

Solvency II – Implementing Measures Shedding light on the future requirements

Introduction

On 2 July 2009, the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) issued its second set of draft technical advice on Level 2 implementation measures for consultation.

Following on from the first set of consultation papers (“CPs”) released earlier in March this year, this draft advice covers a range of topics across the entire Solvency II spectrum, addressing aspects of the Minimum Capital Requirement (MCR), the Solvency Capital Requirement (SCR) Standard Formula, Internal Model, Own Funds, Reporting and the Supervisory Review Process.

This draft advice will influence the final shape of insurance regulation across European Union member states, with final advice on these implementing measures due to be submitted to the European Commission in January 2010. The second set of papers is subject to a ten week consultation period ending at 4pm CET on 11 September 2009. We welcome the opportunity that this consultation process provides for the industry to engage in the development of the detailed Solvency II regulations, and we strongly encourage firms and other stakeholders to provide constructive and practical feedback.

We have presented here a summary of each of this second wave of consultation papers, pulling out the main elements of the advice, along with our view of the key messages and impacts for the UK insurance industry. We hope that you will find it useful. Deloitte has commented on all previously-issued consultation papers and we will continue to express our views to assist CEIOPS in its crucial rule-making activities.



No. 39 – Technical provisions – Actuarial and statistical methodologies to calculate the best estimate

Purpose – This paper provides detail on actuarial and statistical methodologies for the calculation of the best estimate component of technical provisions.

Key messages

For life business the key difference from current UK regulations is that negative reserves are allowed at policy level without the restrictions imposed by existing rules. We could therefore see a release of reserves, particularly for unit-linked and protection products. This, in turn, could create balance sheet volatility and a greater exposure to lapse risk.

For non-life business, separate provisions are needed for claims outstanding and for claims events occurring after the valuation date during the remaining in force period of policies held by the firm. In both cases, amounts are expected to be best estimates and to allow for the time value of money using the risk free rate determined as per CP40. In addition to the best estimate, the framework Directive requires that all technical provisions include a risk margin.

Detailed summary

Valuation process

- The valuation process should be supervised by an expert with sufficient knowledge and all steps of the process should be well documented.

Cash flow projections

- All future cash flows that would be incurred in meeting policyholders' liabilities should be considered in the calculation of the best estimate of technical provisions.
- The best estimate should be calculated gross of reinsurance and expected recoveries from reinsurers and special purpose vehicles should be shown separately on the asset side of the undertaking and should make proper allowance for expected losses due to counterparty default, whether due to insolvency, dispute or other reason.
- As far as expenses assumptions are concerned, proper allowance for expense inflation should be considered. Expense assumptions however should not allow for future cost reductions until these have been realised. The valuation should assume that companies continue to write new business.

- Due consideration of options and guarantees, policyholders' behaviour, management actions and future distribution of extra benefits should be made.

Life contracts

- A policy by policy valuation is preferred. Grouping of model points is acceptable provided that the undertaking can demonstrate that the grouping does not misrepresent the underlying risk.
- Negative best estimate technical provisions are acceptable at individual policy level, but as long as they are legally enforceable (see CP30)
- No surrender value floor should be assumed.

Non-life contracts

- Separate amounts need to be determined for outstanding claims and premium provisions.
 - Premium provisions should take into account:
 - Future premium payments, taking account of future policyholder behaviour (such as policy lapse).
 - Cash flows from future claims events, including e.g. recoveries from salvage and subrogation.
 - Cash flows from allocated and unallocated claims management expenses.
 - Cash flows arising from the ongoing administration of the in-force policies.
 - Future premiums need to be taken into account (see CP30).
 - Provisions for claims outstanding should include all future claims payments as well as allocated and unallocated claims management expenses whether or not claims have been notified.
 - Where non-life policies give rise to payments of annuities (eg under periodic payment arrangements), claims outstanding may need to be determined using appropriate life actuarial techniques.
- ### Options and guarantees and policyholders' actions
- Both intrinsic and time value of options and guarantees should be considered.
 - The uncertainty of the cash flows should be captured taking into account multiple scenarios.

- When valuing options and guarantees, policyholders' behaviour should not be assumed to be independent of market conditions.
- Where material, non-financial guarantees should also be considered.

Management actions and valuation of discretionary benefits

- Management actions may be reflected in the best estimate.
- When valuing future discretionary benefits, future asset returns should not exceed the level given by the forward rates derived from the risk-free interest rates.

Assumptions

- Assumptions should be consistent with information provided by the financial markets and generally available data on insurance and reinsurance risks. In addition, assumptions should be derived consistently year to year.
- The asset model, which produces projections of market parameters, should be arbitrage free and should be able to replicate observable asset prices. The calibration should reflect the nature and term of the liabilities. In addition, the asset model should be calibrated to the current risk-free term structure. This paper re-opens the issue of volatility calibration in scenario generators, expressing a continued preference for implied volatilities where these can be observed.

Validation

- Appropriate validation methods should be used to ensure that the methods and assumptions used in the calculation of the best estimate are appropriate.
- The validation processes should include adequate documentation and evidence of independent review, either by internal or external experts.
- Examples of validation processes include back testing and Actual v Expected analyses.
- CEIOPS refers to stress and scenario testing in this area and incorporates the concept of reverse stress testing.

No. 40 – Technical provisions – Risk-free interest rate term structure

Purpose – This paper provides advice on the relevant risk free interest rate structure to be used in the assessment of technical provisions.

Key messages

In this paper, CEIOPS favours the use of the government bond over that of a swap yield curve for the valuation of technical provisions. The Directive requires the use of risk free rates and swaps rates make allowance for credit risk. Furthermore, CEIOPS clearly states that the majority of its members consider it inappropriate to make an allowance for illiquidity premium in the valuation of the technical provisions.

This is clearly a controversial position given the impact on, particularly, life products such as annuities. We believe that CEIOPS's position is unlikely to change even though the industry is inexhaustibly lobbying for the allowance of an illiquidity premium.

As part of this CP, the FSA presents an analysis showing that for the UK, neither the swap nor the gilt curve meets all the requirements set by CEIOPS and supports the use of swap rates less an adjustment for credit risk.

Detailed summary

The risk-free interest rate term structure must include no credit risk and it must be possible to earn these rates in practice. The rates must also be derived from a reliable and robust source and from liquid and transparent markets. Finally, the rates should not include technical bias and they should be available for all relevant currencies. CEIOPS is of the opinion that the risk free interest rate term structure as well as the methodology to derive it should be provided at least quarterly and more frequently in volatile conditions.

In practice there are four possible options for satisfying the risk-free rate criteria:

- a. Government bond rates.
- b. Government bond rates plus an adjustment.
- c. Swap rates.
- d. Swap rates minus an adjustment.

The choice of option will depend on the currency that the risk-free interest rate term structure is based on. For example, if Euro, then the government yield curve based on AAA rated government bonds and published daily by the European Central Bank should be used as this satisfies the risk-free rate criteria set out below.

UK view

In this CP, the FSA presents an analysis of the advantages and disadvantages of using the swap and gilt curves.

Technical bias

- For some years, the long term yields were lower than short-term yields due to a mismatch between supply and demand for long-dated bonds. This led to an inverted yield curve. Although the swap curve was also inverted for a number of years it is less likely to suffer from distortions as supply and demand are more linked than for gilts.
- The additional demand for “benchmark bonds” (e.g. 10 and 15 year gilts) pushes yields down and causes a lack of smoothness in the government bond curve.
- Short/medium term gilts are very liquid investments and it is possible to earn an additional risk-free return through the repo market (which is not taken into account in the publicly available gilt yield curves).
- The recent “flight to quality” creates additional volatility in the short end of the curve.
- The swap curve is less affected by monetary policy.

Credit risk-free

- Although it is generally accepted that gilts are risk-free, swap yields contain a very small margin for credit risk.

Realism

- An insurer can earn swap rates but could potentially earn more than gilts in a risk free fashion by entering a repo transaction.

Reliability

- Although gilt yields are publicly available, zero coupon swap rates will vary between investment banks. Although larger insurers could potentially receive multiple quotes and use an “average” yield curve, smaller insurers may not be able to receive any quotes at all.

Liquidity

- The swap market has traditionally been deeper and more liquid than the gilts market. However, the swap market became very illiquid during the current financial crisis.

As shown above, neither the swap curve nor the gilt curve meets all the requirements. The FSA is of the opinion that the best approach would be to use the swap rates less an adjustment for credit risk. The method to derive this adjustment is still to be decided. A practical method may be to take an average of the swap and gilt rates.

No. 41 – Circumstances in which technical provisions shall be calculated as a whole

Purpose – This paper provides advice on the circumstances under which technical provisions can be accounted for in a single calculation, rather than the sum of a best estimate provision and a risk margin.

Key messages

We believe that the definition of hedgeable risks in this consultation paper – i.e. cash flows should be perfectly replicated with financial instruments traded in a highly liquid market – will mean that most contracts will be either treated as non-hedgeable or unbundling techniques will need to be applied to separate hedgeable and non-hedgeable components of a contract if a risk margin is to be avoided for those components that are hedgeable.

Detailed summary

Technical provisions can be accounted for in a single calculation if:

- The financial instruments used to replicate the insurance and reinsurance risk provide the same uncertainty in amount and timing of cashflows in all possible scenarios.
- The market value of these financial instruments are readily observable in a highly liquid market, where these characteristics are expected to be permanent.
- Where a life contract contains several sets of cash-flows, some of which do not satisfy these criteria, the technique of “unbundling” can be used. In this case:
 - The cash-flows that do satisfy these criteria can be valued using the observed financial instruments.
 - The cash-flows that do not satisfy these criteria must include a risk margin.

