Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09

CP No. 70 - L2 Advice on Calibration of the market risk module

CEIOPS would like to thank ABI , ACA , AFA, AFS, AMICE, ARC, Assuralia, CEA, CRO Forum, CTIP, Deloitte, DIA Danish Insurance Association, DIMA , Equitable Life Assurance Society , FFSA, FRACTALES, GDV , GROUPAMA, Groupe Consultatif, Institut des actuaires , IUA, Just Retirement , KPMG , Legal & General Group, Lucida plc, Munich Re, PWC, RBS Insurance, RKR , ROAM, RSA Insurance Group, UNESPA , Unum Limited, and XL Capital Ltd

The numbering of the paragraphs refers to Consultation Paper No. 70 (CEIOPS-CP-70/09)

No.	Name	Reference	Comment	Resolution
1.	ABI	General Comment	We note that the proposed market risk stress factors are significantly higher compared to the calibrations in QIS4. The effects of the increased capital requirements for the insurance industry appear not to be taken into account sufficiently. We are particularly concerned with the proposed stresses for the spread risk module. The calibrations are sending wrong incentives to good risk management. CEIOPS is providing incentives for insurers to invest in short term investments, which could result in a potential mismatch of assets and liabilities. Furthermore, the capital charges for high quality bonds (A-AAA) are unreasonably high and represent an overall increase of the capital charge factor of 3.5 relative to QIS4 for a typical bond portfolio. We request that the QIS4 methodology and stresses are retained. The inclusion of interest rate volatility in the interest rate risk sub-module should be considered alongside the up and down-ward shocks and should not result in a capital requirement for this risk which is in excess of the 99.5% VaR From the feedback received under QIS4 it appeared that the capital requirements for interest rate risk were considered to be in line with	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an increase on the level of capital seen at QIS4 is appropriate. However, we have not carried out an impact assessment within CP70, as impact assessment will be undertaken separately – and analysis of CP70 alone will not give a holistic view. For responses on the points

			the required 1 in 200 yr event. Thus, as the shock levels of the QIS4-approach were considered appropriate we would be concerned if the explicit consideration of interest rate volatility would result in higher capital requirements. We request that CEIOPS presents a detailed method for the calibration of the interest rate upward and downward shocks to ensure that when combined with a volatility shock, the capital requirements remain in line with the 1 in 200 yr requirement. The approach of taking the most onerous of the up or down stress for each currency, with no correlation assumption, is likely to be more onerous than the 99.5th percentile. This approach is conservative as it implies no diversification between currency risks. We suggest that the QIS4 approach under which shocks were performed altogether (using a combined stress) is retained.	raised regarding individual aspects of the market risk sub-modules, please refer to the corresponding sections below.
2.	ACA	General Comment	We appreciate the level detail and research performed and communicated by CEIOPs in reaching the stresses to be applied and the clarity of explanations. In each case the stress has increased since QIS4, with justification based on recent economic turmoil. However these stresses build on already depressed asset values and combine together to give a material increase in the SCR. When coupled with advice in other papers such as correlation factors, the increase in SCR is in our opinion far too prudent. The extent of over prudence will only really become clear as part of the QIS5 exercise in 2010. At this point it may be too late to take any corrective action on the advice. We would welcome an earlier availability of the QIS5 spreadsheets albeit potentially in draft form in order to gauge the financial impact.	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an increase on the level of capital seen at QIS4 is appropriate. The points regarding QIS5 are

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			We would strongly urge CEIOPS to reconsider the strength of these stresses considering a mechanism whereby there is a recognition of any recent extreme volatility in assets values in determining the extent of the stress to apply.	noted, but QIS5 is beyond the scope of CP70.
3.	AFS	General Comment	The Association of Friendly Societies represents the friendly society sector in the UK. We have 45 friendly society members, who are all member-owned mutual organisations. Typically they offer long term savings and protection policies, with generally low minimum premiums. Friendly societies are typically small, though well-capitalised, and have a distinctly different business model to shareholder-owned insurers. We would like to thank CEIOPS for the chance to comment on this paper. Overall there appears to be a general strengthening of the market risk calibrations, in particular interest rate risk at the very short and very long durations. Also in a number of areas there is an assumed 100% correlation ie between interest rate shock and volatilities. Overall we are concerned that in total the calibration may be more prudent than the 99.5% over one year.	Noted. For more detailed comment on interest rate risk, please refer to the relevant sections below.
4.	AMICE	General Comment	These are AMICE´s views at the current stage of the project. As our work develops, these views may evolve depending in particular on other elements of the framework which are not yet fixed. The parameters used for calculation of the market risk, as presented in CP 70, will cause a substantially lager capital requirement compared to the requirements requested in QIS 4. We would urge CEIOPS to revise the calibration of the different sub-modules of the Market risk module. ☐ Interest rate risk	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In

			CEIOPS has strengthened all the stress tests but care is needed to avoid introducing excess conservatism. More consistency is needed on the calibration of the interest rate risk whose calibration of the stressed on implied volatility and on levels of interest rates were made separately. As mentioned in our response to CP47 the interest-rate scenarios allow for an increase in the volatility of interest rates (interest rate volatility shock will be included in interest rate up and down shocks). We believe that volatility shocks were already included in QIS4. At least their inclusion should not lead to a more conservative calibration. ☐ Currency risk As mentioned in our reply to CP47, this is an onerous change from QIS4 since the capital charge in QIS4 was derived by testing the impact of all foreign currencies moving up or down together (and taking the most onerous result) rather than taking the most onerous result for each individual currency and then aggregating. We are not in favour of this change. ☐ Property risk There is no need of introducing more granularity in the calculations. ☐ Spread risk We reject the new approach that classifies the assets on buckets per rating and maturity. This will unfairly penalise short-duration assets which would be treated as 3-year duration bonds. This simplification has no economical sense, and therefore we strongly recommend keeping the QIS 4 approach, i.e. grouping by rating and duration of the bond. Secondly, we question the new calibration suggested by CEIOPS. Indeed, CEIOPS uses historical data for high-yield corporate bonds	some cases this means an increase on the level of capital seen at QIS4 is appropriate. For a more detailed commentary on the points raised in relation to individual sub-modules, please refer to the relevant sections below.

