Forum QIS 3 benchmarking study showed that neglecting those resulted in distortion of the total capital requirement for groups. A prioritization of the tested alternatives would help (cf. chapter 6.2 for more details and drafting suggestion on TS.XVI.B.1 in the appendix).

## 2. Diversification

Diversification forms the foundation of insurance and is the key-stone on which important risk management processes ultimately rest, either implicitly or explicitly. It allows insurers to provide the fundamental service of pooling individual exposures into a shared portfolio. This allows individuals and businesses to reduce their exposure to risks.

We appreciate the work that was already done by the Commission to implement diversification effects into the standard formula. By assessing the results of the standard formula against internal models we however have some points where we think changes should be made.

Using the aggregation methodology chosen for the Standard Formula, there are basically four levels of diversification that can be identified<sup>3</sup>

- 1) within risk types
  - a. within Line of Business (LoB)/portfolios
  - b. between LoB/portfolios
- 2) between risk types
  - a. within sub risks (Non-life underwriting, market risks etc.)
  - b. between risk categories (Non-life underwriting, market risks etc.)
- 3) between legal entities
- 4) between geographies

Regarding the last two levels (between legal entities and between geographies), it can be noted that diversification benefits do not arise from having more legal entities

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<sup>2</sup> Consider the case of Deferred Tax Assets (DTAs). CEIOPS' guidance states that “[t]o the extent that QIS 4 asset and liability values are different from the accounting values and the consequent net tax effect is significant, firms should restate their deferred tax figure for the purposes of QIS 4” (TS.III.) but as – according to our interpretation – insurance liabilities are excluded from the (adjusted) valuation according to IFRS it is unclear how DTAs should be revalued taking into account the economic revaluation of the insurance liabilities.

<sup>3</sup> CRO Forum: “A framework for incorporating diversification in the solvency assessment of insurers”, June 2005

and or more geographies itself, rather on the (non) correlation between risks. This means that there is no extra diversification out of 3) and 4) if the whole business of the group (in terms of risks) was already taken into account in 1) and 2). In the following we use this classification as the basis for our comments.

## 2.1 Diversification within risk types

Diversification within risk types is achieved by adding unrelated risks to the portfolio. At a fundamental level, it is well accepted that, as the number of uncorrelated or weakly correlated risks increases the volatility of results decreases thus making results better predictable. This is a direct application of the law of large numbers to a portfolio of risks. Another source of diversification within risk types is between portfolios of risks. This could be either different equity portfolios e.g. between indices like the Euro Stoxx, S&P 500 and the NIKKEI for example, or between Lines of Business.

### 2.1.1 Diversification within portfolios

Generally the diversification effects within risk types were covered reasonably in QIS 2 and 3, however some concerns remained especially for Non-Life underwriting risk. We appreciate the possibility to replace standard factors by portfolio specific data for premium and reserve risk as stated in TS.VI.F.5. We consider this section though to be inconsistent with the formula provided in TS.XIII.B.24 as on the one hand, undertaking specific data are already allowed up to a certain degree in non-life premium risk while on the other hand they are explicitly not allowed for reserve risk. We want to encourage the Commission to reflect the use of company specific parameters also in the calculation and not just for comparative purpose as stated in TS.VI.F.7.

On the standardised method we want to encourage the Commission to expand the use of portfolio specific data as described in TS.XIII.B.24. to reserve risk. There should however be more weight assigned to portfolio specific data for non-life underwriting risk calculations. The use of portfolio specific data should not be limited arbitrarily, by allowing at a maximum just 79% of credibility (cf. drafting suggestion on TS.VIII.B.26 in the appendix).

Other areas of concern arise, for instance, in the case of spread risk as described in TS.IX.F. or in the case of counterparty risk as described in TS.X.A. Concerning the counterparty default risk it is not clear to what extent correlation is taken into account across the types of exposures mentioned (reinsurance, financial derivatives, intermediaries and other credit exposures). We believe that a variance / covariance aggregation method could be used and we would be happy to discuss with the Commission alternative approaches (cf. drafting suggestion on TS.X.A.18 in the appendix). Moreover, we suggest to use the first formula of TS.X.A.17 also for values  $0.5 < R < 1$  for diversification within the different credit exposures (cf. drafting suggestion on TS.X.A.17 in the appendix).



Similarly, for life underwriting risks TS.XI.A. (mortality, longevity, disability and lapse), there does not appear to be an allowance for diversification as the stress applies at the individual policy level<sup>4</sup>. The CRO Forum is convinced that the law of large numbers works well for life liability risks, if risk groups are sufficiently homogeneous. We therefore encourage the Commission to better reflect these diversification effects at the portfolio level and to focus more on assessing the homogeneity of risk group. Care is required in the segmentation used for these purposes.

### 2.1.2 Diversification between portfolios

QIS 4 specifications do not provide evidence on how the correlation factors between LoBs for premium risk and for reserve risk were derived in TS.XIII.B32-33. We would encourage the Commission to engage in a dialogue with industry representatives to ensure proper calibration of these diversification effects preferably by benchmarking against internal model approaches. Especially regarding the diversification effects between LoBs for reserve risk (TS.XIII.B.33) we consider more work to be necessary as generally QIS 4 allows for less diversification effects than internal models in this area<sup>5</sup> (cf. drafting suggestion on TS.XIII.B.33 in the appendix).

Another area where diversification between LoBs is an issue on a solo legal entity basis is the valuation of technical provisions. In the context of the valuation of the cost-of-capital margin we note that diversification effects between LoBs are material, but are not recognised in QIS 4 (cf. drafting suggestion on TS.II.C in the appendix). Going concern assumptions as specified by the Draft Directive need to be taken into account in the projections of capital. We therefore elaborate on the allowance of diversification in section 6.6 and recommend that data on this be gathered in QIS4.

Also for market risk QIS 4 acknowledges this level of diversification only partially. Especially for equity risk, we think that an explicit treatment of diversification effects, through a more granular approach and a broader set of indices, would increase the risk sensitivity of the standard formula (this point is elaborated in section 6.6). Therefore TS.IX.C.9 and following should be extended to at least the most important equity indices.

In general there is diversification also between non-profit and with-profit business on group level for the calculation of the group SCR. The current separation of with profit business in the aggregation framework does not seem to provide full insight into the true diversification (cf. drafting suggestion on TS.XVI.B.13-23 in the appendix). We therefore await the appendix for further clarification in this regard. Based on this it should be decided whether the suggested test calculations need to be carried out.

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<sup>4</sup> Stresses are expressed as  $\sum_i (\Delta NAV / shock)$  where i reflects each policy. We believe that the term  $\sum_i$  is inappropriate because assets are not allocated to individual policies and it is inconsistent with the entity approach for SCR.

<sup>5</sup> See: <http://www.croforum.org/> A benchmarking study of the CRO Forum on the QIS3 calibration



## 2.2 Diversification effects between risk types

### 2.2.1 Diversification within subrisks

For QIS 4 we want to particularly encourage the Commission to analyse the dependency of Premium and Reserve risk in more depth and to conduct further analysis on the dependency between these two sub-risks. The 50% correlation, as stated in TS.XIII.B32, is not well justified and might overstate the dependency and thus underestimate the diversification effect. As a reference we want to mention that the Swiss Solvency Test (SST) assumes these risks to be uncorrelated (cf. drafting suggestion on TS.XIII.B.32 in the appendix).

### 2.2.2 Diversification between risk types

The CRO Forum QIS 3 Benchmarking study<sup>6</sup> showed significantly lower diversification allowances in the QIS 3 standard formula compared to internal models. For Life insurance companies the diversification credit<sup>7</sup> is 49% for internal models and 44% for the standard formula. This results in a 10% lower required capital. In Non-Life the differences are even bigger. The diversification credit in internal models goes up to 48% of required capital vs. 36% under QIS 3. This would mean that the diversified SCR under QIS 3 was about 25% higher than those of internal models.

The correlation matrix to derive the BSCR (TS.VIII.C.4) was basically unchanged, with the exception of SCRhealth and SCRnl, where the dependency was increased to 0.25<sup>8</sup>. We acknowledge that estimating the dependency between risk types is a challenging task, as little data is available to base such analysis on. This challenge is further amplified by the fact that the dependency structure should by nature reflect tail-dependency in a 1/200 year event. We want to encourage the Commission though to make use of existing expertise and informed management judgement in this area. Such information is available as risk type dependency structures are applied in internal models. The recently published IFRI study<sup>9</sup> on internal models provides a benchmarking analysis, in which range dependencies between risk types are usually taken. Although the correlation factors are given in intervals and for a slightly different risk classification the following conclusions can be drawn:

The different classification of credit default risk in QIS 4 and most internal models has two implications: The correlation between market and credit risk has to be slightly lower with the Standard formula, because the market related part of the credit risk (e.g. spread volatility) is covered within market risk. The connection between underwriting risks and the credit risk (default risk in QIS 4) is obviously higher than in internal models, because in some internal models the reinsurance default risk mixes with investment credit default risk. We however think that the correlation between Credit and Life and Non-Life underwriting risks seems too high as internal models consider the dependency between those two risks to be significantly lower.

<sup>6</sup> See: <http://www.croforum.org/> A benchmarking study of the CRO Forum on the QIS3 calibration

<sup>7</sup> Diversification credit is the percentage reduction of the sum of undiversified risk charges that equals the diversified aggregated capital requirement.

<sup>8</sup> Compared to QIS3 both modules were changed by moving Accident & Health – short-term and Workers Compensation from the Nonlife to the Health module.

<sup>9</sup> See 'Insights from the joint IFRI/CRO Forum survey on Economic Capital practice and applications'



Another area of comments is the dependency between market risks and Life and Non-life underwriting risks. We are especially concerned with the correlation factor between Non-life underwriting risk and Market risk which we consider much too high. However, the concept of linear correlations may not be adequately addressing the dependency structures.

One of our key issues on the diversification between risk types is of structural nature and relates to the treatment of Operational Risk in the standard formula. The exclusion of Operational Risk from the level of risk type aggregation in QIS 4 causes several problems (cf. drafting suggestion on TS.VIII.C.4 in the appendix).

- 1) It makes the use of partial internal models more difficult
- 2) Although Operational Risks have happened historically also in cases of other crisis, e.g. at capital markets, according to the recently published IFRI study<sup>10</sup>, Operational Risk is a risk type that can be assumed to diversify with other risk types. The correlation factors typically chosen range between 0% and 50%, as outlined in the study. Treating it as a loading however would assume full correlation which does appear to be an exaggeration.

### 2.3 Geographical diversification effects and arbitrary restrictions for groups and solo entities

The CRO Forum has been consistently supporting an economic based approach for group supervision, which takes full account of diversification benefits across risks in a group as explained, for example, in the CRO Forum paper on diversification benefits. An approach similar to the one advocated in that paper is used in our internal models. As diversification relates to the interdependency between risks regardless of whether these are held in different entities, the benefits should not be limited to risks within legal entities only. We appreciate that there are issues of transferability of capital that need to be taken into account to allow for diversification benefits.

We appreciate the consolidated approach laid out in TS.XVI of the technical specifications. We do also acknowledge that the possible limitations to transferability of capital need to be taken into account. However, we are concerned about the possibility of arbitrary restrictions that limit diversification benefits between EU and non-EU entities as well as other sectors in a group as for example as suggested in the specification (TS.XVI.B.4 and TS.XVI.B.8).