In practice this means that term assurance contracts will not be accounted for in a single calculation since the cashflows are dependant on life expectancy and policyholder behaviour which cannot easily be replicated by a financial instrument. Pure unit linked contracts (without any additional guarantees) can be unbundled into the number of guaranteed units and the expense cashflows. The calculation of the technical provision of the former can be treated as a single calculation and the latter using the three building blocks.

No. 42 – Calculation of the risk margin

Purpose – This paper provides detail on the calculation of the risk margin, including definitions of terms, assumptions, calibration of the Cost of Capital (CoC) rate, and projection of the future SCRs.

Key messages

The approach to be used in the risk margin calculation remains broadly unchanged from that elaborated for QIS4. The cost of capital is still 6% and there is no allowance for diversification across lines of business in the calculation. The single exception is the inclusion of the “unavoidable market risk” component of the SCR to be used in the cost of capital calculation.

Detailed summary

Guiding principles

- In calculating the risk margin, there are 10 principles used to define the “reference undertaking assumed to take over and meet” the obligations covered by the technical provisions. This “reference undertaking” concept provides a theoretical basis in support of the measures implemented in QIS4.
- These principles are provided alongside discussion of the same, including input provided as part of QIS4 particularly from the CRO Forum and the CEA.
- Of particular interest, principle 5 says the components of the SCR to be used in the cost of capital calculations should include the following:
 - underwriting risk with respect to the existing business;
 - counterparty default risk with respect to ceded reinsurance and SPVs;
 - operational risk; and
 - unavoidable market risk.
- The SCR used for the calculation of risk margin for the reference undertaking can be based on the standard formula or an internal model.

Cost-of-Capital rate

- Quantitative studies suggest that the rate should be at least 6% and should be updated annually. The three-step process used to derive this initial rate is discussed, including an in-depth discussion in Annex 1 of the consultation paper.
- A number of key conditions should be satisfied/ reflected in the determination of the cost-of-capital rate. Some of these are as follows:
 - Shareholder return models should provide the initial input.
 - The CoC rate must be a long-term average rate, reflecting both periods of stability and stress.
 - The CoC should be independent of the solvency position of the original undertaking.

Calculation of the risk margin

- The total risk margin is the sum of the risk margins for each line of business.
- For non-life business, the risk margin is not split between the outstanding claims and premium provisions elements.
- The risk margin for a line of business is calculated as the sum of the present values of the SCR for the line of business (including the components listed above) multiplied by the CoC rate, discounted using the risk-free interest rate for each year from the valuation date until the expiry of the business.

No.43 – Technical Provisions – Standards for Data Quality

Purpose – This paper provides advice on Article 85 (f) by clarifying the data quality requirements for inputs used for calculating technical provisions.

Key messages

CEIOPS continues to enforce the importance of data quality, which in our experience is an area of concern for many of our clients. It is expecting insurers to have:

1. developed a **data dictionary** of sources and attributes used for estimating provisions;
2. conducted the **data quality assessment** on this data;

3. taken **steps to remediate** the identified issues and plans are in place for longer term solutions; and
4. demonstrated ongoing data quality **monitoring processes** being in place.

Detailed summary

CEIOPS advises on how data quality should be managed with regards to Solvency II, in that the insurer must demonstrate that they have addressed the following:

- **Definition of the data:** Established a data dictionary, which defines attributes, granularity and sources of data used in the technical provisions calculation. The dictionary also contains definitions for historical data used in experience analysis and any externally sourced information.

- **Assessment of data quality:** Verified the features of the defined data elements using appropriate quality measures, covering the following criteria:

–*Appropriate* – data is suitable for its intended purpose and is relevant to the risk that is being considered.

–*Complete* – data is of sufficient granularity that allows for the ‘main homogeneous risk groups’ being identified, including any trends of risk behaviour and historical coverage.

–*Accurate* – data does not contain any errors or omissions which have material impact on the provision valuation. Accurate data is captured consistently over time and the organisation demonstrates its widespread use in its operations and decision making process.

- **Resolution of the problems identified:** Identified data quality issues, and taken remedial action. Plans are in place for developing longer term solutions if the remedial action was tactical.

- **Monitoring of the quality of data:** Regular data quality monitoring processes are in place based on objective measures but also expert judgement.

In the cases where adjustments and approximations have to be made, CEIOPS advises that insurers document the event, validate the impact and set in place a long-term solution to the issue. It suggests that failure to remediate IT systems and processes does not justify approximations and manual adjustments.

CEIOPS also stresses the need for expert judgement to validate any objective data quality measures, adjustments, approximations and the usage of historical data.

No. 44 – Technical provisions – Counterparty default adjustment to recoverables from reinsurance contracts and SPVs

Purpose – This paper provides advice on the calculation of the adjustment for counterparty default from reinsurance contracts and SPVs

Key messages

There are no significant surprises in the approach suggested in this consultation paper apart from the fact that the same maximum recovery rate of 40% is recommended by CEIOPS for both the best estimate (discussed in this CP) and under stress conditions (discussed in CP51).

Detailed summary

The adjustment for counterparty default should be calculated as a multiple of the following elements:

- Probability of default of the counterparty.
- The loss-given default (which should take into account the expected recovery rate).

If the expected recovery rate cannot be accurately estimated then no rate higher than 40% should be used.

If the loss-given default takes into account risk mitigation instruments, then their associated credit risk must also be allowed for.

Ideally, the adjustment for counterparty default should be calculated separately for each line of business and counterparty. However, if the probability of default and recovery rates of several counterparties coincide then the adjustment may be calculated together.

No. 45 – Technical provisions – Simplified methods and techniques to calculate technical provisions

Purpose – This paper provides guidance for the use of simplified methodologies for the calculation of best estimate provisions in order to ensure that actuarial and statistical methodologies are proportionate to the nature, scale and complexity of the risks.

Key messages

This paper provides high-level guidelines and principles to help identify when it might be appropriate to calculate technical provisions based on simplified methods or approximations.

The CP lays out three steps, with associated examples, in the process for evaluating the technical provisions:

1. Assessing the nature, scale and complexity of the underlying risks;
2. Checking whether the valuation methodology is proportionate to the risks assessed in step 1, having regard to the degree of model error resulting from its application; and
3. Back test and validate the assessment carried out in steps 1 and 2.

The CP also discusses the concept of thresholds for determining the allowance of simplified methods as well as some specific details surrounding simplifications with respect to reinsurance recoverables.

Detailed summary

This paper is primarily focused on the role of proportionality in the valuation of technical provisions.

In assessing whether a valuation method could be considered proportionate to the underlying risks, the undertaking should have regard to three steps:

1. Assessing the nature, scale and complexity of the underlying risks.

This step is intended to provide a basis for checking the appropriateness of specific valuation methods carried out in the subsequent step and serves as a guide in identifying where simplified methods are likely to be appropriate.

2. Checking whether the valuation methodology is proportionate to the risks assessed in step 1, having regard to the degree of model error resulting from its application.

In this step, an assessment is performed as to whether a specific valuation method can be regarded as proportionate to the nature, scale and complexity of the risks analysed in step 1. Also, the degree of potential error from applying the particular method is considered.

3. Back test and validate the assessment carried out in steps 1 and 2.

Finally, this step looks backwards to assess whether best estimates calculated in previous years turn out to be appropriate in subsequent years.

Simplified methods

It is seen as generally unnecessary to include detail on specific simplified methodologies for the valuation of technical provisions within the Level 2 implementing measures. Such detailed rules should only be included where:

- The use of simplified components is expected to be widespread.
- There is a particular need for small and medium-sized entities.

Some specific guidance and details are provided in respect of valuation methods for reinsurance recoverables and risk margins.

No. 46 – Own Funds – Classification and eligibility

Purpose – to provide advice on the classification of own funds and their eligibility in meeting capital requirements.

Key messages

CEIOPS advises stricter criteria for eligibility and classification of eligible own funds and stricter limits on the proportions of SCR and MCR to be covered by tier 1 capital than the minimum requirements set out in the level 1 text of the Solvency II Directive (SCR – CEIOPS 50% – Directive 33.3% – MCR – CEIOPS – 80% – Directive 50%).

CEIOPS's advice that all tier 1 capital must rank *pari passu* to absorb losses on a going concern and winding up is likely to mean that instruments currently classified as tier 1 instruments other than core tier 1 capital may be classified as tier 2 rather than tier 1.

CEIOPS has not yet concluded on the treatment of the unearned profit element of any residual margin or composite margin that may emerge from IFRS4 Phase II.

CEIOPS's advice on ring fenced funds is not included in this CP.