			whose volatility includes both the default probability and the liquidity situation. Therefore the volatility of the illiquidity premium is included when calculating the 99.5% Value-at-Risk. Additionally, Article 105 of the Directive deals with the credit spread risk over the risk-free rate used for calculating the best estimate of technical provisions. Since the risk-free rate could include an illiquidity premium, the volatility of this premium should not be taken into account into the credit risk module.	
5.	ARC	General Comment	We note that all risks now attract higher capital charges than under QIS4. This will put additional strain on some run-off companies who already have a limited capital base.	Noted. Please refer also to comment #1.
6.	Assuralia	General Comment	We have multiple problems with the proposed spread risk approach. Firstly, we wonder on which scientifically based justification the spread risk stress can increase so considerably between the QIS 4 exercise and the proposed level 2 advice in this CP. Secondly, we fear that the level playing field principle between banks and insurers could be breached. In our understanding, following Basel II requirements, banks are subject to roughly half of the magnitude of the suggested stress for insurers. Thirdly, we fear that CEIOPS is giving undertakings a supplementary incentive to reallocate their bonds investment portfolio: (on the one hand towards government bonds (and on the other hand towards short term credit structures. This would be contradictory with business models and ALM	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text, as well as to ensure a level playing-field for banks and insurance undertakings wherever possible. The calibration of the spread risk sub-module reflects market prices as observed during the last two years of the financial crisis. The revised proposal tackles the problem of potentially misaligned incentives by introducing a duration approach (with caps) instead of maturity buckets.

			constraints of most insurers as well as with their objectives of long term profitability.	
7.			Confidential comments deleted.	
8.	CEA	General Comment	The CEA welcomes the opportunity to comment on the Consultation Paper (CP) No. CP 70 on Calibration of the market risk module. It should be noted that the comments in this document should be considered in the context of other publications by the CEA. Also, the comments in this document should be considered as a whole, i.e. they constitute a coherent package and as such, the rejection of elements of our positions may affect the remainder of our comments. These are CEA's views at the current stage of the project. As our work develops, these views may evolve depending in particular, on other elements of the framework which are not yet fixed. Moreover, it should be noted that this consultation has been carried on an extremely short time frame which has not allowed a complete analysis of all the advice. Therefore, the following comments focus only on the main aspects of Ceiops' advice and are likely to be subject to further elaboration in the future. We would urge Ceiops to revisit its calibration assumptions considering the effects these will have on the insurance sector. The parameters used for calculation of the market risk, as presented in CP70, will cause substantially larger capital requirement compared to the requirements given by QIS4. We would urge Ceiops to revise the calibration of the market risk module. The calibration of the market risk module has slowly but steadily been refined during the Solvency II project. It is an unfortunate development that short term movements in the financial markets, primarily during the last quarter 2008, should completely alter that	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an increase on the level of capital seen at QIS4 is appropriate. However, we have not carried out an impact assessment within CP70, as impact assessment will be undertaken separately – and analysis of CP70 alone will not give a holistic view. We have had the benefit of an additional couple of years' data since the calibration of QIS3/4, and this has provided useful extra depth in some areas. However, it would not be true to conclude that the results of the recalibration are driven on the

			process. Recent market movements were exceptional and would not be expected to result in the significant scaling-up of capital requirements that we see in this CP. We do agree that the current crisis should be assessed and could change factors where appropriate, but Ceiops should be very careful not move away from an assessment at the 1 in 200 level as specified in the Framework Directive. CeiopsCeiops needs to adopt a longer-term perspective, not only when evaluating the risks on the financial markets, but also when considering the future role of insurers within the financial markets. The design of the capital requirement is far from being the single decisive factor for the resistance to a financial crisis compared to the immediate effect that it will have on the ability for insurers to take on market risk, their asset allocation and potential economic growth. We request more transparency to justify the choice of calibration parameters It would be beneficial for Ceiops to provide greater transparency over the rationale for the data period selected, observation frequency, modelling approaches selected (and rejected) and the methods for testing the fitness of any models. We also believe that greater consistency in approach between the derivations of the stresses for all of the market risks (including equity risk) would be helpful. The proposed stresses for the spread risk module are far too strong - The calibration of the spread module provides wrong incentives for good risk management One of our members estimated that for their portfolio of bonds, the spread calibration implies a default probability which is 5 times	market movements over 2008/9. For example, some aspects of the interest rate module now see a reduced stress compared with QIS4, and in paragraph 4.60 it is noted that not all the currency movements set out in the analysis occurred at the same time. We have aimed to be as transparent as possible without reproducing every aspect of our data sets and analysis tools (which would lead to an extremely cumbersome paper). In terms of consistency of approach between different risk types, we note that different depths of data and different asset characteristics have naturally led to different approaches being chosen, as we have aimed to select the most appropriate method of analysis in each case. For commentary on the details relating to each sub-module, please refer to the relevant part of the responses template below.

			higher than the worst historical default probability observed during the last 30 years in the US market (based on Moody's data). Under the spread risk sub-module, longer duration assets are penalised in favour of those with shorter duration. Therefore, Ceiops is providing incentives for insurers to invest in shorter durations than would normally be the case. This potential encouragement to mismatch assets and liabilities does not seem appropriate and the wider impact on markets needs to be considered. Also if the treatment of longer duration assets under the spread risk sub-module is compared to the treatment of equities under the equity risk sub-module there seems to be a trade-off possible between the bonds and equities, while bonds would generally be considered less risky investments. This seems to be counter intuitive. We are particularly concerned with the figures proposed for A-AAA rated bonds which do not appear appropriate. Furthermore, the calibration by buckets of maturities introduced by Ceiops introduces a much less risk sensitive treatment than was the case under QIS4 and leads to many distortions in the calibration (especially in the case of short term maturities), which could lead to arbitrage opportunities. We request that the QIS4 methodology and stresses are retained. The proposal to re-calibrate this module such that the capital requirements are 3.5 times larger than those under QIS4 is not appropriate. The liquidity premium would need to be removed from the consideration of spread risk Spread risk should not include the change of the liquidity spread if the insurance company is not exposed to liquidity risk i.e. if the insurer expects to hold the asset until maturity. In those cases only	

			the change of the credit default spread should taken into account. We are not convinced that the inclusion of the interest rate volatility shock, as it is currently proposed, is appropriate The introduction of this additional stress could lead to an over-estimation of capital requirements for interest rate risk as it could include a double-counting of capital requirements. This needs to be carefully considered and the current proposals are not justified. If an interest rate volatility shock is taken into account in the shock scenario, the calibration of the volatility shock and the level shock should be such so as to ensure that the total capital requirements reflect the 1 in 200 year event and should not result in capital requirements for interest rate risk which are far in excess of the 1 in 200 level. The current level of the volatility shock appears far too high. We should also note that the suggested volatility stresses will increase pro-cyclicality as the use of a multiplicative stress will lead to higher capital requirements in stressed markets when volatility is also expected to be high. Furthermore, in distressed situations there could potentially be a huge demand for instruments that hedge volatility risk, which could cause market volatility to increase. If a volatility stress is introduced, then the following conditions must be met: ☐ The stress should apply only over a one year period of time. Otherwise the assumed level volatility stress is inconsistent with historical data because any volatility spike is usually observed over a very short period of time. ☐ Any double counting with the level stress should be avoided to	