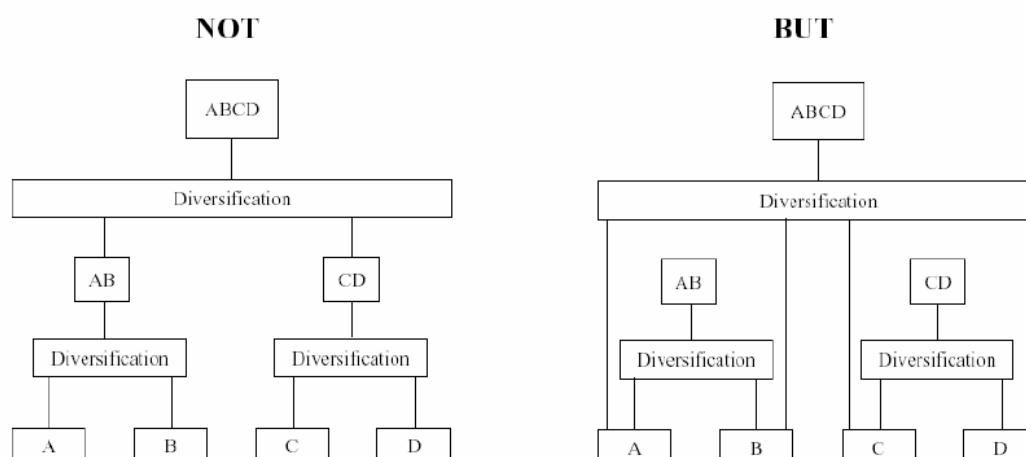
#### Proposal to include geographical diversification

In principle we appreciate the efforts to address geographical diversification benefits. We however have doubts that a Herfindahl-Index would properly reflect diversification. We would rather suggest reflecting diversification benefits by a robust bottom-up calculation, which can more adequately reflect the dependency between geographies. These pair-wise correlations might differ substantially.

We suggest that geographical diversification is taken into account using a variance-covariance structure, in line with the QIS 4 specification for aggregation of risks in solo entities and the directive proposals for the standard approach (Annex IV of the draft directive).

<sup>10</sup> See 'Insights from the joint IFRI/CRO Forum survey on Economic Capital practice and applications', page 35

The CRO Forum believes that a key guiding principle for doing this has already been set out by the Group Consultatif<sup>11</sup> which recommends that aggregation in a group starts at the lowest level of risks. This is summarised in the following graph.



Source: Group Consultatif

This means that the diversification at group level ('ABCD') cannot be derived by aggregating the requirements at entities level ('AB' and 'CD'). Group diversification should be calculated at the lowest level of risks. Once geographical diversification has been taken into account at the lowest level of risks, e.g. interest rate risk, then the aggregation approach that has been devised for the solo-SCR should be applied, taking possible lack of capital fungibility into account.

It is clearly not feasible for the Commission to set assumptions for geographical correlation between all possible geographies for each risk covered by the SCR. A pragmatic approach is therefore needed. We would therefore suggest that the QIS 4 specification sets out some qualitative guidance about correlation between broad geographies for financial and non-financial risks and an approach on how a possible lack of capital fungibility can be addressed pragmatically.

For example, the correlation matrix could be set up by proposing dependencies between major economic areas (EEA, US, other developed countries, developing countries). In addition the dependency structures could be different for financial and non-financial risks. Firms should also be allowed to report an additional calculation that reflects correlation assumptions that are more suited to their business and justify them.

Geographical diversification is also relevant at solo level where branches are involved. Our suggestions here should not be seen as suggesting a differential treatment for groups but as a practical suggestion to deal with this issue for groups where branches are involved or business written directly.

As a matter of principle we want to point out that the risk factor (sigma) decreases with diversification rather than the volume measure (as currently proposed). In order to maintain transparency and comparability of input factors and results, we strongly

<sup>11</sup> Group Consultatif, [Diversification technical paper](#), October 2005.

suggest adjusting the approach accordingly. A properly calibrated geographical correlation matrix, as suggested above, might be a sensible way (cf. drafting suggestion on TS.XIII.B.28-29 in the appendix).

Furthermore we want to encourage the Commission to clarify the formulae TS.XIII.B29 to TS.XIII.B31 whether the overall diversified Volume measure  $V$  is also to be used in formula B31 and if  $V_r$  and  $V_c$  of this calculation are diversified or not. According to the present QIS 4 Technical Specifications only the overall volume measure  $V$  seems to be diversified. This does approximately not have any effect as, using  $\rho(\sigma) \approx 3\sigma$  (cf. TS.XIII.B.17) and considering  $\sigma$  as a function of the overall volume,

$$\begin{aligned} NL_{pr,diversified} &\approx 3 \cdot V_{diversified} \cdot \sigma(V_{diversified}) \\ &= 3 \cdot (V_{diversified} / V_{undiversified}) V_{undiversified} \cdot (V_{undiversified} / V_{diversified}) \sigma(V_{undiversified}) \\ &= 3 \cdot V_{undiversified} \cdot \sigma(V_{undiversified}) \approx NL_{pr,undiversified}. \end{aligned}$$

Some test calculations have shown that the diversified premium and reserve capital requirement is even slightly higher than the undiversified one. Although we are proposing a more elaborated approach for geographical diversification (see above), an ad hoc correction of the present approach would be to use only undiversified volumes and apply the Herfindahl index to the  $\sigma$  (cf. drafting suggestion on TS.XIII.B.28-31 in the appendix).

### Key recommendations

**Diversification within risk types** We appreciate the possibility to replace standard factors by portfolio specific data for premium and reserve risk as stated in TS.VI.F.5. The use of this alternative method should however not be just for comparative purpose as stated in TS.VI.F.6. For the standardised methods we would encourage the Commission to allow for more advanced methods for reserve risk (cf. drafting suggestion on TS.VI.F.6 in the appendix). We prefer methodologies based on portfolio specific data and want to encourage the Commission to expand this possibility to other risk types, but especially to reserve risk. In addition, we recommend increasing the credibility of portfolio specific data by allowing a credibility higher than just 79%, by allowing fewer data points as entry requirement to the more sophisticated approach as well as fewer data points to reach full credibility (cf. drafting suggestion on TS.XIII.B.26 in the appendix).

We would further encourage the Commission to reflect diversification effects within spread risk and counterparty default risk (cf. section 6.4 and drafting suggestion on TS.X.A.18 in the appendix) as well as within longevity risk and lapse risk (cf. drafting suggestion on TS.XI.C.2,6 and TS.XI.E.3-7 in the appendix).

As our analysis from the life underwriting module showed that there is no diversification allowance as the individual policy shock was added, we kindly ask the Commission to reconsider this aspect of these modules (TS.XI.A) (cf. drafting suggestion on TS.XI.A in the appendix).

**Diversification between LoBs.** We would encourage the Commission to engage in dialogue with industry representatives to ensure proper calibration of these diversification effects preferably by benchmarking against internal model approaches. Especially regarding the diversification effects between LoBs for reserve risk (cf. drafting suggestion on TS.XIII.B.32-33 in the appendix) and in the calculation of the risk margin (cf. drafting suggestion on TS.II.C in the appendix) we consider more

work to be necessary.

**Diversification within risk-subtypes.** For QIS 4 we want to particularly encourage the Commission to analyse the dependency of Premium and Reserve risk in more depth. As a reference we want to mention that the SST assumes these risks to be uncorrelated (cf. drafting suggestion on TS.XIII.B.32 in the appendix).

**Diversification between risk types.** We want to encourage the Commission to revisit these dependency assumptions taking the recently published IFRI study into account (e.g correlation between Credit and Life (0%) and Non-Life (0% - 10% range) underwriting risks; Non-Life underwriting risk and Market risk (0% - 15% range); Treatment of Operational Risk (diversifies well with other risks), cf. IFRI study, Figure 30 on page 35) (cf. drafting suggestion on TS.VIII.C.4 in the appendix).

**Diversification between geographies** In order to implement geographical diversification in the standard approach, we would suggest prescribing a qualitative correlation matrix on geographical diversifications. The current approach using the Herfindahl Index seems flawed, as it does not consider different correlations between member states. Furthermore, the formulae have to be clarified. We suggest not limiting diversification benefits due to different legal entities and/or geographies. (cf. drafting suggestion on TS.XIII.B.28-31 in the appendix).

**Standard Formula and Internal Model:** In general there should be incentives to move to internal models. These should also be reflected in the calibration of correlations of the Standard Formula. However, care needs to be taken to avoid over-prudent assumptions.

### 3. Calibration of the SCR

The CRO Forum Benchmarking study on QIS 3, which was conducted to analyse differences between internal models and QIS 3, gives some insight on calibration issues. As we consider QIS 4 being in the structural design process we want to express our willingness to support in the calibration phase as well. The CRO Forum encourages the Commission to disclose as much as possible information the QIS 4 calibration bases upon. Once the final structure of the Standard Formula has been defined, we will be happy to coordinate with the Commission on stress- and calibration factors. We also want to highlight the work of the CEA on calibration issues, by introducing building blocks for calibration. The CRO Forum supports these principles, which are outlined in the box below.

#### Box 2: CEA Building blocks

Principle 1: A calibration must take into account the specific features of the underlying solvency model

Principle 2: Appropriate mapping of risk requires that the data used for calibration purposes should be the most appropriate for the risk being calibrated, i.e. company/market specific data should be used where this is credible.

Principle 3: Data should be categorised into homogeneous groups, i.e. the data points within a category should have the same or similar characteristics



Principle 4: The data within a homogenous group should be sufficient to produce credible results

Principle 5: The length of the time series (i.e. the time period over which data is analysed) should be long enough to fully capture any relevant cycles (e.g. underwriting and economic) but short enough to ensure data reliability.

Principle 6: The frequency of the data used to set an assumption should be consistent with how the calibration will be used

Principle 7: Data analyses should seek to identify and reflect any emerging trends

Principle 8: The assumptions for extreme tail events are likely to require an element of judgement

Principle 9: The diversification benefits in extreme circumstances should allow for the likely relationships in such circumstances

Principle 10: The calibration should be regularly reviewed and the data analyses updated for the latest emerging data

Principle 11: There should be an appropriate audit trail

*Source: CEA, Calibrating the standard approach: building blocks*

To illustrate these principles: we are unsure whether the factors for non-life reserve risk are calibrated with respect to “risk to ultimate” or to “risk over a one year horizon” as we haven’t seen explanation for this calibration. Only the latter case – i.e. one year time horizon – is consistent with the overall risk tolerance envisioned within QIS4. In fact, the factors for non-life reserve risk seem to be very high for a one year time horizon as indicated by the CRO Forum Benchmarking study on the QIS3 calibration, especially in the case of non-proportional reinsurance.<sup>12</sup>

We welcome the release of the background document on the calibration of the SCR and MCR. However, as this document still leaves many questions open, we currently cannot provide further feedback on the calibration of the factors, as we do not have enough insight into the calibration process. Thus, we would encourage the Commission to provide greater transparency on the calibration of the various modules to foster comparisons and discussions with the (re)insurance industry (cf. drafting suggestion in line 57 in the appendix).

#### 4. Calibration of the MCR

QIS 3 showed that there was strong industry preference for the compact approach over the alternative modular approach for the calculation of the MCR due to several shortcomings of the modular approach (e.g. for some life companies the modular approach produced an MCR that was very close to, or even above, the SCR or even negative MCRs for others due to the adjustment for absorption on profit sharing business). The approach was not sufficiently sensitive and did not adequately recognise risk mitigating instruments, e.g. non-proportional reinsurance and hedging.

<sup>12</sup> See: <http://www.croforum.org/> A benchmarking study of the CRO Forum on the QIS3 calibration



QIS 4 now introduces a new calculation for the MCR, the so called linear approach which is similar to the current Solvency I calculations. As some risk categories – especially market risk - are not recognized in the calculation of the linear approach, the MCR does not reflect the true economic risks of an insurance company. In particular, the MCR is the same regardless whether the investment strategy is prudent or risky. First test calculations among some members of the CRO Forum showed that the linear approach would lead to high MCR results for life business (close to the SCR) whereas for non-life the results varied, but were further away from the SCR. The CRO Forum believes that the MCR formula should produce results that

- a) are lower than the SCR, and
- b) demonstrate a relationship to the SCR that is consistent between different firms, and
- c) demonstrate a relationship to the SCR that is stable in response to changes in the underlying risk profile.