Detailed summary

Summarised below are the notable differences between the level 1 text, as amended where relevant by CEIOPS advice, and the current FSA regime:

SII Directive level 1 text requirements	CEIOPS Advice	Comments
Additional eligible capital		
Letters of credit will be eligible capital classified as tier 2 ancillary own funds eligible to cover SCR but not MCR and will require specific approval from the FSA. As tier 2 capital they will be subject to the SCR limit on the minimum proportion of eligible own funds that must comprise tier 1 capital.	CEIOPS advises that the SCR limit proposed in the directive (33.33% minimum proportion of eligible own funds that must comprise tier 1 capital) should be raised to 50%.	Eligibility of LOCs is an important issue for Lloyd's which currently has significant capital provided by funds at Lloyd's in the form of LOC's.
Ancillary tier 2 own funds will not be available to cover MCR.	Tier 2 ancillary own funds must meet tier 1 conditions such that if called up and paid in they would be classified as tier 1 basic own funds.	Lloyd's will need to cover MCR from funds held at syndicate level or from funds other than LOCs.
Supplementary calls that mutuals have against their members are to be classified as tier 2 ancillary own funds.	No limits on supplementary calls that mutuals have against their members classified as tier 2 ancillary own funds.	QIS4 included a 40% limit on the maximum callable amount but this is not advised by CEIOPS.
Certain items will be eligible capital classified as tier 3 or possibly ancillary tier 3. FSA approval is not required for basic tier 3 capital but ancillary tier 3 capital will require FSA approval. Tier 3 capital will be eligible to cover SCR but not MCR.	CEIOPS advises that the SCR limit proposed in the directive (33.33% maximum proportion of eligible own funds that may comprise tier 3 capital) should be reduced to 15%.	Currently tier 3 capital is not available to UK insurers.
New limits		
The minimum proportion of eligible own funds that must comprise tier 1 capital should be 50%.	CEIOPS advises that the MCR limit proposed in the directive (50% minimum proportion of eligible own funds that must comprise tier 1 capital) should be raised to 80%.	This limit is more stringent than the current FSA limits on tier 2 capital.
Loss absorbancy		
Tier 1 capital must be loss absorbent on a going concern basis and on a winding up.	All tier 1 must be pari passu loss absorbent on a going concern basis and on a winding up.	Other tier 1 non cumulative preference shares and most instruments currently classified as innovative tier 1 are likely to be classified to tier 2 as they would not rank pari passu with ordinary share capital and retained reserves.
Duration of own funds		
Article 93(2) requires consideration of the relative duration of own funds and insurance liabilities in determining the allocation of own funds into tiers.	Tier 1 maturity at issue must be at least 10 years (possibly also at least the duration of the longest dated insurance liability).	Currently redeemable tier 1 instruments have a minimum maturity at issue of 10 years and are classified as innovative tier 1 with a limit of 15% of total tier 1. This 15% limit will no longer apply.
	If duration of liabilities is significantly less than 10 years supervisors may agree to a maturity at issue of less than 10 years. CEIOPS has not concluded on whether duration should be based on contractual maturity or expected cash flows.	For many life insurers the longest dated insurance liability will be significantly in excess of 10 years e.g. annuity and whole of life products. Contractual maturity and expected cash flows may diverge significantly for general insurers with long tail liabilities.
	Tier 2 maturity at issue must be at least 5 years (possibly also at least the mean average duration of insurance liabilities).	Currently lower tier 2 instruments have a minimum maturity at issue of 5 years.
	If duration of liabilities is significantly less than 5 years supervisors may agree to a maturity at issue of less than 5 years.	There remains a question as to how duration will be determined – general insurance liabilities are payable once incurred but may take an extended period to be agreed and settled.
	Tier 3 maturity at issue must be at least 3 years. No redemption or coupon payments on tier 3 capital on a breach of SCR without supervisor approval.	Tier 3 capital not currently available to UK insurers.
	Ongoing ORSA requirement to monitor duration of capital and liabilities and maintain an average duration of capital not significantly lower than the average duration of liabilities.	The current requirement to amortise tier 2 capital within 5 years of maturity will no longer apply.

SII Directive level 1 text requirements	CEIOPS Advice	Comments
No subdivision of tiers of capital		
The FSA subcategories of tier 1 and tier 2 will not apply.	CEIOPS advises a MCR requirement for tier 1 capital to be 80% of eligible own funds. This will be more stringent than the current FSA limits on tier 2 capital where tier 2 capital is required to meet MCR.	The various FSA limits on subcategories of tier 1 and tier 2 capital will no longer apply.
Specific assets and their implication for the excess of assets over liabilities classified as tier 1		
Basic own funds are allocated to tiers 1, 2 and 3 depending on their characteristics.	Deferred tax should be excluded or included in tier 3 at the amount expected to be realised within 12 months or for which it could be transferred to a third party.	Deferred tax assets are currently excluded under solvency 1.
	Purchased intangible assets other than goodwill may be included as tier 1 capital.	Intangible assets are currently excluded from tier 1 capital.
	Restricted reserves should be included in own funds only in relation to risks they cover.	It is not clear how such a restriction would be applied – for UK general insurers, this could mean that claims equalisation provisions (if the remain after solvency II) may only be treated as own funds eligible to cover MCR/SCR requirements in excess of the limits for the categories of business for which these provisions are calculated.
SCR tests		
The rules on eligibility of capital apply to both MCR and SCR although there are different rules for capital eligible to meet MCR and SCR.		The FSA ICA regime allows a firm to take into account capital other than capital as calculated in accordance with capital eligible for Solvency 1 subject to a requirement to explain and justify reliance on such capital.

No. 47 – SCR Standard Formula: Structure and Design of Market Risk Module

Purpose – This paper provides guidance with regard to the design and structure of the market risk module of the SCR standard formula.

Key messages

The look-through principle is ratified for the quantification of the different market risks arising in collective investment vehicles. It is therefore important that firms can access this information.

In addition, this CP introduces some changes to the quantification approaches previously considered. For example, interest volatility will be considered in the interest rate risk module. This is likely to impact capital requirements for annuity business and with-profits contracts. For property risk, CEIOPS is considering whether distinctions will be made between commercial, retail and other types of property.

Liquidity risk is still to be captured in Pillars 2 and 3. This is potentially a push back to recent FSA's efforts to move the industry to a more quantitative approach to liquidity risk quantification.

Detailed summary

General

- CEIOPS recommends liquidity risk be captured in Pillars 2 and 3 and no changes to the standard formula are therefore proposed in respect of this risk. The Delta-NAV approach used in the quantification of several market risks should be based on the balance sheet excluding the risk margin.
- A look-through approach should be used to assess the market risk inherent in collective investment vehicles, other investment packaged funds and 'funds of funds'.

Interest rate risk

- CEIOPS proposes retaining the Delta-NAV approach for the interest rate risk module given its significance even though QIS4 respondents claimed that this approach was overly complex.
- Capital charge arising from interest rate risk allows for alterations in interest rate term structure and interest rate volatility.
- The calibration of interest rate shocks will capture changes in the level, slope and curvature of the term structure.

Currency risk

- The scenario-based approach to assessing currency capital charge has been refined where 'local currency' is the currency in which the undertaking prepares its local regulatory accounts. All other currencies are referred to as 'foreign currencies' and capital charges are calculated for these considering the impact on net assets of upward and downward shocks in the value of the foreign currency against the local currency.

Spread risk

- This module should include the credit risk of investments in respect of unit linked contracts, credit derivatives and other credit risky investments such as participations in investment pools and loans guaranteed by mortgages.
- Capital charge based on the most onerous of spreads rising/falling.
- Spread risk will not explicitly model migration and default risks. These will be addressed implicitly in the calibration of the factors and in movements in credit spreads.
- A factor based approach is considered for all but credit derivatives where a scenario-based approach will be adopted.
- Spread risk module should take account of credit spread risk hedging programmes.

Property risk

- Delta-NAV approach with pre-defined scenario will continue to be used to calculate capital charge even though QIS4 participants claimed that this approach was overly complicated. This will take account of all the participant's individual direct and indirect exposures to property prices.
- Calibration of shocks will be considered in the forthcoming draft advice on calibration of market risk. CEIOPS is currently investigating whether distinctions will be made between commercial, retail and other types of property.
- Where there is participation in real estate companies these should be treated as property if they only give exposure to property risks. Otherwise these should be treated as equities and risks captured in the equity risk module.

Concentration risk

- This module covers assets considered in the equity, interest rate, spread risk and property modules including bank-deposits and it should also consider direct and indirect exposures. Assets covering unit-linked funds are excluded as well as government bonds.
- Concentration risk only covers the accumulation of exposure to counterparty but does not cover geographical or sector concentrations.
- The paper discusses the treatment of UCITS, mortgage covered bonds, public sector covered bonds and properties and when these can be excluded from the calculation.
- In particular CEIOPS is interested in stakeholder's views on a preferred option (10% or 20%) for the concentration threshold for mortgage covered bonds and public sector bonds. CEIOPS majority supports concentration threshold of 10%.

No. 48 – Standard formula: Non life Underwriting risk

Purpose – This paper provides advice in respect of the design of the non-life underwriting risk module.

Key messages

In this paper, CEIOPS makes several, possibly material, changes to the formula and approaches used in QIS4.

The over-arching theme is to keep the standard formula as simple as possible. Where this 'simple' formula results in a model that might not fit the business very well then the advice appears to be to use an Approved Internal Model, whether full or partial.

The main specific changes are:

- Removal of explicit geographical diversification benefits.
- Adding in explicit allowance for multi-year insurance policies.
- Within premium risk, the removal of credibility weighting of market-wide standard deviations and mechanistic undertaking specific estimates. CEIOPS proposes to simply use market wide factors – however the use of entity specific parameters is still allowed.
- Removal of 'Method 3' for catastrophe risk models (cat. risk quantified based upon firm-specific exposure analysis) and use of a more detailed version of 'Method 2'.