			keep consistency with the 99.5% VAR level. The combination of the two stresses with no analysis to ensure that the combined capital requirements do not exceed the 99.5th% level is inappropriate. Furthermore Ceiops assumes that the stresses are perfectly correlated and allows for no diversification between the risks which does not appear appropriate. We discuss this further below. ☐ The application of the volatility stress should not be pro-cyclical. The stress should be additive and not multiplicative and the stressed volatility (once the stress is applied) should be capped and floored, otherwise the capital requirements will be higher in stresses market conditions. The interest rate stress will be dependent on the extrapolation method used for the long-end of the curve. The proposed stresses do not appear appropriate if the yield curve is extrapolated based on a method which keeps the long-end of the curve stable The approach of taking the most onerous of the up or down stress for each currency, with no correlation assumption, is likely to be more onerous than the 99.5th percentile. This approach is conservative as it implies no diversification between currency risks. We suggest that the QIS4 approach under which shocks were performed altogether (using a combined stress) is retained. It does not appear appropriate to introduce the proposed granularity in the property risk sub-module Ceiops' analysis has highlighted that they key determinant for property risk is country, rather than the proposed type and location split proposed by Ceiops, which is based solely on UK data.	

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			It should be clarified that "property" covers infra-structure assets We request a clarification that the property risk sub-module covers infra-structure assets, and that direct and indirect holdings of infra-structure shall be treated in the property risk sub-module.	
9.			Confidential comments deleted.	
10.	CTIP	General Comment	Integrating data from the current financial crisis to former experience, statistical analysis shows that the probability of occurrence of certain financial risks has to be reevaluated. However, insurance undertakings on the whole could resist these exceptional conditions and continuate their activities, without prejudice to insured persons. Inevitably the available solvency capitals have been lowered, and therefore a current concern for designing the solvency regime should be not to set a dangerously high solvency capital requirement in such a period. Concerning equity risk, the symmetric adjustment mechanism limits this problem (however very insufficiently); for other market risks, like property risk or spread risk, when market values of assets have just been reduced in a crisis, we question if underlying statistical models really lead to set the same risk margins requirements after the crisis than before.	
11.			Confidential comments deleted.	
12.	DIA Danish Insurance Association	General Comment	For spreads the risk the CEIOPS proposal represents an increase by factor 3. For high interest bonds (AAA-AA) the increase is 5-7 times the assumed level from the QIS rounds. This means that high rated bonds may be hit hardest if CEIOPS' advices become binding	Noted. See the revised proposal which introduces new capital charges based on a duration function (incl. caps for long-

			provisions. The risk weighting favours shorter investments to the detriment of long term investments. Those effects may have particular severe impacts in markets with a high concentration of long term bonds – notably it may have procyclical effects in case of downgrading of long term bonds. CEIOPS' proposal for calculation of the capital charge for spread risks will have a heavy impact on life insurance undertakings investment decisions. In effect, the proposal will prohibit most undertakings from investing in corporate bonds, asset-backed securities irrespective of these bonds' ratings. In the view of the DIA, the proposed capital charges for spread risk reflect price movements which in certain – not necessarily all – circumstances will be inconsistent with the valuation principles laid down in article 75 in the solvency II directive. In our view, article 75 prescribes the use of market prices reflecting an orderly market which is deep, liquid and transparent. However, when these conditions are not met, mark-model-model assumptions may give a fairer picture of the market than mark-to-market assumptions. It seems that CEIOPS has set the capital charges for spread risks on the basis of the sometimes erratic price fluctuations that can be observed in the secondary markets for corporate bonds and asset-backed securities in times of distress. When large price fluctuations in these markets occur it is often the result of significant changes in market conditions where some buyers and sellers withdraw from the market place completely while other buyers and sellers enter the market place.	term assets). Noted. The calibration in the revised proposal is based on CDS spreads instead of bond spreads. Spreads have been smoothed in order to avoid that erratic short-term price fluctuations in credit markets unduly affect the calibration.

			As an example, when the credit spreads widened during 2008 it was driven by increases in both expected credit losses and liquidity premiums on these types of assets. The increased liquidity premiums occurred because the markets dried up as many buyers and sellers left the market place and the only market transactions taking place were between distressed sellers and opportunistic buyers. In these distressed market conditions we argue that in certain circumstances mark-to-model valuation techniques rather than the mark-to-market principle reflects the best market consistent valuation. We would not prescribe the use of mark-to-model valuation as a general rule, but the implementing measures should take account of the best approximation of market consistent valuation of corporate bonds and asset-backed securities under all market conditions. In our view, this would align the spread risk capital requirement more properly to the 200 year event than the proposal made by CEIOPS. The DIA would be happy to elaborate further on our proposal.	
			From the point of view of the Danish market there are some very important features that are not reflected in the CEIOPS advice, but which it is of utmost importance to take into account. In Denmark mortgage bonds are normally issued in units i.e. covering 5000 loans (collaterals). Within each unit losses on one or more collaterals may be compensated by increasing the charge be paid to the mortgage bank (the principle of solidarity).	Not agreed. Introducing specific treatments for different mortgage bonds whose characteristics differ significantly across Member States would add too much complexity in the standard formula. The use of (partial) internal models might be an alternative.

			The soundness of those mortgage bonds means that such bonds may not be compared with traditional mortgage bonds where only the mortgage bank is liable for the repayment of the bond. Another important feature in the Danish mortgage bond structure is the balance principle. This principle means that outstanding loans at any moment equal underlying collateral. The bonds are not issued until the collateral is registered and the loan is accepted by the borrower. For that reason there is less credit risk and liquidity risk for such bonds. The stress applied could have severe negative effects in our market. The institutions are highly regulated in order to reduce risk, and this is reflected in very low mortgage interest rates compared to, for example, interest rates on bank lending. The spread risk will increase the SCR very much and the required return on mortgage bonds will increase. The spread risk stress will lead to life and non-life insurance companies selling mortgage bonds to the detriment of the housing market. Mortgage bonds play a very significant role in the Danish market also for insurance companies as investors. Moreover the Danish market for mortgage bonds is very efficient and the risk of default is hardly existing. The market is structured in such a way that investors have not registered default losses in more than 200 years. Moreover, and this is a very important, point, spread risk is calculated on the basis of maturity and not duration as in QIS4. This is a departure from a risk based method as duration gives a better indication of the exposure to spread risk. As an example fixed rate mortgage bonds which can be redeemed by the debtor at par value	Agreed. See revised text.