It is our belief that the linear approach may not satisfy these criteria.

Especially concerning a), there are no guarantees that the result will be well below the SCR calculation, as suggested by QIS 3 results. This will impair the ability of the SCR to remain the key solvency ratio. Furthermore, it is also important to note that the ladder of supervisory intervention will only work if the rungs of such ladder are well defined. In practice, this means that a breach of the SCR does not easily escalate to a breach of the MCR. It is difficult to be confident about that with a separate calculation. Finally, the sum of the solo MCRs will also serve as lower bound for the group SCR (cf. TS.XVI.C.6 and Framework Directive Article 237(2)(a)).

The CRO Forum has accepted this principle. However, if the calibration of the MCR is inappropriate, it will limit the extent of group diversification benefits that can be taken into account. We support the concept, as suggested by the CEA, where the solo MCR is calculated as a percentage of the last SCR approved by the supervisor, whether calculated using an internal model or the standardised approach. We also note that the CEA has suggested that once the MCR at year end is calculated, it is expressed as a percentage of the technical provisions and used to determine the intra-year MCR. Therefore we highly recommend to the test the compact approach, as well as the suggested calculation method intra-year (see box 3) within the QIS4.

### Box 3: Calculating the MCR

For a particular company, assume that at year end the MCR calculated as a percentage of the SCR is €30 million and technical provisions for life equals €1,000 million at year end. The MCR is reexpressed as 3% of technical provisions, i.e.  $30 / 1,000$ . Assuming that at end of the next quarter, the technical provisions are €1,100 million, the MCR would be €33 million, i.e. 3% of €1,100 million. The 3% would apply until the next re-calculation of the SCR.

*Source: CEA, MCR and proposed ladder of the intervention, October 2006*

The approach supported by industry is consistent with supervisors' renewed interest on the design of the MCR as a percentage of technical provisions. We believe that a percentage of the SCR would avoid some of the subjective judgements associated with the choice of specific percentages of technical provisions for different lines of business.



We believe that the MCR calculation method needs to be aligned with the SCR so as to ensure that the MCR and SCR respond consistently to any events affecting the solvency. Therefore, QIS 4 should test the interactions between the various proposals for MCR and the SCR. The industry supports the compact approach, which as noted above includes expressing the MCR as a company-based percentage of technical provisions.

### Key recommendation

We strongly encourage the Commission to focus on the interaction between SCR and MCR for QIS 4 and would highly recommend to test also the compact approach for the MCR, as proposed by the CEA, and use the suggested method (box3) for the calculation during the year (cf. drafting suggestion on TS.XV but also TS.VI.E.2 in the appendix).

## 5 Own funds, capital tiers and group support

### 5.1 Own funds and QIS 4

We understand that the Commission is giving consideration to testing the position in QIS 4 by specifying more detailed guidance, which may in due course form the basis for Level 2 requirements. This is an excellent opportunity to develop a new economic-based approach unconstrained by existing insurance rules or banking requirements and we welcome the opportunity to be able to contribute. QIS4 needs to gather comparable data that can validate or inform further development of the own funds proposals. The instructions therefore need to be as clear and detailed as possible and avoid any ambiguity that could cloud comparability.

#### Tiering of available capital

It is difficult to justify tiering of capital in an economics-based solvency framework like Solvency II, but we recognise that as there is a spectrum of debt/equity hybrid instruments it is tempting to tier capital in the existing Solvency I regime. It is clear that different forms of capital exhibit different features and risks and therefore that it is sensible to have a clear and comparable taxonomy that can be easily understood by supervisors, rating agencies and other users of financial information. We therefore recognise that there is some value in categorising capital into tiers for the purpose of making disclosures and for completing the ORSA statement, and we value taking a fresh look at the characteristics of own funds.

However, in doing so it is very important to reflect capital market realities and to be aware of the products available, the needs of particular investors in the capital markets, and the constraints, including local tax and legal regimes faced by insurers. In particular, we believe a tiering system for insurance should not be merely replicating the current banking regime. We support the work of the Commission and the Commission in this area.

It is also worth noting that differentiating between basic own funds and ancillary own funds results in two types of tier 2 making the tiering already relatively complex.





### Characteristics of tiers

We appreciate the clarification and simplification of the characteristics set out in article 92 and we would like to suggest to further simplify and merge the six characteristics as follows:

1. Perpetuality (sufficient remaining life to legal maturity)
2. Loss absorption in winding up (subordination)
3. Loss absorption in going concern (interest deferral)

We advocate to assess all characteristics on economic and principal based interpretations rather than pre-defining the limitations.

We do not support the general exclusion of instruments without write down and conversion into equity features from classification as Tier 1 capital. Instruments without a write down clause and an equity conversion clause should be eligible as Tier 1 in case they fulfil certain other risk-bearing features.

We understand that “preference shares” are cited only as an example without prescribing a specific legal format. We strongly support the principles mentioned in TS.V.B.2 (except for the third bullet point, cf. drafting suggestion on TS.V.B.2 in the appendix) that the classification of a hybrid capital instrument should be carried out “regardless of its legal form” and – more general – that “elements are classified in relation to how well they absorb losses compared to ordinary share capital, or paid-up initial fund”

We recommend to clarify the meaning of the term “duration” and would recommend to use the term “remaining life to legal maturity” instead.

Comment to classification of an instrument depending on its remaining life to maturity (indicated in QIS 4 as “duration of at least” 10 or 5 years from the reporting date)

1. We cannot yet comment on the principle of Tier 3 containing items that do not qualify as Tier 2 only since their “duration” is less than five years, as compared to e.g. introducing the principle of “regulatory amortisation” in the last years prior to legal maturity
2. Our final view will depend on how stringent the specific limits for Tier 2 and Tier 3 will be for an insurer going forward
3. However, we do in principle favour a harmonisation with the banking sector, where all instruments remain in their respective Tiers until their remaining life to legal maturity is below a certain threshold. In this context we also highlight that the issue date should be used.
4. TS.V.E.2-6: For Tier 2, the maximum step up of 50 bps is directly taken from the standard maximum for dated Tier 2 instruments applied in the banking world, e.g. 10 Non Call 5. However, as in the insurance sector the life to Call dates as well as legal maturity is generally longer (e.g. 60 NC 10 or Perpetual NC 10), we strongly propose a maximum step-up of 100bp or 50% of the original credit spread to insure marketability of the instrument.

With respect to the List of Tiers in TS.V.I.7-12 the above mentioned comments hold where applicable. Additionally we would like to note the following:

- TS.V.I.8: with respect to subordination of an instrument an additional layer of subordination could be considered to further differentiate Tier 1 and Tier 2 instruments (i.e. equity junior to Tier1 junior to Tier2)
- TS.V.I.8: loss-absorbency in going concern: any write down of principal amount should NOT require to be “permanently” as stated in “key features” but - as mentioned in TS.V.C.7 “notwithstanding a possible later write up”. However, we do not support the general exclusion of instruments without write down and conversion into equity features from classification as Tier 1 capital (see also above).
- TS.V.I.8: it is key to specify the point “must not hinder the recapitalisation of the insurer” to rationalise the discussion of a write-down feature
- TS.V.I.8 and TS.V.I.9: the requirement “where coupons are non-cash cumulative can only be settled in stock” should be interpreted as follows: Servicing costs for an eligible item can also be paid out of funds raised by an instrument which is at minimum pari passu to the respective item (= ACSM Alternative Coupon Settlement Mechanism or PIK Payment in Kind). In addition, we recommend that no limitations and restrictions should apply in relation to the ACSM and the ACSM settlement period in order to avoid additional pressure in time of financial distress. If an issuer is in theory able to defer interest and the ACSM settlement indefinitely this would support loss absorbance in going concern.
- TS.XVI.D.9: We would welcome a clarification that capital items issued by funding entities controlled by the ultimate parent, whereby the ultimate parent usually guarantees the issuance of the capital basis on a subordinated basis, should be considered as fully transferable;
- TS.XVI.D.6: We would welcome a clarification on how to assess the availability of minority interests in the context of own funds
- Art 92(5) - absence of mandatory fixed charges. We suggest this should be amended to specify the absence of cash coupons, or perhaps a restriction on fixed charges that erode capital position. Alternative options, such as a future issue of shares would comply with the principle by not eroding the resources available to policyholders.

Overall, QIS 4 should allow firms flexibility in allocating instruments to tiers and request commentaries on the assessments made including argumentation for the assessment. For example, a bottom-up modelling including the specific features might be available for some instruments.

### **Tier limits should not exacerbate a crisis**

We believe that the role of tier limits is to ensure that in normal circumstances insurers maintain an appropriate minimum quality of capital. However, we are not aware of the existence of a justification for the proportionate value limits proposed for tier 2 and 3 which appear to be arbitrary. If these limits are rigidly applied even in a crisis situation, tier limits can precipitate a deeper crisis through their interaction with the MCR test by triggering a technical MCR breach with all its consequences.

Therefore we recommend that the Directive allows supervisors to exercise some flexibility in a crisis situation at their own discretion to mitigate this danger. This could be along the lines of the Capital Requirements Directive permission to supervisors to

allow Tier 1 capital to fall to half the normal level and to waive the limits for lower tiers of capital temporarily (e.g. article 66, CRD 2006/48/EC).

### Valuation and intangible assets

Following the directive the valuation of own funds is carried out by deriving the market-consistent value of assets and liabilities and taking the difference between them. The directive does not mention intangible assets. We note the approach which had been adopted in QIS3 for groups (paragraphs I.6.79) is too crude. However, we think that the valuation of intangible assets needs further specification. In general intangible assets should be viewed in the context of an economic balance sheet and thus follow economic principles. This would mean that items like goodwill that relate to business of future years need to be removed in the context of a one-year time horizon, whereas assets that are related to in force business should be recognised. However it needs to be assured that no double counting of these assets happens.

### Treatment of existing instruments

The application of new criteria for own funds would lead to changes in the own funds that are eligible for solvency purposes. It is important to consider in this context the grandfathering of existing instruments. Most insurers have already issued regulatory capital instruments. These instruments have long or perpetual maturities, and they are part of the long-term capital structure of those insurers. It is impossible to amend this capital structure with every change to the requirements for various categories of regulatory capital. We understand that the treatment of already issued instruments will be set in Implementing measures. To estimate the scope of such Level 2 measures it would be useful if information on the necessity of grandfathering was collected as part of QIS 4.

### Key recommendations

We do not support the general exclusion of instruments without write down and conversion into equity features from classification as Tier 1 capital. Instruments without a write down clause and an equity conversion clause should be eligible as Tier 1 in case they fulfil certain other risk-bearing features.

QIS4 needs to gather comparable data that can validate or inform further development of the own funds proposals. The instructions therefore need to be as clear and detailed as possible and avoid any ambiguity that could cloud comparability. The data collected needs to include:

- how each capital instrument already issued by insurers would be treated under the detailed criteria in the the Commission working paper. Whereby we strongly recommend (i) to clearly state in the QIS4 specifications that the write-down feature is an optional feature for a Tier 1 instrument and (ii) to change the proposed 50bp step-up for Tier 2 instruments to 100bp.
- the instruments' first call date
- where a market value is available, the amount of any significant difference between the market value of the instruments and their value counted within capital resources, with explanatory comments;
- any problem areas within the proposed characteristics of instruments;
- comments on the potential for the proposed tier limits to exacerbate a crisis by gearing hybrid allowances off core Tier 1.
- how capital instruments are currently treated (it would be helpful to map the Solvency 1 rules onto the 'tiers' terminology to avoid any ambiguity), together

with explanatory comments on any significant differences in treatment

In a group context it makes more sense to capture this information at group level than at entity level, as in most cases groups issue capital instruments centrally. Please find all drafting suggestions on TS.V. in the appendix.