Detailed summary

CEIOPS has decided not to apply geographical diversification for non-life business across the globe. Where such benefits actually exist, they believe that use of the entity's own data, via either entity specific parameters or use of partial internal models, will provide a suitable method of recognition. They believe that tailoring the standard formula to recognise the correct level of diversification, which would not be single country specific, would be overly complex.

In QIS4, premium risk for times beyond $t=1$ was not captured in respect of multi-year policies. In this CP an additional element for non-life premium risk is articulated and added into the formulae.

During QIS4 the standard deviation for premium risk for each line of business was derived as a credibility mix of an undertaking-specific estimate and a market-wide estimate. Industry welcomed the inclusion of this approach. However after careful consideration, CEIOPS has decided that the mechanic estimation of the standard deviation from loss ratios is not sufficiently robust and reliable unless the credibility factors are very low. Moreover, the loss ratios for the estimation may not be appropriate for reasons such as changes in the composition of the portfolio, product changes, portfolio transfers, change of reinsurance, etc. CEIOPS has decided that the drawbacks of using such an approach outweigh the benefits, and providing solutions would make the standard formula overly complicated, therefore the approach has not been retained.

The QIS4 standard formula is recognised as being unable to cope well with recognising the full risk mitigation effect of certain risk mitigation arrangements, such as non proportional reinsurance.

CEIOPS has concluded that the standard formula is complicated enough and that companies with complex risk mitigation arrangements should consider at least partial internal models.

Finally, for non-life catastrophe risk, CEIOPS has proposed a version of Method 2 from QIS4.

- The standard formula catastrophe risk module will use standardised scenarios.
- The scenarios will be developed by CEIOPS, with the help of the industry.
- These standardised scenarios will be more detailed and comprehensive than those used in 'Method 2' of QIS4.
- More details will be given, per LoB, in the Level 3 guidance.
- CEIOPS suggests that industry task forces are created in each country to work on developing the scenarios.
- The alternative simple factor based approach used in QIS4 (Method 1) will also be available for use in certain situations, which will be clearly specified.

It is currently not clear whether scenarios will be developed for areas outside the EU – there seems to be a suggestion that Method 1 would be used here.

CEIOPS has decided not to apply geographical diversification for non-life business across the globe. Where such benefits actually exist, they believe that use of the entity's own data, via either entity specific parameters or use of partial internal models, will provide a suitable method of recognition.

No. 49 – Standard formula SCR – Life underwriting risk

Purpose – This paper provides advice on the design, structure and calibration of the life underwriting module for the standard formula for the SCR.

Key messages

The approaches to be used in the standard formula for life underwriting risk remain broadly unchanged from that elaborated for QIS4. In general, the calibration levels of the stress scenarios have increased from QIS4 for certain shocks, namely:

- The mortality stress has increased to 15%.
- The morbidity stress increased its first year increase to 50% and added a decrease of 20% to recovery rates.
- The catastrophe stress has removed the morbidity increase, but increased the additional deaths to 2.5 per mille.

Detailed summary

- The method and level of stress testing are proposed by CEIOPS for mortality risk, longevity risk, disability-morbidity risk, life expense risk, revision risk, lapse risk and life catastrophe risk.
- Life underwriting risk stresses are based on a delta-NAV approach that does not include the risk margin of the technical provisions. All calculation of the capital requirements for the different risks in this module are scenario based stresses.
- It is proposed that the calibration of the life underwriting parameters shall capture changes to the level and trend of the parameters only. It is assumed that the volatility risk component is implicitly covered by the level, trend and catastrophe risk components.
- The impact for the UK insurance industry will be determined by how the proposed stresses compare with the ICA stresses. Both the morbidity and the catastrophe stresses seem higher than those used in the ICA. A flat longevity stress could also be onerous for older ages; and the preferred approach seems to stress annual mortality improvements.

Further detail on stresses

Risk	Calibration of stress test	Comment
Mortality risk	Permanent increase in mortality rates of 15%.	The 15% is an increase from the 10% used for QIS4.
Longevity risk	Permanent 25% decrease in mortality.	This remains unchanged from QIS4.
Disability-morbidity risk	An increase of 50% in mortality/disability inception rates for the 1st year followed by an increase of 25% in mortality/disability inception rates for all subsequent years. Plus, where applicable, a permanent decrease of 20% in morbidity/disability recovery rates.	The 50% increase in year 1 represents an increase from the 35% used in QIS4. Also, there was no decrease to recovery rates in QIS4. This sub-module of the life underwriting risk module is likely to apply only to cases where contracts cannot be unbundled as this risk is also covered by the health module.
Life expense risk	An increase of 10% in future expenses compared to best estimate. An increase of 1% p.a. of expense inflation.	CEIOPS does not intend to retain the specific reference in QIS4 to policies with adjustable loadings. As any future change to charges is a management action and should be considered with regard to advice on management actions.
Revision risk	Increase of 3% in the annual amount payable for annuities exposed to revision risk.	QIS4 approach is appropriate.
Lapse risk	The greater of: <ul style="list-style-type: none"> • 50% increase in lapses. • 50% decrease in lapses. • Sum of 30% of surrender strains of policies where the surrender strain is positive. 	This risk is discussed at length with the scope of the module being defined and justified. The calculation of this capital requirement is also laid out and possible simplifications are provided. These are a less granular than policy-by-policy approach and a factor based formula approach.
Catastrophe	Absolute increase of the rate of policyholder dying in the following year of 2.5 per mille.	The changes from QIS4 include removal of the morbidity catastrophe stress from this module as this should be covered under the catastrophe stress in the health underwriting module and an increase to the current 2.5 per mille from 1.5 per mille.

No. 50 – SCR standard formula – Health underwriting risk module

Purpose – The objective of this paper is to give advice on the scope of the module and the calculation of the capital requirement for risk arising from the underwriting of health insurance obligations, where it is pursued on a similar technical basis to life insurance or not.

Key messages

Feedback from the QIS exercises showed a lack of common understanding and approach to allocating contracts between the life, health and non-life modules across markets. This paper proposes a new treatment for health insurance in the light of feedback.

CEIOPS defines health insurance as “all kinds of insurance compensating or reimbursing losses (e.g. loss of income) caused by illness, accident or disability (income insurance) or medical expenses due to illness, accident or disability (medical insurance)”.

Specific guidance is given on a range of health products as to which module they should be classed under for SCR purposes. Whilst this helps to provide some clarity, there are a number of areas that are still open to further debate. For example they suggest that Accelerated Critical Illness should be classed as life where Standalone Critical Illness should be classed as health, as “the main risk driver is usually the death rather than contracting the illness”.

Detailed summary

For health rider benefits to life and non-life contracts, if benefits are material OR can be unbundled then it should be covered by the health underwriting module. If rider benefits are not material AND cannot be unbundled then the treatment of the contract should be determined by the main benefit under the policy.

CEIOPS will give clear guidance as to when each module should be used to avoid cherry picking.

The Health underwriting capital requirement should be calculated as a combination of two sub modules:

- SLT health – for health insurance obligations pursued on a similar technical basis to life insurance.
- Non-SLT health – for health insurance obligations not pursued on a similar technical basis to life insurance.

In both sub-modules, the calculation of the CAT risk is to follow the approach of the non-life module. Example CAT scenarios are provided in this CP.

The risk elements under the SLT health module at a high level are the same as under the life module, though the underlying detail of the calculations and the scenarios considered, are different for some risks. Where the life module is used for a particular risk, the detail of the calculation is not covered in CP50.

Detailed guidance is given on the use of the disability/morbidity module as it would apply to medical insurance written on a technical basis similar to life insurance (This is not the typical approach in the UK).

The Non-SLT health module is structured as the non-life module, with two categories of risk, premium/reserve risk and CAT risk.

CEIOPS has considered three options for the definition of lines of business for the assessment of the premium/reserve risk – either treating all lines the same, splitting into two LOB – accident and sickness, or into three LOB – accident, sickness and workers’ compensation, with different calibrations suggested for the standard deviation in each case.

Overall, the approach has to address the diversity of health business across EU and remains relatively complex.

No. 51 – SCR standard formula – Further advice on the counterparty default risk module

Purpose – This paper aims to provide advice on the treatment of counterparty default risk in the standard formula.

Key messages

As with QIS4 and similarly to Basel II in banking, counterparty credit risk is assessed using exposure, probabilities of default and assessment of the loss given default. The probabilities of default remain driven by rating agency grades, not because these are perfect but in the absence of a viable alternative.

In theory, the calculation requires an assessment of every pair of risks and the correlation between them. However, many concessions are made to allow simplified calculations using levels of aggregated data.

A very substantial recalibration taking account of the recent credit crisis results in higher capital requirements, especially for highly rated risks. A simpler approach to correlations also serves to increase stated capital requirements. For example, an exposure to three AA-rated risks with equal loss given default is 2.3% of the aggregate loss given default under the new approach, compared to 0.26% under the former approach.

Detailed summary

The calculation of counterparty risk requires an assessment of the loss given default. As the approach in QIS4 proved demanding, particularly for non-life insurers, this paper is introducing some possible simplifications in the calculation. The proposed simplifications though still require the quantification of the SCR with and without considering the effect of the reinsurance arrangements, SPV or derivatives. They do however allow for grouping of counterparties.