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			may have very low option adjusted duration although the maturity of the bonds are 30 years.	
13.	DIMA	General Comment	DIMA welcomes the opportunity to comment on this paper. Comments on this paper may not necessarily have been made in conjunction with other consultation papers issued by CEIOPS. DIMA is sympathetic to and understanding of the challenge to calibrate the market stress tests to include the recent crisis while at the same time seeking to eliminate a future crisis through the design of a better regulated and managed industry. While the symmetric adjustments to some extent reduce pro-cyclicality, it is fair to say the scale of increase in capital charges for market risks leads to a significant capital burden within the life sector that will lead to it being a sub-optimal vehicle for delivering affordable wealth protection solutions to policyholders. That said, the approach and calibrations in this consultation paper are generally workable. However, CEIOPS is aware of the drawbacks of the capital charge calculation (CP47). In particular, the capital can be significantly higher than 25% for international (re)insurers. CEIOPS should maintain the calibration to 20% or lower to compensate the absence of correlation between currencies. The level of detail applied to the property and spread sections are overly complex for a standard formula approach, and in particular where such exposures are not material for an undertaking.	Noted. We appreciate the understanding of the challenges faced in this calibration. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an increase on the level of capital seen at QIS4 is appropriate. For more detailed commentary on FX risk, property and spread risk, please refer to the more detailed responses in the corresponding sections below.
14.	FFSA	General Comment	FFSA believes that no volatility stress should be added in the standard formula on interest rates as it is not a major risk for insurance companies but also for consistency and practical matters. Volatility stress seems more relevant when using internal model for specific portions of the undertakings activity subject to short-term volatility.	Noted. Please refer to the detailed responses to the individual aspects of the calibration as provided below.

			FFSA believes currency stresses should be performed all together and not performed separately before summing the capital charges. FFSA believes no breakdown of property sectors should be performed and recommends to keep QIS 4 stresses. FFSA believes the QIS 4 stress mechanism for spread risk reflects better the insurance business. Indeed, the calibration by buckets of maturities introduced by CEIOPS implies an excessive calibration for short-term deposits. FFSA considers that this excessive calibration would result from an over-weighting of bonds issued by banks. CEIOPS should consider that insurers invest in short-term deposits which are not necessarily issued by banks. The spread calibration implies a default probability which is 5 times higher than the worst historical default probability observed during the last 30 years in the US market. Furthermore, FFSA believes the calibration of the spread risk for structured products and bonds is too high.	
15.	FRACTALES	General Comment	AVERTISSEMENT - DISCLAIMER FRACTALES s.a. est éditeur de logiciels de modélisation actif-passif. Fractales n'est pas missionné par ses clients institutionnels et ce document, exposant des réflexions et propositions personnelles, ne les engage en rien.	-
16.	GDV	General Comment	GDV recognises CEIOPS' effort regarding the implementing measures and likes to comment on this consultation paper. In general, GDV supports the detailed comment of CEA. Nevertheless, the GDV highlights the most important issues for the German market. It should be noted that our comments might change as our work develops.	Noted. Thank you for your comments regarding the logistics of the consultation. This is, however, outside the scope of CP70, as is the subject of QIS5. Noted. In calibrating the market risk module, we have

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			Based on our experience during the previous two consultation waves we also want to express our concerns with regard to CEIOPS decisions: 1. restricting the consultation period of the 3rd wave to less than 6 six weeks 2. splitting the advice to the EU-commission in two parts ((1) first+second wave and (2) third wave) although both parts are highly interdependent 3. not taking into account many comments from the industry due to the high time pressure (first+second wave) These decisions could reduce the quality of the outcome of this consultation process. Therefore we might deliver further comments after we fully reviewed the documents. From our point of view, it could be foreseen that especially the calibration of the QIS5 will not be appropriate nor finalised when beginning in August 2010. Especially parameters have been strongly increased and do not reflect the economical view. We would urge CEIOPS to revisit its calibration assumptions considering the effects these will have on the insurance sector 1. The parameters used for calculation of the market risk, as presented in CP70, will cause a substantially lager capital requirement compared to the requirements given by QIS4. We would urge CEIOPS to revise the calibration of the market risk module. 2. The calibration of the market risk module has slowly but steadily been refined during the Solvency II project. It is an	taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an increase on the level of capital seen at QIS4 is appropriate. However, we have not carried out an impact assessment within CP70, as impact assessment will be undertaken separately – and analysis of CP70 alone will not give a holistic view. For comments relating to the individual risk sub-modules, please refer to the corresponding responses below.

			unfortunate development that short term movements in the financial markets, primarily during the last quarter 2008, should completely alter that process. Recent market movements were exceptional and would not be expected to result in the significant scaling-up of capital requirements that we see in this CP. We do agree that the current crisis should be assessed and could change factors where appropriate, but CEIOPS should be very careful not move away from an assessment at the 1 in 200 level as specified in the Framework Directive. 3. We believe that the effect of the tougher capital requirements should be thoroughly examined by CEIOPS. From our perspective, the new requirements will most certainly have a significant effect on the possibilities for insurance companies to take on market risk. This aspect becomes even more obvious, when also taking the requirements of CPs 63, 69 and 74 into account. The asset allocation will undoubtedly be pushed towards low risk interest bearing products. The consideration of volatility risks, as it is proposed in CP70 (multiplicative approach and perfect correlation), tends to compromise the benefits of anticyclical elements, that have been proposed by CEIOPS to reduce the degree of procyclicality. The strengthened interest rate stress, especially for longer maturities, will increase the need for additional duration hedging. Given the supply for ultra long rates, it cannot be excluded that this will put pressure on long rates causing a downward spiral. Hence, the current proposal of CEIOPS to determine interest rate risk supports pro-cyclicality. 4. Besides the negative effect on expected returns, there is a large possibility that the regulation also will have an impact on economic growth in European countries, when insurance companies no longer will be able to provide the financial markets with risk capital to the same extent as before. 5. Going forward, we would like to request that CEIOPS adopts a	