## 5.2 Group eligible elements of capital – Group support

In a group context the calculation of the eligible elements is more complex and the treatment of other sector investments as well as non-EEA has to be clarified as the proposal tested under QIS 3 does not reflect the real economic view and therefore restrict diversification effects. The QIS 3 approach concerning the determination of eligible elements of capital on group level showed shortcomings, mainly in respect to the treatment of the surpluses within Non-EEA and other sectors. Furthermore the current draft of the Solvency II directive leaves the definition as well as the calculation approach of eligible elements on a group level rather open. This uncertainty is even more extreme in the case of Groups with non-EEA insurance holding companies as well as “third country mixed activity” insurance holding undertakings. Therefore we would like to give some explicit feedback on the possible future treatment of eligible capital elements on group level.

Concerning the group eligible elements of capital we would be in favour of not deducting market consistently valued **surplus capital of non-EEA and other sectors** subsidiaries like banking, asset management etc. We see no reason for not taking into account the own funds of Non-EEA or other sector participations if they are transferable as and when these financial resources are needed. It means that there should be no discrimination whether the parent company is located in the EU or outside or whether it is an insurance or mixed-activity holding company.

It is also important that QIS4 sets out clear criteria to deal with surplus in participating business at group level. We believe that the total balance sheet and economic based approaches adopted for Solvency II are also relevant in this area and should be adopted. The application of these criteria would mean the recognition as own funds at group level of the (market consistent) embedded value in with profit business – the future transfers to shareholders and the shareholders’ part of the surplus in the participating business – adjusted for the impact of capital stresses. This is consistent with the approach to non-participating business adopted in Solvency II, which recognises the difference between the market consistent value of assets and liabilities as basic own funds (article 86).

Concerning the valuation of own funds we are concerned that the current version of the “look-through” principle (TS.VI.E.) is only applied to the calculation of the SCR. Thus, as it stands, Own Funds, MCR and SCR are not assessed in a consistent fashion. CRO Forum believes that in an economic framework the “look-through” principle should be applied consistently to Own Funds, MCR and SCR. However, materiality should be taken into account when applying “look-through”. (cf. drafting suggestion on TS.VI.E.2 in the appendix).

To ensure an appropriate treatment, we believe that in the first place Solvency II should aim for an economic sound approach. Secondly it should seek consistency across other sectors and align the currently applied calculations of available capital within the Financial Conglomerates Directive as well as the Insurance Group



Directive. In this course the CRO Forum encourages the Commission to intensify cross sectoral discussions with the aim of promoting the economic approach of Solvency II and taking recent work of the IAIS into account.

### Group Support

The CRO Forum welcomes the recognition of group support as an element of own funds within QIS4 (TS.XVI.E.2.) at the level of the individual group companies. However, due to the fact that detailed guidance is not yet available<sup>13</sup> an estimation of the impact of the introduction of group support as an element of eligible capital is impossible at present.

As group support is considered to constitute an important feature of Solvency II we would like to encourage the Commission to thoroughly test group support within QIS4 and collect information of how group support is treated in internal models.

### Key recommendations

Concerning the group eligible elements of capital we would be in favour of not deducting market consistently valued capital of non-EEA and other sectors subsidiaries like banking, asset management etc (cf. drafting suggestion on TS.XVI.B.1 in the appendix).

Group support should be classified following the characteristics used in tiering capital.

We would like to encourage the Commission to elaborate further on the treatment of capital fungibility and to develop a pragmatic solution together with the industry. The “look-through principle” should be applied to the MCR, SCR and the Own Funds in a consistent manner considering materiality aspects (cf. drafting suggestion on TS.VI.E.2 in the appendix).

Please find the drafting suggestions on TS.XVI in the appendix.

## 6. Structural issues

### 6.1 Recognition of Risk Mitigation and (partial) internal models

#### Risk mitigation due to reinsurance and alternative risk transfer

Solvency II is aiming to foster sound risk management practices. Hence, particularly any risk mitigation needs to be appropriately reflected under Pillar I when determining the SCR for an insurance company. Risk mitigation can be done in different ways, e.g. by traditional reinsurance but also by using alternative risk transfers to capital markets, such as catastrophe bonds.

We appreciate that QIS4 endorses an economic approach towards risk mitigation by laying down certain minimum requirements to the extent that risk mitigation tools can be incorporated into the standard SCR calculation (TS.VII.B). However, we are concerned that the economic approach outlined does not seem to be adequately captured within the concrete calculation methods for the various risk types.

<sup>13</sup> TS.XVI.E.3.: “Detailed guidance will be given in the spreadsheet.”



In principle, reinsurance is included in QIS 4 standard formula by using input values net of reinsurance. However, it is questionable whether this is already sufficient for risk management purposes. The dangers of an inappropriate recognition of risk mitigation under standard approaches have already been addressed before<sup>14</sup>. Therefore we investigated the extent to which risk mitigation is structurally adequately reflected in the QIS 4 framework, not commenting on pure calibration issues.

In our view, most risk mitigation instruments are not recognized appropriately in QIS4. The following presents examples of structural shortcomings of the recognition of risk mitigation under QIS 4. This list may not be exhaustive but outlines the need for additional considerations.

- a) Changes in the reinsurance program cannot be appropriately recognized with the QIS 4 standard formula as non-life premium risk is modelled using *historic* premiums and loss ratios. Even worse, although being a reasonable risk management instrument, in case the reinsurance cover was not affected (during the historic years being used for modelling the undertaking-specific sigmas) non-proportional non-life reinsurance increases instead of decreases the non-life premium risk as the volatility of the net loss ratios is increased.
- b) Risk mitigation may not be limited to QIS 4 segmentation. For example reinsurance using umbrella, whole-account and other multi-line covers cannot be incorporated into the lines of business view within non-life premium and reserve risk or into the subdivision of SCR into non-life premium and reserve risk and catastrophe risk respectively. Hence, it cannot be properly reflected. Similar problems arise when considering reinsurance structures in life & health business that combine underwriting and financial market risk elements.
- c) Reserve risk is usually also affected by reinsurance. Thus, pure market risk factors may not capture individual risk mitigation techniques. We therefore strongly suggest allowing factors specific for the portfolio assessed, similar to premium risk.
- d) Non-proportional life reinsurance is not adequately reflected in the catastrophe component of life underwriting risk in QIS 4.
- e) Alternative risk transfer instruments such as catastrophe bonds are not adequately reflected in QIS 4.
- f) Risk mitigation usually affects the modelling itself: As risk mitigation can have a significant impact on an insurer's risk profile, assumptions made in QIS 4 like e.g. non-life premium and reserve risk being log-normally distributed can become inappropriate. As this assumption might hold true for loss distributions before risk mitigation, the distributions after risk mitigation might have a completely different shape. This could however not be solved using simple formulaic approaches.

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<sup>14</sup> See e.g. CRO Forum, Financial Risk Mitigation in Insurance – Time for Change, [http://www.croforum.org/publications/financialriskmitigation060419\\_resource/File.ecr?fd=true&dn=financialriskmitigation](http://www.croforum.org/publications/financialriskmitigation060419_resource/File.ecr?fd=true&dn=financialriskmitigation); CEIOPS, Answers to the Call for Advice No. 12, Reinsurance (and other risk mitigation techniques), [http://ec.europa.eu/internal\\_market/insurance/docs/markt-2506-04/annexe2-2nd-wave\\_rev2\\_en.pdf](http://ec.europa.eu/internal_market/insurance/docs/markt-2506-04/annexe2-2nd-wave_rev2_en.pdf); GDV, Solvency II and Reinsurance, [http://www.gdv.de/Downloads/Themen/sII\\_reinsurance.pdf](http://www.gdv.de/Downloads/Themen/sII_reinsurance.pdf).

As shown above, the reasons for the insufficient recognition of risk mitigation in the standard approach originates from the variety and complexity of ways risk mitigation can and should be used to reduce an insurer's risk. This may never be appropriately reflected by any standard approach. An inappropriate recognition of risk mitigation, however, does not only lead to a SCR not reflecting the insurer's risk situation properly, it may also perversely discourage state of the art risk management practices. In those cases the use of partial internal models could be explicitly allowed to especially reflect any kind of risk mitigation. This underlines the need to reduce obstacles and to define clear principles for the use of an (partial) internal model when risk mitigation is assessed under Solvency II.

As a first step to an adequate recognition of risk mitigation techniques, historical data gross of (historic) risk mitigation instruments but net of present risk mitigation instruments could be used. This of course presupposes the use of insurer's individual data and model approaches like it was done for the assessment of non-life premium risk.

### **Risk mitigation of profit sharing adjustments**

The CRO Forum strongly supports an economic reflection of all risk and risk mitigation components on a total balance sheet basis.

We recommend that the method risk-mitigating impact of profit sharing be changed. The method applied in QIS 4 calculates the gross Value at risk for each risk stress event (ignoring the profit sharing ability to absorb risk) and combines these to get an overall value at risk and then subtracts from this the combined changes to the profit sharing to get an estimate of the Net Value at risk. A better way to do it (and closer we think to internal modelling) would be combine the net value at risk (i.e. after profit sharing) from each stress event. Then a cross check could be done to make sure that the overall benefit given due to profit sharing funds is not overestimated and does not exceed the actual size of the profit sharing fund.

### **The need for (partial) internal models**

As outlined above, QIS 4 does not provide the basis for the appropriate reflection of risk mitigation especially in the case of surplus funds for participating business and in the case of most reinsurance programs. As the standard approach is and should be a compromise between risk sensitivity and complexity it is not always able to reflect the underlying risk situation. This is true for risk mitigation topics but is not restricted to these. It is therefore of utmost importance to encourage firms to make use of internal/partial models. Solvency II would need to strike a balance between providing incentives for using full/partial internal models and any potential concerns.

The CRO Forum encourages the Commission also to broaden the spectrum of possible methods for calculating the SCR by stating clearly the principles which risk modelling has to follow. A first step towards a broader spectrum was taken with the advanced method for premium risk. We suggest that this approach can be expanded to more risk categories where companies would be allowed to use (partial) internal (and thus more accurate) data and modelling techniques.

It should be allowed to apply partial internal models permanently especially in the case of risk mitigation. Any limitation of the use is arbitrary and against the principles of Solvency II.





### Key recommendations

The CRO Forum encourages the Commission to broaden the spectrum of possible methods for calculating the SCR, when the standard formula is not able to reflect the underlying risk situation adequately. There should be clear incentives for insurers using more risk sensitive methods, which are able to reflect risk mitigation instruments more accurately. The use of (partial) internal models should be further strengthened.

As a first step in allowing for a reflection of a larger variety of risk mitigation instruments, the CRO Forum suggests that

- QIS 4 should allow for risk modelling techniques closer to internal models as was done in QIS3 for non-life premium risk in order to capture the insurer's individual risk more accurately (cf. drafting suggestion on TS.VI.F.2, TS.VI.F.6, TS.XIII.B.24 and TS.XIII.B.34 in the appendix),
- QIS 4 should reflect present risk mitigation techniques based on historical, internal data gross of (historic) risk mitigation instruments but net of present risk mitigation instruments,
- the use of internal model techniques should be encouraged applying principles provided for by the Commission (cf. drafting suggestions on TS.VII.A.5 and TS.IX.C.14 in the appendix).

## 6.2 Non-EEA and other sector business

For non-EEA countries local statutory requirements may be very different in many respects. The CRO Forum QIS 3 benchmarking study<sup>15</sup> showed that this resulted in distortion of the total capital requirement for groups. The results gave insufficient insight into the economic reality for groups, both in respect of capital requirements at the group level as well as to the assessment of available capital. Such lack of insight will hinder appropriate management of the business within groups and will not provide the appropriate incentives. It may also result in incorrect findings in respect of fungibility of capital.