The CP also warns that the calibration of this module could change significantly as QIS4 potentially underestimated the importance of this risk. CEIOPS is already recommending to reduce the recovery rate from 50% to 40% for reinsurance arrangements and 10% for financial derivatives. The calibration of other factors affecting the probability of default is also provided. Firms should therefore closely monitor and quantify the impact of any changes in this module and provide feedback to CEIOPS.

No.52 – Risk mitigation techniques

Purpose – this paper set out the qualitative criteria that reinsurance and securitisation arrangements must meet in order to ensure that there has been effective underwriting risk transfer to a third party, and where risk mitigation is used, the assumptions to address changes in risk profile, and the adjustments to SCR.

Key messages

It appears that CEIOPS is advising a regime under which reinsurance could have significantly less effect in reducing MCR/SCR than it currently has under Solvency I.

The advice indicates that certain reinsurance with effective risk transfer may not be taken into account under the standard SCR formula; the restriction would apply where the credit for reinsurance in stressed scenario analysis is significantly less than the credit for reinsurance reflected in the determination of best estimate provisions. An insurer with such reinsurance or finite reinsurance/SPV arrangements would need to depart from the standard formula to obtain appropriate benefit for its risk mitigation.

This could have a significant effect on SCR for insurers with significant reinsurance mitigation against gross best estimates, but proportionately less mitigation available against stressed scenarios. Under Solvency I credit for reinsurance mitigation against gross MCR is based on the actuarial reinsurance mitigation against best estimates (life insurers) or averaged incurred claims (general insurers).

This advice could have a significant effect on the demand for reinsurance.

Detailed summary

CEIOPS proposes five high level principles that would remain applicable in an ongoing environment of development and evolution of risk mitigation techniques.

- Effective risk transfer.
- Economic effect over legal form.
- Legal certainty, effectiveness and enforceability.
- Liquidity and valuation.
- Credit quality of the provider of the risk mitigation instrument.

Key points of the CEIOPS advice are as follows:

Effective risk transfer

- The advice includes word-for-word the current FSA guidance on its effective risk transfer requirement set out at INSPRU 1.1.19E and 1.1.19F.
- The determination of whether there has been effective risk transfer must take into account contractual terms or conditions outside the control of the insurer that may reduce and thus potentially eliminate effective risk transfer as well as any other circumstances that could undermine the benefit of risk transfer.

Economic effect over legal form

- The economic effect of reinsurance mitigation techniques shall be recognised and treated equally regardless of legal form or accounting treatment.
- The SCR will be reduced to reflect any reduction in the undertaking's risk profile by risk mitigation with effective risk transfer but the SCR will be increased to include any additional risks associated with the risk mitigation (for example basis risk).

Legal certainty, effectiveness and enforceability

- The SCR will need to include allowance for the possibility that risk mitigation may not be renewed or renewed on less favourable terms.

Liquidity and valuation

- The overall effect of risk mitigation could increase SCR.

Credit quality of the provider of the risk mitigation instrument

- Providers of risk mitigation will need to have a BBB minimum rating – or demonstrate that they meet an equivalent standard if not rated.

No. 53 – SCR standard formula – Operational risk

Purpose – CEIOPS provides advice on the standard formula for operational risk.

Key messages

In summary, CEIOPS:

- suggests that the QIS4 approach is workable as 99% of non-life insurers and 93.6% of life insurers were able to calculate the operational risk SCR using the approach;
- considers that the Basic Solvency Capital Requirement (SCR) is not a sufficiently reliable volume measure of the operational risk;
- has suggested a re-calibration of the formula following QIS4 which states *“The operational risk capital charge from the internal model tends to be higher than the standard formula”*;
- makes explicit allowance for operational risks associated with future management actions. This has been done by increasing the calibration for life technical provisions where management actions are taken into consideration;
- has revised the Basic SCR (BSCR) cap as they consider BSCR is not a good indicator of operational risk;
- has introduced a zero floor for technical provisions to avoid undue reduction;
- splits health obligations between life and non life; and

- has revised the formula to:

- capture the increased risk in operational risk as a result of increased business activity; and
- reflect the risk of failure or conflict of interest if a relevant part of a undertaking’s investments are externally managed, i.e. the undertaking will still incur some operational risk.

The proposal revised calibration for the operational risk charge, together with the additional items added, with result in a more than doubling of the charge in most cases.

Detailed summary

The paper proposes a simple formula for the operational risk capital requirement as a factor times an insurer’s earned premium and technical provision. There are different factors for life, non-life and ‘SLT Health’ non-life.

The main point of the paper is the re-calibration of the factors within the proposed formula. The re-calibration references internal models used by UK insurers and applies the re-calibration across the EU. This approach assumes that the UK internal models are producing sensible numbers and that internal models for UK insurers will be a decent proxy for a EU wide standard formula. No justification for either of these assumptions is provided in the paper.

The factors are calibrated to the 60th percentile of internal model capital requirements. No support for this choice is given.

Basing the requirement on premiums may mean that companies which price more aggressively (lower) see a lower charge. While incorporation of technical provisions may provide a floor, these may be more subjective than earned premium. CEIOPS views earned premium and technical provisions as measures of business activity, but it would be useful to understand why it has settled on these measures instead of, say, gross income as was done for Basel II.

The approach is one size fits all. It does not differentiate between different kinds of life and non-life business which can carry different operational risks. For example home insurance will incur higher operational risks (many policies, leaving greater room for error) than insuring the space shuttle (one policy so you are going to get it right) but premiums of the latter may be higher than the former giving rise to an erroneous higher operational risk charge.

An additional charge based on the growth of earned premiums in either life or non-life businesses is included. This is intended to increase the operational risk charge for firms which grow too aggressively and hence may be taking on more operational risk (e.g. not having sufficient staff levels for higher business levels, under-trained staff, lack of experience with new products or markets). However, if the increase in premiums is down to higher premium rates on changes in reinsurance strategy rather than higher business volumes, especially if general inflation levels are higher than present levels in future, this may end up unduly penalising all firms.

No. 54 – SCR standard formula: Loss-absorbing capacity of technical provisions and deferred taxes

Purpose – This paper provides advice with regard to the calculation of the adjustment for the loss-absorbing capacity of the technical provisions as requested in Article 109 (g) of the Solvency II Directive.

Key messages

The paper is still largely consistent with the approaches and definitions used in QIS4. CEIOPS clarifies some definitions and gives some additional advice on some features of the calculations.

Detailed summary

The paper tries to give a clearer **definition of future discretionary benefits**. It refers to the CEIOPS advice on Article 85 (a) which distinguish between:

1. guaranteed benefits: cash-flows excluding future declaration of future discretionary bonuses;
2. conditional discretionary benefits: liability based on declaration of future benefits influenced by the performance of the undertaking/fund (which could also be linked to the IFRS definition of “discretionary participating features”); and
3. pure discretionary benefits: liability based on the declaration of future benefits which are at the discretion of the issuer (which could also be linked to the IFRS definition of “discretionary participating features”).

Both conditional and pure discretionary benefits could be considered to be loss-absorbing.

The paper refers to CP32 in defining **management actions**. Management actions used in the calculations of the technical provisions as well as the SCR must be objective, realistic and verifiable. Under stress conditions which are considered to be an instantaneous stress, no management actions may be assumed to occur during the stress. However it might be necessary to reassess the value of the technical provisions after the stress on condition that future management actions should be consistent with the approach taken in the initial valuation of the best estimate.

The paper discusses the issue of **double counting of the risk mitigation effects** under the “modular” approach. In order to detect any double counting, the net and the gross calculations need to be performed. The adjustment of the loss-absorbing capacity of future discretionary benefits is limited by the value of the future discretionary benefits. This will minimise the effect of double counting but does not necessarily eliminate it. Double counting is avoided if the “single equivalent scenario” is used. CEIOPS requests specific feedback on whether the modular or single equivalent approach is preferable.

The paper acknowledges that the **gross calculation** is hypothetical in that it does not and cannot attempt to reflect all aspects of the economic reality. But the gross calculation is necessary to provide information on the loss-absorbing capacity of the technical provisions. Therefore the paper concludes that the default approach of the BSCR should therefore be based on gross inputs.

The paper attempts to clarify how the **gross calculations** should be performed. The scenario should be calculated under the condition that the absolute amount of future discretionary benefits cash flows per policy and year remain unchanged before and after the shock being tested. I.e. the absolute amount of cash flows is unchanged from the one used to calculate the best estimate liability. CEIOPS also suggests that for the technical provisions which are calculated using a stochastic model, then the gross calculations should be based on the average amount of future discretionary benefits cash flows across all scenarios used in the technical provision calculation.

An **alternative definition of the gross calculation** is defined as the scenario to be calculated under the condition that the value of future discretionary benefits remains unchanged before and after the shock being tested. Moreover, it may be assumed that the value of options and guarantees in the technical provisions remains unchanged. CEIOPS requests feedback on which of the gross calculation definitions is preferable.

Under the modular and the single equivalent approach the calculation of the loss-absorbing capacity of deferred taxes should only take account of decreases in deferred tax liabilities. The undertaking should not assume that new deferred tax assets are set up or existing deferred tax assets are increased in response to the shock.

No. 55 – Calculation of the MCR

Purpose – This paper provides advice on calculation of the MCR.

Key messages

The CP provides clear guidance on how to calculate the MCR but leaves some scope for regulatory interpretation of ‘proportionality’ surrounding the quarterly re-calculation of the SCR. The calculation itself varies little from that used in QIS4, except the corridor limit is slightly narrower (between 25% and 45% of SCR). The MCR is still not particularly risk based but will enable a relatively quick calculation of the MCR amount prior to consideration of the corridor.