			longer-term perspective, not only when evaluating the risks on the financial markets, but also when considering the future role of insurers within the financial markets. The design of the capital requirement is far from being the single decisive factor for the resistance to a financial crisis (a good example of this the current banking crisis vs Basel II regulation), in contrast to the determinant and immediate effect that it will have on asset allocation and potential economic growth. The approach for interest rate up/down stresses will lead to capital requirements above the 99.5th percentile It is not clear why the maximum and minimum interest rate up and down-ward shocks were used when the aim is to generate a stress at the 99.5th percentile level. 6. This approach is very conservative and is not supported. The maximum-minimum approach leads to stresses above the 99.5% VAR level. These stresses should therefore be revised. We object against the introduction of an interest rate volatility shock as volatility shocks are already implicitly included within the interest rate shock itself. We would like to highlight that the consideration of volatility risks, as it is proposed in this CP (multiplicative approach and perfect correlation) are pro-cyclical. At least the interest rate volatility shock should not be included without reconsideration of double-counting of risks within the interest rate stress. If a volatility stress been introduced, then we believe that following conditions should be met: ■The stress should apply only over a one year period of time. Otherwise the assumed level of volatility stress is inconsistent with historical data because any volatility spike is usually observed over a	

			very short period of time. ■Any double counting with the level stress should be avoided to keep consistency with the 99.5% VAR level. The combination of the two stresses with no analysis to ensure that the combined capital requirements do not exceed the 99.5th% level is inappropriate. Furthermore CEIOPS assumes that the stresses are perfectly correlated and allows for no diversification between the risks which does not appear appropriate. Therefore we suggest to include volatility risks by means of a separate sub-module into the market risk module thereby allowing for adequate correlation assumptions. ■ The application of the volatility stress should not be pro-cyclical. The stress should be additive and not multiplicative and the stressed volatility (once the stress is applied) should be capped and floored, otherwise the capital requirements will be higher in stresses market conditions. We discuss this further below. The interest rate stress will be dependent on the extrapolation method used for the long-end of the curve. The proposed stresses do not appear appropriate if the yield curve is extrapolated based on a method which keeps the long-end of the curve stable 7. If a macro-economic extrapolation method is used for the long term interest rates in the valuation of technical provisions, the chosen extrapolation method must influence the stresses of the long term interest rates. Otherwise it will be impossible to be matched against the interest rate stresses and the actual mark to market effect from long term interest rate movements at the same time. More specifically, since a macro-economic extrapolation method usually implies lower interest rate volatility in the long end of the curve compared to the stresses that is suggested in section 4.46, a matching position that successfully reduces the actual mark to market volatility of the own funds would be severely penalised when	

			it comes to capital requirement. Thus, if a macro-economic extrapolation method is used, the interest rate stresses must be calibrated to be fully consistent with the extrapolation method. We request more transparency to justify the choice of calibration parameters It would be beneficial for CEIOPS to provide greater transparency over the rationale for the data period selected, observation frequency, modelling approaches selected (and rejected) and the methods for testing the fitness of any models. We also believe that greater consistency in approach between the derivations of the stresses for all of the market risks (including equity risk) would be helpful. The proposed stresses for the spread risk module are far too strong - The calibration of the spread module provides wrong incentives for good risk management Under the spread risk sub-module, longer duration assets are penalised in favour of those with shorter duration. Therefore, CEIOPS is providing incentives for insurers to invest in shorter durations than would normally be the case. This potential encouragement to mismatch assets and liabilities does not seem appropriate and the wider impact on markets needs to be considered. Also if the treatment of longer duration assets under the spread risk sub-module is compared to the treatment of equities under the equity risk sub-module there seems to be a trade-off possible between the bonds and equities, while bonds would generally be considered less risky investments. This seems to be counter intuitive. 8. We are particularly concerned with the figures proposed for A-AAA rated bonds which do not appear appropriate.	

			We request that the QIS4 methodology and stresses are retained. The proposal to re-calibrate this module such that the capital requirements are several times larger than those under QIS4 is not appropriate. 9. The approach of taking the most onerous of the up or down stress for each currency, with no correlation assumption, is likely to be more onerous than the 99.5th percentile. 10. This approach is conservative as it implies no diversification between currency risks. We suggest that the QIS4 approach under which shocks were performed altogether (using a combined stress) is retained.	
17.	Groupe Consultatif	General Comment	We have a concern that, in this and other CPs, there is a tendency to "round up"/ be extra prudent. This results in the over VAR no longer running at the 99.5% level. A problem can occur when this is applied to groups. The currency sub-module stresses at a company level, whereas a group can have completely different currency exposures at the group level (after netting positions across companies). It would seem appropriate to recalculate group currency risk at a group level when calculating group SCR. All parameters should not be finally fixed without testing the quantitative assessment in QIS 5. All parameters should therefore be accepted only under reserve of a later adaption (due to QIS5). In the spread risk module both terms duration and maturity are used to classify bonds. CEIOPS should clarify whether this is intention or a mistake. Extreme variations in spread risk, particularly in an upward direction, usually reflect variations in illiquidity premium. The effect on assets	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In terms of rounding, we note that in many cases, grouping of different risks leads to uncertainties larger than those introduced by rounding – and there remain several areas where rounding has not been

			should be modified by taking into account the offsetting effect on liabilities. Overall there appears to be a general strengthening of the market risk calibrations, in particular interest rate risk at the very short and very long durations. Also there is an assumed 100% correlation between interest rate shock and volatilities that has not been justified and does not appear to match historical experience. Overall we are concerned that in total the calibration may be more prudent than the 99.5% over one year objective and so not meet the standard set out in Article 101 of the Solvency II Directive.	applied. Please also refer to the revised proposals for calibration, in particular regarding interest rate risk.
18.	IUA	General Comment	As we have noted elsewhere, it is essential that the calibration of the SCR standard formula is considered as a whole unit and not solely on an individual basis. Our members anticipate that the aggregate impact of all the proposed SCR calibrations could range from anything between 20% to 120% increase in SCR levels over QIS 4, based on recent work conducted by EMB the actuarial consultants. We accept QIS 4 was not rigorous in its calibration, but since QIS 4 was considered to be capital neutral across industry. We are concerned that these proposals amount to excessive prudence, and could require significant capital increases. Furthermore, all calibrations by their very nature have technical underpinnings and derivations, and whilst we appreciate that CEIOPS has provided us with its methodology, the length of the consultation period means a robust analysis and critique of the CEIOPS methodology is impossible to achieve. We have however tried to identify issues as best as we can within the allotted time. We would urge CEIOPS to consider the implications of the revised loadings, particularly in respect of the increased capital charges on bonds.	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an increase on the level of capital seen at QIS4 is appropriate. (We are therefore not certain why QIS4 would have been considered capital-neutral) However, we have not carried out an impact assessment within CP70, as impact assessment will be undertaken separately – and