Regarding diversification benefits it can be noted that diversification benefits do not arise from having more legal entities rather from the (non) correlation between risks. Hence if legal entities in non-EEA countries include risks that are not correlated (or only slightly correlated) with risk in the EEA countries, this will result in an overall lower risk for the group, which we believe should be recognised to achieve an adequate and insightful measurement at the group level.

There should be no differential treatment of market consistent valued business of EEA and Non-EEA countries and we want to stress that the points we made earlier on group diversification, are also valid for the treatment of non-EEA business. For QIS 4, the CRO Forum considers it would be appropriate to apply a consistent economic assessment of available and required capital to all businesses, both EEA and non-EEA and to review the credit for geographic diversification to give more appropriate credit for well diversified groups. This implies that non-EEA businesses (and other financial sectors) should be assessed using economic principles consistent with those used under the Solvency II standard approach for EEA

<sup>15</sup> See: <http://www.croforum.org/> A benchmarking study of the CRO Forum on the QIS3 calibration

business, and not using the local statutory requirements. This applies to available and required capital.

In detail, we suggest the following set of principles for QIS 4, which should be taken as a whole:

- The valuation of technical provisions for non-EEA business should be based on the same principles as for the technical provisions for EEA business, i.e.:
  - The value of hedgeable risks should be determined by mark-to-market approaches, i.e. where market prices can be observed they should be used;
  - The value for non-hedgeable risks is determined by an appropriate mark-to-model approach, where liability values are determined as best estimate plus MVM, using a cost of capital approach for determining the MVM.
- The standard formula for capital requirements (SCR and MCR) be applied on a similar basis as for EEA business. Hence also for the non-EEA business Solvency Capital Required (SCR) is defined as the value at risk over one year to a 1 in 200 confidence level, taking into account diversification across the risks and risk mitigation in place. In other words, it represents the amount of assets needed on top of technical provisions calculated on a market-consistent basis (Best estimate liability + MVM) to ensure that there will be sufficient assets to cover projected technical provisions in one year's time in 99.5% of the cases. In the same way, the SCR floor calculation should be consistent for EEA and non-EEA entities, based on MCR or an equivalent proxy. This is not the same as the first local supervisory intervention level, e.g. 200% US RBC, which is more equivalent to a local SCR.
- Regarding diversification benefits a similar approach as for EEA business should be used.

Please note that this is fully consistent with the position the CRO Forum has in the group supervision debate. "Supervision of groups for prudential purposes should be based on a consolidated approach that recognizes group diversification benefits so that there is one binding SCR for groups. The solo MCR and the valuation of insurance liabilities remain local and binding and a solo SCR will be used to set the level of parental support."

The group SCR calculations as described in TS.XVI. requires the Group SCR to be calculated using several methods. Also these methods need to be evaluated on both the entire group balance sheet (TS.XVI.B.6) and local requirements for non-EEA participations (TS.XVI.B.5)

We think that a prioritization of the alternatives being tested would benefit the study, as the participation also for smaller groups becomes easier. However, significant data on internal models needs to be collected to allow for comparisons not just on a group SCR level but also for example on a solo entity level or even below. That way especially diversification benefits can be compared between internal models and the standard formula. This may help to waive some of the restrictions currently applied to diversification. (cf. drafting suggestion on TS.XVI.B.1, 5, 6 in the appendix)

### Key recommendations

For QIS 4, the CRO Forum considers it would be most appropriate to apply a consistent economic assessment of available and required capital to all businesses, both EEA and non-EEA as well as other sectors and to review the credit for geographic diversification to give adequate credit for well diversified groups.

This would mean applying the same valuation standards and capital requirements to both EEA and non-EEA entities and including diversification effects as suggested in the diversification section of the paper.

The default method should therefore include non-EEA entities and cross-sector entities as the main of all alternatives being tested In order to encourage high participation in QIS4 such a prioritization of alternatives being tested seems necessary (cf. drafting suggestion on TS.XVI.B.1, 5, 6 in the appendix).

The CRO Forum believes that the internal model information is the adequate source of information as it is on a full economical basis and tailored to the specific risk profile of the company. It needs to be ensured that all necessary data for comparisons between internal models and the standard model are available. This requires significant information on internal models. The CRO Forum is willing to participate in the development of the standard template and the determination of the detailed information required based on the experience gained throughout its QIS3 Benchmarking study (cf. drafting suggestion on TS.XVI.B.1 in the appendix).

### 6.3 Instantaneous stresses vs. one-year modelling view

Conceptually there are two possibilities to interpret the one-year time horizon of Solvency II

1. If the Solvency Capital Requirement takes a one year modelling perspective, also the expected profit over this time horizon would need to be included in the assessment, as the expected profit would be available to absorb losses at the end of the 1-year time period.
2. If the Solvency Capital Requirement is based on an instantaneous shock (calibrated to a one-year time horizon) to the economic balance sheet, expected profits would not be taken into account.

The following items should be noted:

- The calibration of factors would need to be consistent with the chosen modelling view.
- While option (1) seems to capture the real-world economics of a one year horizon better than option (2) it is critical that robust processes are developed for auditing the expected profits. In effect, all cashflows within one year and the corresponding management rules / (re)investment strategies have to be considered accordingly.

Under QIS 2 expected profitability was included into the calculation of the SCR. Under QIS 4 – like in QIS 3 - there is no such allowance. The approach under QIS 4 also neglects the premium cycle in the calculation as only net premiums are used as risk volume and could therefore face the same critics as Solvency I, in terms of pro-cyclicality. This implies that with falling premium rates the capital requirement will

decrease. This could further aggravate premium cycles, because it would reduce the costs of capital for this risk category.

#### Key recommendation

We suggest that QIS 4 tests the impact of the two views and the possible impact of considering expected profits. However, guidance is needed how expected profits have to be determined in an economic and reliable manner (e.g. return on investments). In addition QIS 4 should be used to collect information of how expected profits and losses are treated in internal models by insurers (cf. drafting suggestion on TS.VIII.C.2 in the appendix).

#### 6.4 Spread risk - Unit Linked products - TS.IX.F.7

The Capital charge for spread risk is structured by reference to market value of credit risk exposure. All other market risks are based on an impact on Net Asset Value (NAV). A charge based on market values is inappropriate for certain lines of business, for example unit linked products.

The value of unit linked products that are not fully hedged is indirectly impacted by the volatility of credit spreads over the risk-free interest rate term structure by a change in the value of management fees to be received in the future and a change in the value of options and guarantees present in the product, both resulting from a lower fund value. In this case a charge based on the market value of assets in the unit linked fund is inappropriate, since it does not reflect the true risk exposure.

To bring this spread risk charge in line with the other market risk charges and to make it more reflective of the underlying risk exposure, we propose a charge of the form

$$\text{Mkt}_{\text{sp}} = \text{Delta NAV} \mid \text{spread risk shock.}$$

The factor based approach currently used to determine the capital charge can then be used to determine the scenario to feed in to the calculation of the impact on Net Asset Value of the product. For direct credit exposure the impact on NAV will be equal to the direct loss in market value, whereas for unit linked products the impact will be indirect in nature.

#### Key recommendations

The CRO Forum encourages the Commission to change the capital requirement for spread risk to the form  $\text{Mkt}_{\text{sp}} = \text{Delta NAV} \mid \text{spread risk shock}$  (cf. drafting suggestion on TS.IX.F.7 in the appendix).

#### 6.5 Equity risk

The CRO Forum is committed to the principle of market consistent valuation of assets and liabilities. In the context of risk measurement, we obviously agree that Solvency II should take account of the possibly long-term nature of the liabilities as well as the structural mismatch of assets and liabilities. There should be no compromises where there is a risk to Solvency II sound risk measurement principles.



The CRO Forum strongly recommends the treatment of equity risk (and indeed other asset risk) in the standard SCR in a manner that takes appropriate account of the principle of market consistent valuations and the one year “Value at Risk” horizon of the solvency framework that the CRO Forum has been consistently defending. We appreciate that QIS 4 follows these principles.

### Granularity

We would encourage the Commission to introduce a more advanced methodology to equity risk. This would mean broadening the spectrum of indices used to reflect the equity portfolio. This would have two effects: better diversification effects for well-diversified portfolios and better reflection of true risks for undiversified portfolios. The approach in QIS 4 assumes a worldwide equity portfolio. From our experience we have severe doubts that such an assumption will hold for most European insurers. In addition to more indices, which could be prescribed by the major five indices of the world, a correlation matrix between them can be set up. The CRO Forum would be happy to assist the Commission in such an exercise.

We furthermore would like to express our concerns on the treatment of alternative investments as laid out in TS.IX.C.14, as we consider the risk characteristics as very different between different hedge funds strategies, derivatives, CDOs and all other classes. We would therefore recommend, that also for MKTEq companies should be allowed make use of partial internal models.

### Key recommendations

We suggest enhancing the Equity submodule by introducing a more advanced method with more indices and a prescribed correlation matrix (cf. drafting suggestion on TS.IX.C.17 in the appendix). Insurers should be able to map their equities to a limited number of indices. This method could be applied additionally to the very standard approach. The treatment of alternative investments should be reconsidered, as the risk characteristics between the products differ heavily. Companies should be allowed make use of partial internal models (cf. drafting suggestion on TS.IX.C.14 in the appendix).

## 6.6 Technical provisions

### 6.6.1 Cost of Capital for technical provisions

In the approach for establishing risk margins in the technical provisions for non-hedgeable risks, the CRO Forum believes there is a need to more clearly refine the approach, so as to provide clarity and to achieve the appropriate setting of risk margins. This in particular relates to which risk should be included in the cost of capital approach and how diversification should be treated in the cost of capital approach. In that respect we believe it is appropriate to re-iterate the view that is expressed in the March 17 CRO Forum discussion paper “A market cost of capital approach to market value margins”.

The implications of the views expressed in this paper are twofold:

- 1) It is only necessary to calculate an explicit MVM for non-hedgeable risks. The reasoning for this can be explained as follows:



- A hedgeable risk is a risk which can be pooled or hedged using a replicating portfolio. The cost of hedging is given by the market value of those instruments that the insurer would need to buy in order to fully hedge its position, i.e. the replicating portfolio. These hedging costs that include expected and unexpected loss costs, transaction fees etc., are implicit in the observed market price of those instruments the insurer would need to buy and in fact include the risk margin for these hedgeable risks. It is therefore not necessary to calculate an explicit MVM for hedgeable risks. Going concern assumptions as specified by the Draft Directive need to be taken into account in the projections of capital.
- Risks for which a deep, liquid and transparent market is not available are referred to as non-hedgeable. They are risks for which a market price cannot be observed. Non-hedgeable risks include both financial and non-financial (underwriting) risks, including for example long term liability risks with a term longer than available assets in the market and most insurance risks. To compensate an investor for the cost of taking non-hedgeable risks, an explicit MVM in addition to the expected present value of future cash flows is demanded.
- Overall, this implies that in applying the cost of capital approach a cost of capital should be included for non-hedgeable risk only, where the capital is set to be the equivalent SCR for these non-hedgeable risks.

We appreciate the fact that the Commission has already incorporated these considerations within QIS4 (TS.II.).

- 2) There are strong arguments in favour of allowing for diversification between LoBs when calculating the cost of capital risk margin within technical provisions. The rationale is essentially that:
- in practice, an 'exit' value for a block of technical provisions will reflect diversification between lines of business because a diversified insurer/reinsurer will be able to offer the most competitive price to take on those liabilities;
  - the capital required, and the cost of that capital demanded by investors, take into account that diversification exists between LoBs, so to ignore it in the risk margin calculation is inconsistent
  - although this means that the value of technical provisions for a portfolio may change depending on which insurer it belongs to, that is unsurprising and unobjectionable when the value includes an allowance for the capital held to cover the risk.