Detailed summary

The MCR will be calculated using a linear formula based on basic volume measures, e.g. written premiums, technical provisions, etc.

A cap and floor are applied to the MCR, defining it in terms of a corridor, all expressed as a proportion of the SCR. This corridor is slightly narrower than that seen in QIS4. It has moved from 20-50% to 25-45%. If an approved internal model is used to calculate the SCR, then this is used to determine the corridor – however the supervisory authority can require the use of the standard formula for this purpose for up to 2 years after Solvency II comes into force.

Whilst the Directive permits the use of deferred taxes as part of the MCR calculation, no allowance for deferred tax has been included in the MCR for reasons laid out in the consultation paper.

The MCR has to be calculated at least quarterly, even though the Directive only requires SCR to be calculated at least annually. Therefore, for the purpose of the MCR calculation, the SCR will need to be calculated quarterly. While there is some scope for a simplified quarterly SCR calculation when an entity uses the standard formula for the SCR, there appears to be minimal scope for a simplified quarterly SCR when an entity uses an Approved Internal Model to calculate its SCR.

Calculation of the MCR for life and non-life aspects of a composite are clearly defined and use an approach that minimises the need for additional non-life/life specific SCR calculations to be performed. Key points include application of separate non-life/life corridors and the total SCR being notionally split into non-life/life components for this purpose based on the ratio of the non-life/life linear formula results.

Calibration of factors used in the formulae will be provided in later guidance.

No. 56 – Tests and Standards for Internal Model Approval

Purpose – This paper provides further detail on specific issues or offers greater clarity with respect to the general provisions for the requirements for the approval of internal models. Specific requirements for the approval of a partial internal model will be covered in a later Consultation Paper.

Key messages

The use test is potentially the far more reaching of all the six tests set out in the Directive. It could potentially lead to real business benefits but the amount of effort required to meet the detailed requirements should not be underestimated. We believe that the most significant impacts will be around culture and education as well as gaining efficiencies in processes in order to enable a more frequent calculation of the SCR.

We believe that going forward the Board will need to get more involved with the internal model in order to fulfil its responsibilities. This will require a greater understanding from Board members of how the internal model operates and firms should plan to build their knowledge gradually.

The documentation requirements are clearly very onerous. The requirement that the documentation should enable a knowledgeable third party to build the model in an independent platform means that firms will have to do significant amount of work in this area. Firms will need to consider carefully the cost-benefit return on applying for Approved Internal Model status, with potentially different considerations impacting the life and non-life markets.

Detailed summary

Use Test

Companies must have one and only one modelling framework – e.g. the same modelling framework should be used for decision making and regulatory capital assessment.

In this paper, CEIOPS recommends assessment of compliance with use test be principles driven. The key principle is that companies must demonstrate that the use of the internal model is sufficiently material to result in pressure to improve the quality of the model.

In addition, CEIOPS provides nine other principles for passing the use test, including:

- Firms must be able to reconcile outputs from the internal model to decision making process.
- A full SCR run should be produced at least annually and more frequently if there are significant changes in the risk profile or when required for decision making.
- The internal model should be used to improve the risk management framework.
- Expecting that the internal model will also be used to calculate the ORSA.

Internal model governance

The paper distinguishes between high level and detailed governance requirements.

The management body is responsible for high level governance requirements which include the approval of the application for internal model use, deciding the strategic direction of the model, setting up a range of governance processes, ensuring that the risk function has sufficient staffing and ensuring that there is a independent review of the internal model (not necessarily external).

The risk function is responsible for the detailed governance requirements including the design, implementation, testing, validation, documentation, analysis of the performance, maintenance, development and reporting of the internal model.

CEIOPS proposes that a formal feedback loop is required between the management body and the risk function, and between risk and actuarial functions.

As far as groups are concerned, the parent company is required to put in place a detailed system of governance for the group internal model.

Statistical quality standards

This section discusses what is meant by a “probability distribution forecast”. The paper recognises the distinction between distributions of risk factors (for example, a 10 year interest rate) and of financial variables (the profit or loss due to unexpected interest rate changes).

It is proposed that regulators should be flexible where what is modelled falls short of a full distribution; for example where the state of scientific knowledge permits calibration only of a few key quantiles.

There is an obligation on firms to take account of the latest developments and knowledge in internal models, with the methodology scrutinised at least annually to ensure latest thinking is reflected. This has to be balanced against the need for transparency and that users should be able intuitively to grasp the logic behind the model’s results.

Data quality standards are also discussed in this section. Firms will have to perform data accuracy checks to ensure that their data meet the requirements. As part of the internal model approval process, firms will need to agree their data quality and data update policy with the supervisory authorities and document all instances where the quality of the data is compromised.

Models should be capable of “risk ranking”, which means determining whether one risk is more or less severe than another. CEIOPS considers that this is required in order for models to be widely used and play their role in governance and decision making.

The consultation paper highlights a number of pitfalls in the calculation of diversification effects. There is some discussion of the difficulties of calibrating dependencies, the effect of non-linear risk interactions and possible errors introduced by extrapolating observed dependencies from normal market conditions into tail events. CEIOPS recommends some minimum requirements that firms should meet to ensure that diversification benefits are adequate.

Calibration standards

Firms using a different time period or risk measure will need to demonstrate, at least annually, that their approach provides equivalent level of protection to the risk metric and time horizon set out in the Directive (one year VAR).

Supervisors may require firms to run their models on benchmark portfolios to review the calibration of internal models and adequacy of its specifications, either as part of the approval process or as part of the Supervisory Review Process.

Profit and loss attribution

The profit and loss attribution process should follow the risk categorisation used in the internal model for all material risks. The analysis should be performed on internal definitions of profits and losses as used by firms to assess performance.

Validation

The scope of validation includes all qualitative and quantitative processes of the internal model. CEIOPS recommends that validation should cover data, methods, assumptions, expert judgement, documentation, systems/IT, model governance and use test.

External review can be used as part of the validation process but the Board is ultimately responsible for signing-off the validation process.

Firms will need to have a comprehensive validation policy.

Different validation techniques can be used including: analysis of results from the internal model against experience (i.e. backtesting), sensitivity and scenario testing (including reverse stress testing), benchmarking and analysis of change.

Documentation standards

The overriding principle is that documentation should enable a knowledgeable third party to obtain a good understanding of the internal model, how it works, its assumptions and when it does not work. The CP goes one step further to suggest that, in principle, any knowledgeable third party should be able “to use a different platform to build a consistent model”. The main purpose of good documentation is to reduce the risk of key-man dependency.

In addition, the documentation should be timely and up to date. It is also important that the documentation is tailored to different users and levels in the organisation.

The paper highlights several areas which should be covered by the documentation including: historical development of the internal model, data management, minor and major changes with a quantification of their impact, theory and assumptions and how the requirements in the six tests have been taken into account.

External models and data

Firms should ensure that any external model and data used is consistent with the requirements set out in the Directive and appropriate for their risk profile. Also, the rationale for using external data and models should be clearly documented. The principle of proportionality applies.

No. 57 – Capital add-on

Purpose – Advice regarding the regulatory power to impose capital add-ons.

Key points

- Two classes of capital add-on defined by CEIOPS: risk-profile capital add-ons and governance capital add-ons.
- A three-stage approach is outlined by CEIOPS, namely identification, assessment and calculation.

Detailed summary

- Two classes of capital add-on: risk-profile capital add-ons (triggered by deviation from the risk profile embedded in the SCR calculation); and governance capital add-ons (triggered by significant governance deficiencies).
- Although to be used in “exceptional” circumstances, “exceptional” is to be viewed from the undertaking’s perspective, not from the market’s.
- Capital add-ons are to be imposed only after a “due process” (expected to be the regulator’s supervisory review, such review being carried out as and when required and to the extent deemed necessary, i.e. not necessarily a full annual review).
- Where a risk profile deviation is detected in an undertaking using the standard formula, even if not deemed significant, the undertaking should bolster its risk management and internal control systems. If on the other hand it is considered significant, then other tools should be considered before a capital add-on is imposed.
- Where the undertaking employs an internal model instead, several measures are available (including changing the model; extending the scope of the model; and changing the risk profile). A capital add-on is imposed if these actions do not happen within an appropriate timeframe, or if the actions are considered unlikely to be able to achieve a satisfactory SCR.
- Governance deficiencies are expected to be uncommon. Additional capital requirements will not address the underlying cause of the deficiency; however they may still be set whilst such deficiencies take time to be corrected.

- Having identified deviations, there needs to be an assessment as to whether they are significant. Such assessment will vary according to the type of deviation (risk-profile or governance) and include both qualitative and quantitative elements.
- For risk-profile deviations, the majority of CEIOPS members favour a guide to quantitative significance as being 5-15% of the overall SCR, such guidelines being rebuttable.
- Such guidance is not proposed for governance deviations given the many varied governance systems that can exist.
- Once the assessment has been completed, the calculation of the add-on is then carried out. This is outlined only for risk-profile deviations.
- For underestimation of particular sub-risks or risk modules, re-calibrations of assumptions are made or alternative design approaches used. The difference between the new result and the old result for those affected components of the SCR is computed and used as the capital add-on.
- Where quantifiable risks have not been covered by the SCR calculation, the methodologies available to quantify it need to be considered and then used.
- Where deviations are caused by the aggregation mechanism (either by correlation parameters or by assumptions), the approach is similar to that taken with underestimation of risks above.
- The type of information which needs to be disclosed will mean that senior management need to engage in the preparation as well as review of the public and regulatory reporting.
- Whilst the scope proposed for external audit is not unduly onerous and there will be synergies with existing statutory audit of financial statements, this will nevertheless be an additional compliance cost that the regime could introduce.