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			We anticipate that market risk will be considered as being comparable for most firms, whether or not they use the standard formula, or partial or full internal model. It therefore seems inevitable that comparisons will be made to the market risk sub-module calibrations within the standard formula. We believe this heightens the importance of ensuring these standard formula calibrations provide an economic valuation of firms' true market risk (subject of course to proportionality). We note that no impact analysis of changes to the market risk module had been made. It has been suggested that the impact of the changes could result in the near-doubling of the capital requirement attributable to the market risk module. This will also lead to a sizable increase in the overall SCR; the FSA UK Country Report for QIS 4 noted that market risk tended to make up 20% of the SCR for non-life firms; the CEIOPS QIS 4 Report suggests that for non-life firms market risk forms 33% of the BSCR when excluding diversification effects.	analysis of CP70 alone will not give a holistic view. Any comparison against potential internal model parameterisations is out of the scope of CP70 – however, we note that internal model calibrations may differ in order to better reflect the risk profile of the firm.
19.	Just Retirement	General Comment	The market stresses have been strengthened substantially in relation to QIS4. It is very disappointing that no estimate of the financial impact has been made, and that the paper contains no cost/benefit justification of the calibration changes. Given that the insurance industry accounts for a material proportion of global institutional investment in most major asset classes, imposing regulatory disincentives to invest in risky assets is likely to have far-reaching economic consequences, well beyond insurers' regulatory balance sheet strength. We would have had some sympathy with a moderate strengthening of the credit stresses in relation to QIS4, but the proposed credit stresses are in our view far too strong relative to equilibrium conditions particularly at the higher ratings (AAA/AA/A).	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an

			The proposed stresses are even less appropriate in adverse conditions such as those in the credit crisis, as they would lead to inconceivably high absolute spread levels. One way of addressing this would be through the introduction of a "spread SCR adjustment mechanism" in parallel with the symmetric equity SCR adjustment mechanism, which reduced the stress downwards as spreads increased, and vice versa. We believe that a significant proportion of the observed increase in spreads in the credit crisis was driven by illiquidity (see for example the breakdown of corporate bond spreads in the Bank of England financial stability and inflation reports). For lines of business where it has been proposed that an illiquidity premium should be recognised, the logical corollary is to permit an increase in the illiquidity premium in the context of the spread SCR. In principle, we support the inclusion of volatility stresses, but in our view the volatility stresses proposed for equities and interest rates are unduly strong. Further, the multiplicative nature of the proposed volatility stresses is extremely pro-cyclical. It would be greatly preferable to apply additive stresses, possibly subject to a cap/collar to avoid option-market illiquidity feeding back into forced selling by insurers. Again this has some similarities with the equity SCR adjustment mechanism. Some degree of diversification between respective volatility and asset stresses should be allowed for in order to achieve consistency with 99.5% 1-year VaR.	increase on the level of capital seen at QIS4 is appropriate. However, we have not carried out an impact assessment or cost/benefit analysis within CP70, as impact assessment will be undertaken separately – and analysis of CP70 alone will not give a holistic view. For more detailed comments on the calibration of spread risk and of interest rate volatility (and its interaction with the term structure stress) please refer to the more detailed comments below.
20.	Legal & General Group	General Comment	The stresses within this CP all strengthen the SCR from that in QIS4, individually this may be not too unreasonable given recent market experience, but when combined with the other changes the overall effect is unreasonably prudent this is particularly the case for the amendments to the spread risk factors that appear beyond the 1 in 200 year requirement.	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis

			The changes to the stress test module, as compared to QIS4, are very material and could run counter to appropriate risk management in that they will encourage short termism and not proper matching. This has a material impact on long term life business. The same is true of using investment grade bonds (A and above) where in the well developed UK market the risks will be very different from less developed markets and would normally be part of a well managed risk process. In summary the approach should be that used for QIS4 and only amended where there is overwhelming observable data to justify a change	shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an increase on the level of capital seen at QIS4 is appropriate. For further commentary on the spread risk module, please refer to the more detailed responses in the relevant section below.
21.	Lucida plc	General Comment	Lucida is a specialist UK insurance company focused on annuity and longevity risk business. We currently insure annuitants in the UK and the Republic of Ireland (the latter through reinsurance). This paper considers spread risk on bonds, structured credit and credit derivatives. We note that the proposed market risk stress factors are significantly higher compared to the calibrations in QIS4. The effects of the increased capital requirements for the insurance industry and for corporate borrowers do not appear to have been taken into account. There is a significant body of evidence supporting the argument that a large part of spread widening in stressed conditions is a reflection of reduced liquidity of these assets and not an increase in the default risk. Hence any paper considering spread risk must surely attempt to address this point. In addition, we have a general concern that by considering proposals on a paper by paper basis, the overall impact of proposals may be overlooked.	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an increase on the level of capital seen at QIS4 is appropriate. However, we have not carried out an impact assessment within CP70, as impact assessment will be undertaken separately – and analysis of CP70 alone will not

				give a holistic view. For further commentary on the spread risk module, please refer to the more detailed responses in the relevant section below.
22.	Munich Re	General Comment	We fully support all of the GDV statements and would like to add the following points: ☐ No consistent method is applied to derive the shocks ☐ CP69 and CP70 have to be seen in relation to CP74. Especially the combined effect seems to considerably overshoot the mark ☐ Capital charges for spread risks do not seem to be reasonable, e.g. for a A bond a risk charge of 11,5% is applied. This comes on top of possible general interest rate and currency risk ☐ The currency risk charge has been increased from 20% to 25% despite the fact that this risk has been shown to be also diversifying in extreme market events like the financial crisis ☐ The combination of interest rate and interest rate volatility stress is too conservative as they are assumed to be perfectly correlated. Diversification should be considered	Noted. As the different risks examined in the market risk module exhibit different characteristics, and the depth of data available differs in each case, different approaches are appropriate in order to achieve a reasonable and relevant calibration. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an increase on the level of capital seen at QIS4 is appropriate. However, we have not carried out an impact assessment within CP70, as