### Key recommendations

The CRO Forum suggest that if the cost of capital rate has to be fixed for the QIS 4 exercise to leave the rate setting open until satisfactory analysis has been performed. We think the spreadsheet for calculating the Cost-of-Capital margin in QIS3 was a good step to compare companies. We appreciate a common spreadsheet and suggest that for this exercise the use of (partial) internal models should be strengthened.

As outlined above, we see strong reasons for including diversification effects in the cost-of-capital margin, We therefore suggest that insurers participating at QIS 4 should calculate a cost-of-capital risk margin allowing for diversification between lines of business as well as the one that aggregates the risk margin for each line of business (cf. drafting suggestion on TS.II.C. in the appendix).

### 6.6.2 Discounting

The swap curve is the reference curve at which financial institutions value/trade derivatives (including credits). By introducing the government curve as the basis for this valuation this will result in a fundamental disconnect. In addition in most financial/geographic markets swaps are in fact more liquid than are government securities and thus provide for more reliable valuations. Moreover, for a market-consistent valuation we should use implied volatilities rather than historical ones. Implied volatilities can only be observed by derivative prices, which are based on swap rates.

The CRO Forum has commented on this topic accordingly before. We understand that also the CFO Forum intends to recommend Swap rates for MCEV purposes.

### Key recommendations

Swap rates should be used (cf. drafting suggestion on TS.II.B.11 in the appendix).

### 6.6.3 Future premiums from existing contracts

There is clearly a need to distinguish between existing contracts and new contracts. The Commission has followed here the IFRS approach suggested by the IASB in the Discussion Paper from May 2007. The CFO Forum and the CEA has commented on this topic to the IASB and to the Commission and brought forward their concerns together with 99% of the respondents to the IASB Discussion Paper, in saying that the guaranteed insurability concept is very limitative in terms of future cash flows regarding existing contracts and does not produce an economic view of the insurer's obligations.



The QIS 4 specification represent a departure from the QIS 3 principles and we fully join the CFO Forum's suggested rewording of these principles proposed in the appendix on question 7 attached to the response letter from November 2007<sup>(16)</sup>:

1. "EP35 The cash flows included in the estimate of the insurance liability should only include cash flows associated with the current insurance contract and any existing ongoing obligation to service policyholders. This should not include expected renewals that are not included within the current insurance contract."
2. "EP36 Recurring premiums should be included in the determination of future cash flows, with an assessment of the future persistency based on actual experience and anticipated future experience."
3. "EP37 Where a contract includes options and guarantees that provide rights under which the policyholder can obtain a further contract on favourable terms (for example, renewal with restrictions on re-pricing or further underwriting) then these options or guarantees should be included in the evaluation of the insurance liability arising under the existing contract. Where no such restrictions on re-pricing or underwriting exist, there is no ongoing obligation to service policyholders."

### Key recommendations

The CRO Forum encourages the Commission to take over the principles suggested by the CFO Forum for future premiums from existing contracts (cf. drafting suggestion on TS.II.B.27-28 in the appendix).

## 6.7 Market risk concentrations – Funds Withheld business – TS.IX.G

The technical specification for QIS 4 specifies formulae and parameters to be used in calculating a risk concentration charge per 'name'. We would suggest that consideration is given to the situation where a reinsurer uses the concept of "funds withheld" to cover collateral requirements of ceding companies. This is a concept often employed by European reinsurers who conduct business outside of Europe, particularly in the United States. Under a funds withheld arrangement, a reinsurer assumes insurance risk from a ceding company but the assets associated with the risk are not transferred to the reinsurer but remain as collateral for the ceding company. The reinsurer therefore creates a receivable on their balance sheet for the amount of the funds withheld asset.

It should be noted that under the terms of the reinsurance treaty, there is generally a provision which ensures that the reinsurer is not held accountable for the liabilities under the reinsurance treaty, should the funds withheld assets become unavailable (for example due to insolvency of the ceding company). This greatly reduces the counterparty risk to the reinsurer. As a result of this greatly reduced risk, we consider that it is not appropriate for funds withheld assets with ceding companies to be considered as a single asset for the purpose of determining market risk concentrations using the formulae and parameters outlined in QIS 4. The reinsurer could also look through to the underlying assets (which have been withheld by the ceding company) for the purpose of determining these market risk concentrations. However, funds withheld agreements are written with different features and so a general treatment may never be correct. We think that different options for the

<sup>16</sup> Cf. Appendix to Phase II response CEA and CFO Forum, p.8, November 2007

treatment should be allowed for. Also, materiality aspects should be taken into account before applying look-through.



e-mail	last name	First name	Organisation	Type of Organisation	documents	area Q2	Sub-section Q2	Paragraph reference Q2	Drafting suggestion Q2	Explanation changes Q2	priority	Creation date
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	II	B	11	Cashflows should be discounted at the risk-free discount rate applicable for the relevant maturity at the valuation date. These should be derived from the risk-free interest swap rate term structure at the valuation date. Where the financial market provides no data for a maturity, the interest rate should be interpolated or extrapolated in a suitable fashion.	The swap curve is the reference curve at which financial institutions value/trade derivatives (including credits). By introducing the government curve as the basis for this valuation this will result in a fundamental disconnect. In addition in most financial/geographic markets swaps are in fact more liquid than are government securities and are thus a better representation of the risk-free assets needed to replicate the liabilities.	High	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	II	B	27-28	<p>"EP35 The cash flows included in the estimate of the insurance liability should only include cash flows associated with the current insurance contract and any existing ongoing obligation to service policyholders. This should not include expected renewals that are not included within the current insurance contract."</p> <p>"EP36 Recurring premiums should be included in the determination of future cash flows, with an assessment of the future persistency based on actual experience and anticipated future experience" and</p> <p>"EP37 Where a contract includes options and guarantees that provide rights under which the policyholder can obtain a further contract on favourable terms (for example, renewal with restrictions on re-pricing or further underwriting) then these options or guarantees should be included in the evaluation of the insurance liability arising under the existing contract. Where no such restrictions on re-pricing or underwriting exist, there is no ongoing obligation to service policyholders."</p>	<p>The original paragraph was taken over from the IASB Discussion Paper from May 2007 and is still under discussion. We share the concerns brought forward by the CFO Forum (response from November 2007), which was also addressed to CEIOPS. Suggestions for redrafted principles are copied from the appendix on question 7 on page 8.</p> <p>Further arguments:</p> <ul style="list-style-type: none"> <li>- in most comment letters to the IASB DP the concept of guaranteed insurability is rejected</li> <li>- we are opposed to this concept, because it would result in the exclusion of future premiums, for a number of contracts (in particular deferred annuities, universal life contracts and contracts with premium holiday). This gives rise to the potential for losses to be recognised at the start of the contract, even though the contract is expected to be profitable. It would also be contrary to an economic view on future cash flows.</li> <li>- We believe once an insurance contract is recognised then the inclusion or exclusion of cash flows associated with that contract are measurement issues and should not be influenced by considerations related to recognition of individual rights and obligations.</li> <li>- Informal discussions with the IASB have indicated that this concept will be changed in the IASB DP</li> <li>- We consider it important to distinguish between new and existing contracts. Therefore we recommend to include all future premiums based on existing contracts.</li> </ul>	High	31-01-2008



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<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	II	C		The risk margin should take diversification benefits over the projection into account by calculating along QIS4 standard approach with reduced set of risks	<p>CEIOPS explicitly requires in its 'QIS4 - Background Document on Cost of Capital' (01/31/2008) by following the Proposal in the IASB Discussion Paper (May 2007) a) the calculation of the risk margin to be done on line of business basis and; b) the exclusion of any diversification benefits between the lines of business.</p> <p>This approach differs from the Swiss Solvency Test as there the Market Value Margin is calculated using the entire capital requirement which implicitly takes diversification benefits into account.</p> <p>This approach is also criticized by the CFO Forum and the CEA in the appendix of their response to the IASB Discussion Paper (November 2007, page 11): 'Once the risk margin has been calculated for each portfolio we believe further allowance should be made for diversification beyond the portfolio level. The benefits of diversification between lines of business is an integral part of an insurer's business model and it is therefore fundamental that accounting reflects these benefits when valuing together a number of portfolios of insurance contract liabilities. We believe that the benefits of diversification (and negative correlation) between portfolios should be reflected in risk margins on the basis that this approach is reflective of the business model applied.'</p> <p>It is not comprehensible why an insurance company in case of insolvency would more likely be broken up into lines of business and sold in isolation than sold as an entity.</p> <p>Furthermore, the QIS4 Technical Specification are often unclear or even consistent in its guidelines:                      a) While the rough description of the calculation steps of the risk margin (cf. TS.II.C.15, especially the last bullet point) obviously neglect diversification, TS.II.C.17 includes diversification as the aggregation method of the SCR standard formula' applied to the mentioned risk categories includes diversification by the use of the correlation matrix (cf. TS.VIII.C.4).                      b) For non-life insurance, there does not exist a SCR per line of segment such that TS.II.C.12 remains unclear as it can not be calculated 'directly from the formula' (cf. TS.II.C.20). TS.II.C.25 can be interpreted in such a way that the 'per line of business calculation' is meant to be using the standard formula for each line of business assuming it is the only one.</p> <p>We therefore encourage the Commission to again recognize the existence of diversification benefits in the calculation of the risk margin by applying the standard formula on those risks taken into account for the calculation of the risk margin.</p>	High	



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<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	II	D	24	Change paragraph to be consistent with the draft directive article 76 (3).	<p>The original paragraph was taken over from the IASB Discussion Paper from May 2007 and is still under discussion. We share the concerns brought forward by the CFO Forum (response from November 2007 from the appendix on question 16 on page 14), which was also addressed to CEIOPS. TS.II.D.24 contradicts article 76 (3) and should therefore be changed.</p> <p>Further arguments:</p> <ul style="list-style-type: none"> <li>- In the same way that all expected future premiums should be included in the valuation of an insurance contract in order to reflect the true economic value, all expected future payments to participating policyholders should be taken into account.</li> <li>- Whilst we concur with TS.II.D.21 - 22, we are concerned, that CEIOPS uses the label of a constructive obligation in the IAS-IF context.</li> </ul>	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	VII	A	5 (new)	In cases where a material share of the risk mitigation effect within one risk module or sub-risk module is not appropriately captured by the standard approach, a partial internal model should be used to calculate the respective capital requirement for the respective risk module or sub-risk.	<p>In our view, most risk mitigation instruments are not recognized appropriately in QIS 4. The reasons for this originates from the variety and complexity of ways risk mitigation can and should be used to reduce an insurer's risk. This may never be appropriately reflected by any standard approach. An inappropriate recognition of risk mitigation, however, does not only lead to a SCR not reflecting the insurer's risk situation properly, it may also perversely discourage state of the art risk management practices. In those cases the use of partial internal models could be explicitly allowed to especially reflect any kind of risk mitigation. This underlines the need to reduce obstacles and to define clear principles for the use of an (partial) internal model when risk mitigation is assessed under Solvency II.</p> <p>Some examples of insufficient recognition of risk mitigation are:</p> <ul style="list-style-type: none"> <li>a) Non-proportional non-life reinsurance increases instead of decreases the non-life premium risk as the volatility of the net loss ratios is increased when the cover has not been affected in the past.</li> <li>b) Risk mitigation may not be limited to QIS 4 segmentation.</li> <li>c) Risk mitigation usually affects the modelling itself: As risk mitigation can have a significant impact on an insurer's risk profile, assumptions made in QIS 4 like e.g. non-life premium and reserve risk being log-normally distributed can become inappropriate.</li> <li>d) Alternative risk transfer instruments such as catastrophe bonds are not adequately reflected in QIS 4.</li> </ul>	High	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	IX	C	14	Companies should be allowed to make use of partial internal models, if alternative investments contribute more than a certain threshold to equity risk (e.g. 20%).	The treatment of alternative investments should be reconsidered, as the risk characteristics between the products differ heavily.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	IX	C	17	The granularity of the matrix Corriindex should be expanded to a bigger number of indices.	Insurers should be able to map their equities to a limited number of indices. This method could be applied additionally to the very standard approach.	Medium	31-01-2008