Detailed summary

CEIOPS has considered a number of options in its impact assessment on the most appropriate content, frequency, level of assurance and format of the reporting and sets out its tentative proposals. The reporting is required at both a solo regulated entity and group level. At both levels firms need to set out in a disclosure policy, approved by management, appropriate governance procedures to ensure timely, complete, consistent and accurate reporting.

The following disclosure will be required in two key report required within either 3 or 4 months¹ of an undertaking's financial year end:

1. Solvency and Financial Condition Report (SFCR)

The public reporting is achieved via the electronic publication of an annual SFCR in a prescribed structure set out in Article 50 of the Framework Directive (Level 1 regulation) and for which CEIOPS has published its draft advice to the European Commission on the Implementing Measures (Level 2 regulations) covering the following areas: Business and Performance, System of Governance, Risk Management, Regulatory Balance Sheet and Capital Management.

2. Report to Supervisor (RTS)

The RTS is a suite of annual and quarterly reports expanding on the SFCR content to enable the regulators to monitor the application of Solvency II in each regulated insurance company. RTS uses a similar, prescribed structure presenting the information differently as part of the ongoing supervisory dialogue with the firm. For example it includes a summary of business and risk strategies and the financial and non-financial objectives associated with them, explanation of variance to plan rather than the prior period and expected future developments. The frequency with which an undertaking has to provide information through the RTS will be linked to the intensity of the Supervisory Review Process (SRP).

No. 58 – Supervisory reporting & disclosure

Purpose – CP58 sets out CEIOPS's proposals for the supervisory reporting and public disclosure aspects of Pillar 3 in the Solvency II regime, the objectives of which are to harmonise regulatory reporting across the EU, promote comparability of valuation and reporting rules with IFRS, introduce proportionate requirements for small undertakings and ensure efficient supervision of insurance groups and financial conglomerates.

Key messages

- Although Pillar 3 and IFRS reporting serve different purposes, the former is being developed with the objective of alignment with IFRS. Both frameworks recognise risks and their management as key disclosure requirements.

¹ To be determined by CEIOPS before Level 2 advice to the Commission

3. Private reports to the regulator on occurrence of pre-defined business events (for example changes in business strategy)

The content required builds on existing IFRS disclosure, as the reference framework for the regime, incorporating Solvency II specific outputs such as the internal model and details of the Own Risk and Solvency Assessment (ORSA) and defines materiality in the context of the IAS definition.

Both the SFCR and RTS contain qualitative and quantitative information including prescribed quantitative reporting templates (QRTs). CP58 sets out provisional QRTs of which a subset will be reported to the supervisor on a quarterly basis, 3 or 4 weeks after the quarter end¹. CEIOPS will be providing full guidance, definitions and requirements with the Level 3 regulations.

The paper confirms there will be some form of external audit requirement and sets out tentative conclusions, to be finalised at Level 3, on which quantitative and qualitative aspects will be included.

A third and final Pillar 3 reporting requirement is the supervisory reporting and public disclosure required after the occurrence of pre-defined events such as material changes in the risk profile, solvency level or governance structure and supervisory enquiries, which have been broadly interpreted to include any assessment of the undertaking made by the supervisor.

No. 59 – Remuneration issues

Purpose – To address the impact of remuneration practices on an undertaking’s risk profile, especially in light of the recent financial crisis.

Key points

- Remuneration policy should be in line with risk strategy, risk management practices and entity-wide interests.
- Fixed and variable remuneration components should be finely balanced to allow a fully flexible bonus policy.
- The payment of the major part of the bonus should contain a deferred component which reflects the nature and time horizon of the business.

Detailed summary

- Remuneration policy should apply to the undertaking as a whole in a proportionate and risk-based way, and should contain specific arrangements that take into account the role of management and activities involving risk.

- Clear, transparent and effective governance structure around remuneration, including the definition of the remuneration policy and its oversight.
- Depending on the undertaking’s complexity, a remuneration committee that works in close cooperation with management might be established.
- Fixed and variable remuneration components should be finely balanced so that the fixed component is sufficiently high enough to allow a fully flexible bonus policy.
- The variable component could be based on a combination of both individual and collective performance, e.g. performance of the business area or the whole group.
- The payment of the major part of the bonus should contain a deferred component which reflects the nature and time horizon of the business.
- Factors other than financial performance should also be considered when assessing an individual’s performance.
- Such performance assessment should include consideration of current and future risks, taking into account the risk profile of the undertaking.
- The remuneration should be transparent internally and adequately disclosed externally.

No. 60 – Group solvency assessment

Purpose – This paper provides advice relating to the assessment of group solvency, including the calculation of the group SCR, assessment of available elements of own funds including their fungibility and transferability, as well as issues related to third countries.

Key messages

The group solvency calculation takes on greater significance under Solvency II than the Solvency I Pillar I group solvency calculation as it focuses on a risk-based group SCR, taking into account group diversification and a more realistic valuation of eligible available group own funds.

Although many principles of the IGD are retained in Solvency II, there are many changes of principle and detail under the new regime which places much greater focus on co-operation between supervisors and a greater role for the group supervisor in determining the basis of the group solvency calculation.

Detailed summary

Continuation of IGD principles

Many of the current IGD principles applied by the FSA in its adjusted solo and group capital adequacy requirements are continued under Solvency II.

In particular:

- the hard test for EEA groups – requirements to monitor and maintain group solvency imposed on participating undertakings and (re)insurers in a group although the supervisor will determine which group undertaking(s) are responsible for preparing and submitting the annual calculation of group solvency position;
- the definition of insurance parent (see below for limited changes to the scope of the group);
- group supervision is applied at highest EEA and worldwide parent levels with supervisor options to apply group supervision at lower levels with a group;
- the supervisor may agree to exclude certain related undertakings from the scope of the group but if so may require the participating undertaking to provide supplementary information relating to those excluded undertakings;
- the calculation of group solvency position is required annually but if there is a significant change to the risk profile of the group the group supervisor may require a recalculation;
- the proportionate share of subsidiaries with less than 100% group ownership is taken into account with 100% applied where the subsidiary's solo SCR exceeds its eligible own funds. (see below for revised requirements for minority interest and SCR); and
- restricted own funds and unavailable own funds in related undertakings are excluded from group own funds where in excess of solo capital requirements.

Changes to group supervision under solvency II

Solvency II makes numerous changes to the application of group supervision from the current IGD regime applied in the UK by the FSA. Significant points to note as amplified by CEIOPS advice are noted below:

- there will be a group supervisor responsible for group supervision with supervisors in other member states dynamically involved in decision making with consultation, cooperation and information sharing to achieve effective group supervision through the establishment of a college of supervisors and a consultative role for CEIOPS;

- the scope of the insurance group for regulatory purposes may be wider than that determined under accounting consolidation principles as the Directive takes into account relationships between natural persons and undertakings in determining whether there is significant or dominant influence;
- CEIOPS is to issue further advice on the determination of participations for group supervision and notes that determination of participations is also under consideration in the ongoing review of the Financial Conglomerates Directive;
- member state supervisors may agree that in addition to applying group supervision at the ultimate EEA parent group supervision may be applied at national level or at the level of several member states. If so, the method of calculation at the lower levels shall follow the method applied by the group supervisor at ultimate EEA parent level;
- the default method of calculating the group solvency position is to be the consolidation basis with supervisor option to require use of deduction and aggregation ("D&A") where the consolidation method is not considered appropriate; CEIOPS advises that in deciding between the default consolidation method and the D&A method the supervisor should take into account:
 - the quality and access to information on an undertaking;
 - the nature or complexity of the group structure;
 - the impact of new entities falling within the scope of group supervision (i.e. restructures, mergers and acquisitions);
 - entities that fall within the scope of a group internal model;
 - the complexity of the group calculation under a combination of methods and the impact on effective group supervision;
- where necessary information is not available to determine the own funds or SCR of the related undertaking its book value should be deducted from own funds of the participating undertaking;
- The Directive does not especially refer to ancillary insurance services undertakings. CEIOPS advises that ancillary services undertakings should be included in the scope of group supervision; they should be consolidated where there is dominant influence or aggregated using D&A where there is significant influence. This is a significant change from the IGD where ancillary services undertakings are included within the scope of group supervision but valued at nil.