				impact assessment will be undertaken separately – and analysis of CP70 alone will not give a holistic view. For further commentary on the spread risk, currency and interest rate sub-modules, please refer to the more detailed responses in the relevant section below.
23.	PWC	General Comment	We note that a considerable amount of analysis has been carried out to inform the proposals set out in this paper. However, as with the equity risk sub-module, we question whether the significant increases to the proposed stresses relative to QIS4 are fully justified by the data rather than being overly influenced by the recent financial market turbulence. We are particularly concerned over whether the onerous proposals for the spread risk sub-module are fully justified and note that the heavily term-dependent stresses for corporate bonds may encourage deliberate mismatching between assets and long-duration liabilities.	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an increase on the level of capital seen at QIS4 is appropriate. However, we have not carried out an impact assessment within CP70, as impact assessment will be undertaken separately – and analysis of CP70 alone will not give a holistic view. For further commentary on the

				spread risk sub-module, however, please refer to the more detailed responses in the relevant section below.
24.	RKR	General Comment	This is a response from the Danish mortgage banks represented by the Association of Danish Mortgage Banks (Realkreditrådet), Danish Mortgage Banks Federation (Realkreditforeningen) and from Danish Ship Finance (Danmarks Skibskredit). Danish mortgage banks are specialised banks, which only grant loans against mortgages on real property by issuing covered bonds exclusively. Danish Ship Finance finance its operations through the issuance of bonds. The covered bond market plays a very important role in the Danish economy relative to its size. The market has an outstanding amount of nearly EUR 300 bn corresponding to app. 130 % of the Danish GDP. The Danish covered bond market is Europe's second largest after the German Pfandbrief market. Furthermore, the Danish covered bond market is the primary source of funding for Danish retails and commercial enterprises with 70% of the total domestic lending. Annex 1 includes further details of the Danish mortgage credit system. We welcome the new Solvency II, which introduces more risk sensitive approaches to calculating capital charges, and we welcome the possibility to give input into the process of determining the capital charges. But we are worried about the markets being able to handle and absorb risk, if all the proposals are implemented and together with a number of other initiatives decided at European level. Especially we	Noted. Concentration risk was covered in CP47 and is therefore out of the scope of CP70. Further detail on the calibration of spread risk and interest rate volatility risk can be found below; please also refer to the revised calibrations.

			are worried about new rules giving sense at the level of the individual institution but not at level of the sector. It can imply a hugh correlation in the behavior of the sector. With regard to CP70 and CP74 we have identified 3 serious cases where the proposed measures seem excessive and incommensurate with the issues addressed – the rules concerning volatility risk, spread risk and concentration risk. Together, they could critically damage the Danish bond market. We therefore suggest modifications of these rules in the final advice to make them reflect risks more accurately. The issues are discussed in detail below. CP70 introduce stress scenarios reflecting the worst crisis in 200 years. The present financial crisis might not be the worst crisis in 200 years. Worse crises cannot, of course, be ruled out, but we find it extreme that the loss scenarios in CP70 reflect losses that are 3-5 times higher than the losses observed on the Danish market for callable mortgage bonds during the financial crisis and twice the observed losses on non-callable mortgage bonds. CP70 introduces stress scenarios for capital loss from spread widening. Scenarios are based on market data observed during the current financial crisis for corporate bonds. Even though a split view on financial and non financial corporate bonds is envisaged by CEIOPS, evidence from the current crisis strongly suggest spread widening to be diverse from market to market and from instrument to instrument. Compared to Danish covered bond market data spread widening suggested by CEIOPS are 3-5 times higher than observed spread	

			widening for callable bonds (approx. 50 per cent of market volume) and 2 times higher than observed spread widening for non callable bonds (the remaining 50 per cent of the market volume). Please be aware that issuance and trade in the Danish covered bond market have taken place throughout the current crisis, therefore, market data on spreads are complete and fair. In our view the regulation suggested by CEIOPS on spread risk is therefore excessive. It could be strongly improved by calibrating scenarios to market data for the specific instruments under regulation, i.e. treating covered bonds as an individual instrument. For 200 years, all owners of Danish mortgage bond have received the promised payments. Furthermore, the Danish covered bond market was among the very few markets - both nationally as well as internationally - that were open all the way during the crisis. An overshooting of the capital charges for these bonds will not fulfill the objective of risk sensitive capital charges and furthermore will limit investors possibilities to invest in these low risk bonds. This will totally disrupt the Danish mortgage market.	
25.	ROAM	General Comment	ROAM is totally agree with AMICE and FFSA comments on this CP.	-
26.	RSA Insurance Group	General Comment	General note, that the stresses & shock have all been altered in the short term given the events of the last year in the market. This will have the effect, for all Insurance companies, of increasing the SCR. It is much more evidence based, but has been affected by recent market events.	Noted. However, the benefit of a couple more years' data compared with QIS3/4 has been to add to the existing data set; this has provided more information for analysis.

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				However, this is not to say that market events have driven the revised calibrations. In some cases, the calibrations have reduced as compared with QIS4, and (for example as noted in 4.60) in some cases the "worst" empirical cases have actually occurred outside the last two years.
27.			Confidential comments deleted.	
28.			Confidential comments deleted.	
29.	UNESPA	General Comment	1UNESPA (Association of Spanish Insurers and Reinsurers) appreciates the opportunity to analyze and comment on Consultation Paper 70 on Calibration of the market risk module. UNESPA is the representative body of more than 250 private insurers and reinsurers that stand for approximately the 96% of Spanish insurance market. Spanish Insurers and reinsurers generate premium income of more than € 55 bn, directly employ 60.000 people and invest more than € 400 bn in the economy. The comments expresed in this response represent the UNESPA´s views at this stage of the project. As our develops, these views may evolve depending in particular, on other elements of the framework which are not yet fixed. Increase in the shocks scenarios justified by the crisis The crisis being used as an argument to justify the increase in the shock scenarios, keeps on being recurrent, although the fact that the crisis has had less impact on the insurance companies than the	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. The benefit of a couple more years' data compared with QIS3/4 has been to add to the existing data set; this has provided more information for analysis. However, this is not to