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<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	IX	F	7	Mkt <sub>tp</sub> = ΔNAV / spreadrisk shock	<p>The capital charge for spread risk is structured by reference to market value of credit risk exposure. All other market risks are based on an impact on Net Asset Value (NAV). A charge based on market values is inappropriate for certain lines of business, for example unit linked products.</p> <p>The value of unit linked products is indirectly impacted by the volatility of credit spreads over the risk-free interest rate term structure by a change in the value of management fees to be received in the future and a change in the value of options and guarantees present in the product, both resulting from a lower fund value. In this case a charge based on the market value of assets in the unit linked fund is inappropriate, since it does not reflect the true risk exposure.</p> <p>To bring this spread risk charge in line with the other market risk charges and to make it more reflective of the underlying risk exposure, we propose a charge of the proposed form.</p>	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	V	A	3a (new)	<p>New paragraph TS.V.A.3a:</p> <p>Grandfathering</p> <p>Grandfathering of existing instruments on introduction of Solvency 2 is an acknowledged issue which will be dealt when formulating implementing measures.</p>	<p>It is of the utmost importance that the issue of how to treat existing capital instruments under the new Solvency II regime is explicitly considered and it may be necessary to have special criteria for these instruments when formulating implementing measures. Most current capital instruments would qualify only for tier 3 according to the draft QIS4 specifications and raising new capital is not possible in a short time.</p>	High	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	V	B	2	Delete third bullet point	Subordinated liability is a hybrid capital instrument; therefore this bullet point can be deleted.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	V	C	5	<p>TS.V.C.5 As a result, CEIOPS has developed, in the list of tiers, six characteristics that are not fully in line with article 92:</p> <ol style="list-style-type: none"> <li>1. subordination of total amount on winding-up;</li> <li>2. full loss-absorbency in going concern: <u>1. e</u> free from requirements/incentives to redeem the nominal amount;</li> <li>o absence of mandatory fixed charges;</li> <li>o absence of encumbrances</li> <li>o write down, if applicable</li> <li>3. undated or of sufficient remaining life to legal maturity (perpetuality);</li> </ol>	<p>We suggest to simplify the criteria; 'duration' is a term which is not unique but gives much room for interpretation.</p> <p>We do not support the general exclusion of instruments without write down and conversion into equity features from classification as Tier 1 capital. Instruments without a write down clause and an equity conversion clause should be eligible as Tier 1 in case they fulfil certain other risk-bearing features.</p>	Medium	31-01-2008



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<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	V	C	7	<ul style="list-style-type: none"> <li>Hybrid instruments fulfilling the characteristics 1 -3 without having a write-down-feature are eligible as tier 1 up to 50% of total tier 1</li> <li>for inclusion in tier 1 and tier 2 capital any payment (principal or coupon) on a hybrid capital instrument or subordinated liability must be able to be deferred in times of stress until the financial position is restored;</li> </ul>	We do not support the general exclusion of instruments without a write down feature from classification as Tier 1 capital. Instruments without write down clause should be eligible as Tier 1 in case they fulfil certain other risk-bearing features.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	V	E	2	<ul style="list-style-type: none"> <li>Other hybrid capital instruments which fulfill the criterion of loss-absorbency in going concern with a <u>remaining life to legal maturity</u> of at least 10 years from the <u>reporting issue date</u>. Any interest step-ups must not apply before 10 years from the <u>issue date</u> and must not exceed 100 basis points or 50% of the initial credit spread.</li> <li>Subordinated liabilities which fulfill the criterion of loss-absorbency in going concern with a <u>remaining life to legal maturity</u> of at least 10 years from the <u>issue date</u>.</li> <li><u>Subordinated Perpetual instruments without write-down-feature</u></li> </ul>	The term "duration" is not unique but gives much room for interpretation. If the reporting date is the reference point any instrument would be excluded from tier 1 already 10 years before the step-up kicks in.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	V	E	3	<ul style="list-style-type: none"> <li>Cumulative fixed-term preference shares with a <u>remaining life to legal maturity</u> of at least 5 years from the <u>issue date</u>.</li> <li>Other hybrid capital instruments with a <u>remaining life to legal maturity</u> of at least 5 years from the <u>issue date</u>. Any interest step-ups must not apply before 5 years from the <u>issue date</u> and must not exceed <u>100 basis points or 50% of the original credit spread</u>.</li> <li>Subordinated liabilities with a remaining life to legal maturity of at least 5 years from the <u>issue date</u>.</li> </ul>	If the reporting date is the reference point any instrument would be excluded from tier 2 already 5 years before the step-up kicks in. The maximum step up of 50 bps is directly taken from the standard maximum for dated Tier 2 instruments applied in the banking world, e.g. 10 Non Call 5. However, as in the insurance sector the life to Call-date as well as legal maturity is generally longer (e.g. 60 NC 10 or Perpetual NC 10), we strongly propose a maximum step-up of 100bp or 50% of the original credit spread to insure marketability of the instrument.	High	31-01-2008





e-mail	last name	First name	Organisation	Type of Organisation	documents	area Q2	Sub-section Q2	Paragraph reference Q2	Drafting suggestion Q2	Explanation changes Q2	priority	Creation date
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	V	E	4	<ul style="list-style-type: none"> <li>Cumulative fixed-term preference shares with a <u>remaining life to legal maturity</u> of less than 5 years from the <u>issue date</u>.</li> <li>Other hybrid capital instruments with a <u>remaining life to legal maturity</u> of less than 5 years from the <u>issue date</u>.</li> <li>Subordinated liabilities with a <u>remaining life to legal maturity</u> of less than 5 years from the <u>issue date</u>.</li> </ul>	See above	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	V	I	8	<p>(2) the item:</p> <ul style="list-style-type: none"> <li>Ø must be able to absorb any losses <u>[comment: TS.V.C.7 does not require permanent write-down]</u> either because it is common equity or at a pre-determined trigger point (1) by means of a write down of the principal amount or (2) through conversion into common equity or settlement exclusively in stock</li> <li>Ø <u>hybrid instruments fulfilling the characteristics 1 -3 without having a write-down-feature are eligible as tier1</u> (3) the item:</li> <li>Ø must be updated or of sufficient remaining life to legal maturity in relation to the insurance obligations it covers (i.e. <u>must have a remaining life to legal maturity of at least 10 years from reporting date</u>); and</li> <li>Ø must be contractually locked in at a pre-determined trigger point (i.e. redemption is postponed), where redemption is only allowed if the item is replaced by an item of capital of equivalent quality or if the supervisory authority has given prior approval</li> <li>(4) the item must be             <ul style="list-style-type: none"> <li>Ø free from any requirements to redeem the item prior to its legal maturity;</li> <li>Ø free from any incentives to redeem (i.e. <u>step-ups must not apply before 10 years from issue date</u>).</li> <li>(5) at a pre-determined trigger point based on the firm's MCR, a                 <ul style="list-style-type: none"> <li>Ø able to be cancelled; or</li> <li>Ø able to be deferred for an indefinite term, where coupons are non-cash cumulative and can only be settled in stock, i.e. <u>servicing costs for an eligible item can also be paid out of funds raised by an instrument which is at minimum pari passu to the respective item (= ACSM Alternative Coupon Settlement Mechanism or PIK Payment in Kind). The issuers may spread anyACSM settlement over a period of time (i.e. 5 years).</u></li> </ul> </li> </ul> </li> </ul>	If the reporting date is the reference point any instrument would be excluded from tier 1 already 10 years before the step-up kicks in; (5) in order to avoid additional pressure in time of financial distress.	Medium	31-01-2008



e-mail	last name	First name	Organisation	Type of Organisation	documents	area Q2	Sub-section Q2	Paragraph reference Q2	Drafting suggestion Q2	Explanation changes Q2	priority	Creation date
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	V	I	9	<p>(3) the item :                      Ø must be of sufficient remaining life to legal maturity in relation to the insurance obligations it covers (i.e. must have a remaining life to legal maturity of at least 5 years from issue date); and                      Ø must be contractually locked in at a pre-determined trigger point (i.e. redemption is postponed), where redemption is only allowed if the item is replaced by an item of capital of equivalent quality or if the supervisory authority has given prior approval</p> <p>(4) the item must be                      Ø free from any requirements to redeem the item;                      Ø free from any incentives to redeem (i.e. step-ups must not apply before 5 years from issue date and must not exceed a prescribed level (100 bps)</p>	If the reporting date is the reference point any instrument would be excluded from tier 2 already 5 years before the step-up kicks in. Apparently the maximum step up of 50 bps is directly taken from the standard maximum for dated Tier 2 instruments applied in the banking world, e.g. 10 Non Call 5. However, as in the insurance sector the life to Call dates as well as legal maturity is generally longer (e.g. 60 NC 10 or Perpetual NC 10), we strongly propose a maximum step-up of 100bp or 50% of the original credit spread to insure marketability of the instrument.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	V	I	10	<p>(2) the item:                      Ø must be able to absorb any losses permanently either because it is common equity or at a pre-determined trigger point (1) by means of a write down of the principal amount or (2) through conversion into common equity or settlement exclusively in stock</p>	Delete or be more specific	Low	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	V	I	10	<p>(5) at a pre-determined trigger point based on the firm's MCR, any coupons must be:                      Ø able to be cancelled; or                      Ø able to be deferred for an indefinite term, where coupons are non-cash cumulative and can only be settled in stock, i.e. Servicing costs for an eligible item can also be paid out of funds raised by an instrument which is at minimum pari passu to the respective item (= ACSM Alternative Coupon Settlement Mechanism or PIK Payment in Kind). The issuers may spread any ACSM settlement over a period of time (i.e. 5 years).</p>	In order to avoid additional pressure in time of financial distress	Medium	31-01-2008



e-mail	last name	First name	Organisation	Type of Organisation	documents	area Q2	Sub-section Q2	Paragraph reference Q2	Drafting suggestion Q2	Explanation changes Q2	priority	Creation date
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	VI	E	2	Change footnote 20: The application of the look-through approach is limited <u>applies</u> to the calculation of the SCR, MCR and of the own funds <u>accordingly considering materiality</u> . Delete first sentence of footnote 16 on page 61.	In "QIS4 - Technical Specifications" the "Look-through principle" (TS.VI.E.) is only applied to the calculation of the SCR. However, using economic principles this principle should also be applied in the context of the determination of the own funds. As it stands, Own Funds and SCR are not assessed in a consistent fashion. Materiality aspects should be considered to avoid look through into too small participation	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	VI	F	2	Add: <u>Given the availability of statistical methods insurers are allowed to substitute prescribed factors by portfolio/company specific data for Life underwriting risks.</u>	Companies already applying internal models, could proof that their factors are derived on a statistical founded basis (e.g. extracting scenarios from EEV)	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	VI	F	6	In addition to the application of prescribed factors in the standard formula, companies are encouraged to substitute fixed factors by portfolio specific factors, if they were derived with sound actuarial models based on the same principles - confidence level, time horizon etc. - as the standard formula. These factors should be applied in addition to the standard formula using prescribed factors. If portfolio specific factors are applied, companies should state the methods used to derive the factors.  Companies are allowed to use portfolio specific data for reserve risk in a similar manner as for premium risk.	The underlying risk situation can differ quite heavily between companies. "one-size-fits-all" factors can by definition not cover all portfolios of risk. One solution to better reflect the underlying risk situation would be to allow for the standard formula, the use portfolio specific factors, that were derived by sound actuarial models. This would imply that the structure and formulae of the standard formula would remain. This method is an intermediate solution between the very basic standard formula with prescribed factors and (partial) internal models, where even the structure could differ.	High	31-01-2008