- where the group supervisor is not satisfied that the group solvency capital requirement, calculated using the standard formulae or an internal model, does not adequately reflect the risk profile of the group it may impose a capital add-on to the group capital requirement calculated by the group;
- the Directive allows the calculation of all or part of solo SCR by internal models subject to certain conditions. Similarly an internal model may be used to calculate all or part of the group SCR;
- the Directive includes solo SCR within the pillar 1 calculations and consequently solvency II group supervision is applied to group eligible own funds and group SCR rather than to group MCR as under solvency I;
- where the consolidation method is used, group diversification arising from subsidiaries will be allowed to reduce the group SCR below the sum of the individual SCRs. Participations will be aggregated using the D&A method. Related credit, investment or other financial firms shall be aggregated using either the consolidation method (without diversification credit towards group SCR) or the D&A method with the sectoral requirements as a proxy for SCR. Group diversification will not be allowed for those components of the group SCR determined using D&A;
- the minority interest in own funds arising from a minority interest in a subsidiary is limited to the minority interest in the subsidiary's SCR. Apart from the effect of any diversification credit in group SCR the excess of group own funds over group SCR will be the same as under the current D&A basis but under the consolidation methodology the SCR will be included at 100% with group own funds including the group's share of the subsidiary's own funds and the minority share of the SCR;
- the Directive continues the IGD requirement that own funds of subsidiaries or participations that are not available to the group are restricted to the related undertaking's share of the group SCR. However, the Directive requirements and CEIOPS advice are likely to mean a more detailed assessment of unavailable own funds in related undertakings. Furthermore, where an entity has more than one category of unavailable own funds the interaction of the restrictions may be complex;
- CEIOPS advises that to determine unavailable group own funds the fungibility and transferability of own funds must be considered as well as an analysis of other factors, including:
 - the solvency position of the transferor after a possible transfer of own funds;
 - the extent to which own funds can be transferred from an entity without prejudicing the ability of the entity to meet policyholder claims or damaging its business;
 - the liquidity/convertibility of the own funds within an entity into cash outside the entity (which can then be used to support other entities within the group); and
 - the regulatory regime itself, which can create barriers to the movement of capital.
- CEIOPS advises that in considering the availability of group own funds in related undertakings to cover the group SCR, the extent to which any potential transfer would cause the related undertaking to no longer meet any tier limits on its own eligible funds must be taken into account. This principle therefore applies the restrictions broadly equivalent to the FSA rules on ineligible surplus capital to all group supervision. This rule is currently only applied by the FSA to the adjusted solo calculation for an insurer not the group capital requirement for an insurance group;
- CEIOPS advises that when considering the liquidity and convertibility of own funds in related undertakings it is important to assess the liquidity and convertibility in crisis scenarios as well as in normal conditions;
- where the group has a participation in a third country regime the group supervisor has the option of allowing the determination of own funds and SCR on a consolidation basis with diversification credit in determining the group SCR or requiring the use of D&A with no diversification credit. Where the third country is equivalent, the D&A method is applied using third country rules to determine solo eligible own funds and SCR. Where the third country is not equivalent the D&A method with no diversification credit is applied using Solvency II rules. CEIOPS advises that in considering the appropriate treatment of related undertakings in third countries the fungibility and transferability of own funds as well as the availability and quality of data must be considered in addition to equivalence;

- the calculation of excess own funds is made by comparing the entity's contribution to group own funds with its contribution to group SCR which is likely to be less than its solo SCR due to the diversification effect. The diversification effect is determined by the proportionate difference between total solo SCR and group SCR so that it is a constant proportion applied to all members of the group;
- the Directive requires that surplus funds and any subscribed but not paid up capital are restricted to covering the solo SCR but in addition CEIOPS advises that the following items are also restricted to covering solo SCR of the related undertaking concerned reduced by the effect of group diversification:
 - reserves at solo level subject to restricted availability;
 - own funds at solo level with restricted availability;
 - some types of with-profit business;
 - own funds in ring-fenced funds;
 - hybrid capital and subordinated liabilities;
 - minority interests;
 - ancillary own funds; and
 - deferred tax assets.

Furthermore CEIOPS advises that in determining unavailable own funds both fungibility and transferability must be considered for all components of group own funds.

- CEIOPS does not include detailed advice on the treatment of ancillary own funds under group supervision but the Directive requires that their availability to cover the related undertaking's contribution to group SCR is subject to approval of the group supervisor notwithstanding that the ancillary own funds will have been approved by the local supervisor to cover the solo SCR in the related undertaking;
- where the ultimate insurance parent is in a third country and that country is equivalent the Directive requires reliance on that third country supervision of the group. Where the third country regime is not equivalent the Directive provides a number of options. The consolidation or D&A method may be employed or other methods such as requiring the establishment of a parent within the EEA may be employed;
- the Directive requires that the group eligible own funds must comply with the limits applicable to tiers of capital as set out in the Directive. Note that in its CP46 on own funds CEIOPS has advised that these limits should be more stringent than the minimum limits set out in the Directive; this means that group eligible own funds are determined in a five step process:
 1. the accounting consolidation;
 2. adjustment to produce a regulatory consolidation, consolidation scope, inclusion of related credit, investment or other financial institutions, deduction of related undertakings where information is not available and any other regulatory adjustments;
 3. determine each entity's contribution to group own funds and determine any excess available own funds for each related undertaking;
 4. deduct any excess unavailable own funds to produce available group own funds;
 5. deduct any available group own funds restricted by the tier limits to produce group eligible own funds.
- CEIOPS advises that the calculation of group SCR should include an assessment of any group specific risks that may not be identified in the solo SCRs for the participating undertaking and its related undertakings. This assessment may require group specific parameters in a standard model or group specific risks specifically included in a group internal model or as a last resort capital add-ons imposed by the supervisor;
- CEIOPS advises that it does not expect contagion risk and reputational risk to be addressed quantitatively in the SCR and therefore they must be considered within the group ORSA. Operational risk is not subject to group diversification. Therefore unless there are any group specific operational risks the group operational risk would be equal to the sum of the operational risk components of the solo SCRs;
- the Directive sets a minimum for the group SCR equal to the sum of the solo MCRs (determined after applying the corridor) and requires that the minimum SCR must be covered by basic own funds. CEIOPS advises that this minimum SCR applies whether consolidation method is used or a combination of the consolidation and D&A methods is used. If this minimum is not met it means that one or more group undertakings have failed to meet its solo MCR; and
- CEIOPS advises that no diversification applies in determining the group best estimate technical provisions. They are the sum of the solo best estimate technical provisions after adjusting for any intra group reinsurance.

No. 61 – Supervision of Risk Concentration and Intra-Group Transactions

Purpose – To develop CEIOPS’s initial views on the supervision of risk concentration (RC) and intra-group transactions (IGT) under Solvency II, following the recent financial crisis.

Key messages

- The supervision of RC and IGT should be built on the principles of the Insurance Groups Directive (IGD) and be consistent with the Financial Conglomerates Directive.
- However, due to key differences between the IGD and the Solvency II Directive. CEIOPS considered that the supervision of RC and IGT under Solvency II is designed to be more comprehensive than under IGD, thus demanding an enhanced RC and IGT framework.

Detailed summary

- The scope of IGT should be that referred to in Article 8(1) of the Insurance Groups Directive, but widened to include:
 - Third-country (re)insurance undertakings.
 - Branches.
 - Other regulated entities.
 - Unregulated entities.
- The types of IGT to be considered should also mirror those in the IGD, but also include:
 - Dividends.
 - Calls for own funds from parents to their subs and vice versa.
 - Fees and commissions.
 - Agreements for centralised group asset management and liquidity management.
- All transactions not at arms’ length are deemed to be significant and so reported.
- The scope of risk concentration (RC) is the same as that of IGT.

The supervision of RC and IGT should be built on the principles of the Insurance Groups Directive (IGD) and be consistent with the Financial Conglomerates Directive.

- RC reporting should include exposures from both within and outside the group and should include information on risk probability and scenario analysis where possible.
- RC and IGT reporting should be consistent with the principles established for the SFCR; however reporting may be more frequent depending on the risk profile.
- Regulators should be able to establish reporting thresholds for solvency capital purposes for each undertaking based on the group SCR and group own funds.

No. 62 – Cooperation and Colleges of Supervisors

Purpose – Explanation of the proposed role of the College of Supervisors, covering the participation of supervisory authorities in the College, as well as guidance on the coordination and cooperation of the authorities, particularly in crisis situations.

Key points

- College of Supervisors to be established to enhance information exchanges between national regulators. It will assist the group supervisor in its oversight.
- Regulators of significant components, related undertakings or third countries might attend College meetings where relevant to the discussion.

Coordination and cooperation should be developed within the College during normal times to deal with the different natures and stages of a crisis.

Detailed summary

- College of Supervisors to be a permanent platform for cooperation and coordination dedicated to the exchange of information between supervisory bodies, in order to allow for more efficient and effective group and solo supervision and timely action.
- Depending on the final form of the CEIOPS advice regarding the Report to Supervisors (RTS), the RTS can form the basis of such exchange of information.
- The College will assist the group supervisor in assessing the financial soundness of the group.
- Solo supervision will be enhanced through the solo supervisor having greater knowledge of group strategies, intra-group transactions and systemic risks.
- The College will also coordinate supervisory actions.
- Where issues specific to a particular undertaking are discussed in College meetings, participation in such meetings by supervisory authorities of significant branches, of related undertakings or of third countries, or by competent authorities of other financial sectors (e.g. banking sector) should be foreseen.
- The College shall meet regularly, depending on the risk-based assessment made by the College.
- Supervisors shall ensure the safe handling of confidential information.
- Coordination and cooperation should be developed within the College during normal times to deal with the different natures and stages of a crisis.
- An emergency plan should be agreed upon by the College specific to insurance needs, to be fully prepared for any actions that may be required during a possible crisis and taking into account any actions that might be taken by governments and central banks. The emergency plan should be tested.

Conclusion

If you would like to discuss any of the areas or issues discussed in this paper, or understand better what the implications might be for you and your firm, please contact:



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