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<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	VIII	C	2	Footnote Z1: Tests the impact of the two views and the possible impact of considering expected profits.	We suggest that QIS 4 tests the impact of the two views and the possible impact of considering expected profits. However, guidance is needed how expected profits have to be determined in an economic and reliable manner (e.g. return on investments). In addition QIS 4 should be used to collect information of how expected profits and losses are treated in internal models by insurers.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	VIII	C	4	1) Decrease the correlation between market and non-life underwriting risk. 2) OpRisk should be part of BSCR	The correlation matrix to derive the BSCR was basically unchanged, with the exception of SCRhealth and SCRnl, where the dependency was increased to 0.25. We want to especially comment on two factors: 1) The correlation between Non-life underwriting risk and Market risk should be reconsidered, based on empirical data 2) The exclusion of Operational Risk from the level of risk type aggregation in QIS 4 causes several problems; it makes the use of partial Internal models more difficult and according to the recently published IFRI study, Operational Risk is a risk type that diversifies well with other risk types with correlation factors between 0% and 50%. Treating it as a loading without considering this economic reality would in our view be inappropriate. In general there should be incentives to move to internal models. These should also be reflected in the calibration of correlations of the Standard Formula. However, care needs to be taken to avoid over-prudent assumptions.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	X	A	18	Insert a variance/covariance aggregation method between risk types.	We would propose to make use of a variance/covariance aggregation method also between those types of credit risk.	Medium	31-01-2008



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<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XI	A		Introduce diversification benefits in the life underwriting module.	As our analysis from the life underwriting module showed that there is no diversification allowance as the individual policy shock was added, we kindly ask CEIOPS to reconsider this aspect of these modules (TS.XI.A).	High	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XI	C	2	Suggestion to extend the longevity test	<p>"The longevity test applies the same stress to annuities and disabled life reserves. This implies that there is no diversification between these two subsets. In many cases the age groups will be different and the drivers of stress different. We suggested that at a minimum QIS4 collects separate amounts for the 2 subsets so that potential diversification effects can be assessed."</p> <p>"In disability the test is the same and the results added for disability income and critical illness. It is not clear that the same level of stress is appropriate and here too the correlations between the two subsub risks will be less than 1."</p>	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XI	C	6	Formula should be amended as follows: Life long = $\Delta NAV /$ longevity and delete "where the subscript i denotes each policy"	We are concerned about the lack of diversification within this class of risk - which is reflected in the reference to "policy-by-policy" calculation.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XI	E	3	Formula should be amended as follows: Life lapse = max (Lapse up; lapse down)	<p>We have various concerns with this component of the SCR:</p> <ul style="list-style-type: none"> <li>- The increased scope of the "mass" lapse calculation - from unit linked in QIS3 to all business.</li> <li>- The lack of diversification within this class of risk - which is reflected in the reference to "policy-by-policy" calculation. This is not a simplification as mentioned in the box setting out the simplification but an aspect of the SCR calculation that appears to be recognised in the framework directive</li> <li>- The additive nature of upwards and downwards shocks - which is in contrast to the approach to interest risk in QIS4 (paragraph 8.8)</li> <li>- The double counting of capital arising from the various lapse assumptions - "mass" and permanent increase in lapse. The same issue appeared in QIS2 in the SCR for underwriting risk, e.g. mortality and was corrected in QIS3.</li> </ul>	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XI	E	4	Formula should be amended as follows: lapse down = $\Delta NAV /$ lapseshock down	See above	Medium	31-01-2008



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<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XI	E	5	Delete: "where l denotes each policy."  Amend definition of lapseshock down as follows: "Reduction of 50% in the assumed rates of lapsation <u>in all future years</u> for policies where the surrender strain is negative"	See above	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XI	E	6	Delete: "where l denotes each policy."  Amend definition of lapseshock up as follows: "Increase of 50% in the assumed rates of lapsation <u>in all future years</u> for policies where the surrender value is positive".	See above	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XI	E	7	Delete this paragraph	See above	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XI	H	4	Suggestion to extend the life cat risk calculation	"All the life subrisk calculations are set as deltaNAV except for CAT. As written it does not allow any offset for effects on annuities, disabled life reserves or non proportional protection. Restatement as a NAV test would facilitate this. The existing could be retained as a simplified approach."  One could also add:  "Impact on asset values should also be allowed for, but the modular structure does not permit it."	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XII	G	15	$\rho_{\text{sub}} = 15$	The "QIS4 - Technical specifications" seem to acknowledge the long-term nature of Workers Compensation business, especially in the "life assistance" component. However, for the purposes of determining premium risk (which encompasses all risk components - standard nonlife, annuities and life assistance) only a maximum number of 5 years is considered within the determination of the company-specific premium risk standard deviation (TS.XII.G.15) which seems to contradict the afore mentioned long-term nature.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XIII	B	8	Include the following footnote: "At a minimum CEIOPS need to collect entity data divided by geographic origin otherwise it will lack the information to assess the potential significance and effectiveness of even simple approaches at group and solo level."	Important for legal entities with branch structure across MS	Medium	31-01-2008



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<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XIII	B	15	$\sigma$ = standard deviation of the <u>combined_loss</u> ratio for the overall portfolio	The term "combined" is misleading as loss ratios of premium + reserve risk rather than combined ratios seem to be meant.	Low	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XIII	B	24	The standard deviation for premium <u>and reserve risk</u> in the individual LoB....	For premium and reserve risk we acknowledge that there are basically three approaches. 1) substitute premium and reserve risk sigmas with portfolio specific data (as outlined in para TS.VI.F.5) 2) standardised methods, with prescribed parameters, without portfolio specific data and 3) advanced method only for premium risk, where portfolio specific data are mixed with the credibility formula outlined in TS.XIII.B.26. This section should be expanded to reserve risk, as there would otherwise be an inconsistency. Furthermore we want to stress that the credibility factors should not be limited arbitrarily.	High	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XIII	B	26	Admit credibility higher than 79%.	The use of portfolio specific data should not be limited arbitrarily, by allowing at a maximum just 79% of credibility. The rationale for a higher degree of credibility is, that if a company has a strong data history, there has to be an incentive to use these factors to the extent possible, rather than mixing it with overall industry factors.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XIII	B	28-29	To reflect geographical diversification, we would suggest an aggregation using a variance/covariance approach per LoB over different geographical areas.	We have doubts that the present geographical diversification approach based on a Herfindahl Index would properly reflect diversification. We would rather suggest reflecting diversification benefits by a robust bottom-up calculation, which can more adequately reflect the dependency between geographies. These pair-wise correlations might differ substantially. We suggest that geographical diversification is taken into account using a variance-covariance structure, in line with the QIS 4 specification for aggregation of risks in solo entities and the directive proposals for the standard approach. The aggregation should start at the lowest level of risk, e.g. between different geographies per line of business. This approach would impact also the general design of the submodule, with the outcome of SCR per LoBs. The CRO Forum is willing to support the Commission in the development of such an approach.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XIII	B	30	The overall volume measure is determined as $sum\_lob (V_{(prem,lob)}+V_{(res,lob)})$ .	The present geographical diversification approach has proximately no effect and precisely a negative effect on NL <sub>pr</sub> . Thus some correction has to be done. The volume is not affected by (geographical) diversification rather than the standard deviation. This implies the changes suggested in this and the following line. Moreover, the corrected formula is likely to produce diversification effects of practically maximal 15% which is assessed to be too low. The CRO Forum would like to help CEIOPS to assess a more correct value. To be more precise, the single $\sigma_{(prem,lob)}$ and $\sigma_{(res,lob)}$ would have to be aggregated to $\sigma_{lob}$ incorporating geographical diversification which then would require deeper changes in formula TS.XIII.B.31.	Medium	31-01-2008



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<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XIII	B	31	sigma should be equal to $DIV_{(pr,lob)}$ times the squareroot	See above	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XIII	B	32	The correlation between premium and reserve risk should be reconsidered.	As a reference we want to mention that the SST assumes these risks to be uncorrelated.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XIII	B	33	The correlation matrix for premium and reserve risk should be reconsidered.	It is not clear why the correlation matrix for premium and reserve risk is the same.	Medium	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XIII	B	34	Extend XIII.B.34 to all 3 insurance risk categories, ie not only for non life"	We note the directive establishes the concept of portfolio specific parameters for all 3 insurance risk categories. QIS4 deals with non life but for life and health only asks for comment. This means that any subsequent proposals will be untested. How does CEIOPS propose to deal with this?	High	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XV			Participants may calculate the MCR under the compact (percentage of SCR) approach as an alternative to the linear approach. A calibration factor of e.g. 35% of the SCR should be tested.	Some risk categories - especially market risk - are not recognized in the calculation of the linear approach, such that the MCR does not reflect the true economic risks of the organisation. In particular, the MCR is the same regardless whether the investment strategy is prudent or risky. First test calculations among some members of the CRO Forum showed that the linear approach would lead to too high MCR results for life business (close to the SCR) whereas for non-life the results varied, but were not so close to the SCR. The CRO Forum believes that the MCR formula should arguably produce results that a) are lower than the SCR, and b) demonstrate a relationship to the SCR that is consistent between different firms, and c) demonstrate a relationship to the SCR that is stable in response to changes in the underlying risk profile. It is our belief that the linear approach may not satisfy these criteria. Especially concerning a), there are no guarantees that the result will be well below the SCR calculation, as suggested by QIS 3 results. This will impair the ability of the SCR to remain the key solvency ratio. Therefore we highly recommend to the	High	31-01-2008





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<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XVI	B	1, 5, 6	A prioritization on the different alternatives should be done: Change the order of XVI.B.5 and XVI.B.6 and highlight that testing using local non-EEA SCR requirements is optional by introducing a prioritization mechanism	The default method should include non-EEA entities and cross-sector entities as the main priority. Asking for too many msndstory alternatives may discourage smaller groups to participate	High	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XVI	D	10	Delete this paragraph	It contradicts paragraph above TS.XVI.D.9	Low	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XVI	B	13-23	The appendix for further clarification in this regard will be important, as this may alleviate the need for additional testing.	In general there is diversification also between non-profit and with-profit on group level for the calculation of the group SCR. The separation of with profit business in the aggregation framework (TS.XVI.B.13-23) does not seem to provide full insight into the true diversification and would lead to additional calculations that could be avoided.		31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	XIV	B	1	ask for internal model information mirroring the standard model information under all alternatives; the CRO Forum is willing to participate in the development of the standard template and the detailed information required in this regard	Given the major effort in gathering data for Groups, the comparability of the gathered information is key. The CRO Forum knows from its experience in conducting the CRO Forum QIS3 Benchmarking Study about some problems likely emerging in this context especially with regard to internal models (e.g. segmenting) and would therefore be glad to support CEIOPS in the envisaged development of the standard template and the determination of the detailed information to be gathered.	High	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum					Line 57		The calibration process is currently not transparent enough to comment on the specific methods of calibration (e.g. non-life reserve risk). The CRO Forum encourages CEIOPS to disclose as much as possible information the QIS 4 calibration bases upon.	High	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum					Line 58		In the context of the general valuation principles laid down by CEIOPS (TS.1.B and TS.1.C.) reference is made to accounting information based on IFRS and its use within QIS4 as proxies for a proper economic valuation. Whilst we appreciate any efforts which foster consistency between Solvency II and IFRS accounting we would like to stress that IFRS4 - Phase II is still in under development and hence reliance on accounting concepts which may still change in the coming years might be premature.	High	31-01-2008
<a href="mailto:secretariat@croforum.org">secretariat@croforum.org</a>			CRO Forum		QIS4 - Technical Specification	X	A	17	The formula relying on the Vasicek distribution could be used for values smaller than 1 instead of the interpolation method.	It is not comprehensible why the diversification benefit is not calculated directly using the Vasicek distribution.	Medium	31-01-2008