			impact it has had on banks. Increases in the shock scenarios that are based on samples and studies that do not represent European insurance undertakings, should not be included in the standard formula. Inclusion of new shock scenarios and scenarios not well justified. The inclusion of new shock sceneries (e.g. volatility of interest rates) adds more complexity to the formula, and additionally, the instruments to apply or to exclude from the calculation are not well defined, including in the CP only a few examples. Some scenarios are defined without statistical support (e.g. volatility shock scenarios, 1% in the downward interest rate shock, etc.). And also some increases in the scenarios were not justified (e.g. shock scenarios for the derivatives spreads). Shock scenarios that are not well justified should be excluded. Increase of granularity. The increase in granularity (e.g. property categories), it is not explained through a precise definition of the categories, therefore this can result in, property misclassifications, and more added complexity in the regulator supervision process. Granularity should be focus on the countries and not in the kind of property. Based on 99,5 % confidence level principle and the holding horizon (unlimited under going concern approach) of assets backing surplus, namely assets backing own funds in excess of technical provisions and SCR, a drastically reduced calibration for them should be applied. Assets backing surplus should have a drastically reduced shock in the	say that market events have driven the revised calibrations. In some cases, the calibrations have reduced as compared with QIS4, and (for example as noted in 4.60) in some cases the "worst" empirical cases have actually occurred outside the last two years. We are unsure which scenarios are being referred to in terms of samples and studies that do not represent European insurance undertakings – we have aimed to arrive at a generalised calibration suitable for a pan-European context within the limitations of data suitability and availability. The individual calibrations are disussed in more detail below. However, we have aimed to carry out as much analysis as possible and to be transparent when communicating our results and their limitations, including areas where a pragmatic approach or choice of parameters has been made. We note, however, that issues concerning the structure of the market risk modeul (including

			SCR calculation in the market risk module because: ☐ An entity with low risk and with a broad level of capital would have higher SCR, than an entity with exactly the same risk and less capital, which is an inconsistency, since the solvency ratio will be focused on assets backing surplus, and not in the assets that cover insurance liabilities, misaligning solvency ratio ultimate objective established under the Directive. ☐ One of the functions of assets backing surplus is to cover asset losses that back liabilities, due to market risk, in order to cover the losses, assets backing surplus are mark to market and in capacity to cover the solvency ratio. If the solvency ratio is not achieved, there will be an increased in capital requirements. In this since, what is really relevant is the market value of these assets backing surplus, and not the potential loss that they may have in a year horizon, and at a given confidence level. ☐ Depending on the level of assets backing surplus, they could induce a higher result than the 99.5 percentile solvency requirement established in the Directive. ☐ Depending on the insurance and reinsurance undertakings assets backing surplus characteristics (only those assets different from cash), the SCR could substantially be increased, being this a clear disincentive to having excesses on capital, since the more assets backing surplus held by an entity with the same assets backing liabilities than other, the greater market risk SCR the entity will have. In order to have a better perspective of the real issues related to the calculation of SCR for assets backing surplus, we will illustrate some examples: ☐ An entity with no insurance liabilities, and paid up capital, could be more risky, than an entity with insurance liabilities, undercapitalized.	inclusion of volatility stresses) have already been addressed in CP47. With regard to the proposal that assets backing surplus should be subject to a lower shock – we do not agree with this proposal because it is contrary to the risk-based approach set out in the Level 1 text. Under a risk-based approach, it is the risk inherent in the assets, liabilities and financial instruments that is important, and so the same risk charge should apply regardless of what asset or liability is being considered, and whether or not the particular asset is considered to be surplus or "backing liabilities".

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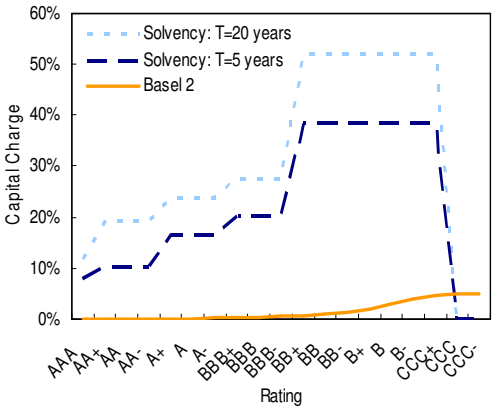
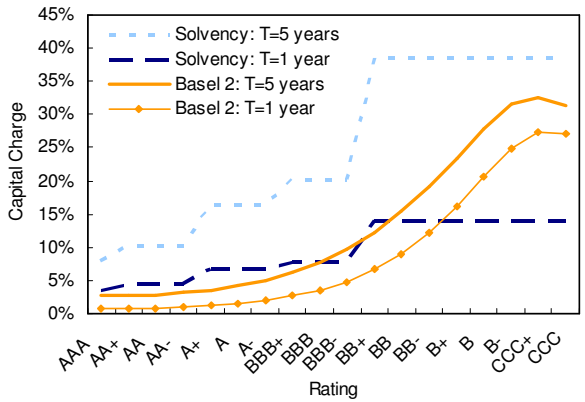
			☐ Assume, a newly formed entity that has not sold any insurance policy (0 commitments, and no capital required to ensure risks at a 99.5th percentile). However, capital has been spent on: 70% in property, 10% in debt and equity financial instruments, and 20% in treasury. The propose SCR definition would impose a capital charge of e.g. 30%, and considering that the expected one year return on assets will be 10%, the entity could not distribute the 100% of its financial earnings, in the form of dividends to its shareholders, showing an unrealistic solvency position. Concluding, if the same treatment is defined to assets backing surplus and assets that back liabilities in the SCR calculation, a false impression of the real entity risk profile will be induced. Therefore, and considering the fact that the Solvency II is focus on a total economic balance sheet approach, we think that the assets backing surplus should be included in the SCR calculation, but with a drastically reduced scenario shock. Finally, the market risk module should also consider expected returns on assets within a one year time horizon, as a mitigation mechanism, in order to reduce the SCR.	
30.	Unum Limited	General Comment	We note that the proposed market risk stress factors are significantly higher compared to the calibrations in QIS4. The effects of the increased capital requirements for the insurance industry appear not to be taken into account sufficiently. We are particularly concerned with the proposed stresses for the spread risk module. The calibrations are providing incentives for insurers to invest in short term investments, which could result in a potential mismatch of assets and liabilities. Furthermore, the capital charge for high quality bonds (A-AAA) is unreasonably high and the overall increase of the capital charge factor of 3.5 relative to QIS4 is in our view not appropriate. We request that the QIS4 methodology and stresses are retained.	Noted. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
			The inclusion of interest rate volatility in the interest rate risk sub-module should be considered alongside the up and down-ward shocks and should not result in a capital requirement for this risk which is in excess of the 99.5% VaR	some cases this means an increase on the level of capital seen at QIS4 is appropriate. However, we have not carried out an impact assessment within CP70, as impact assessment will be undertaken separately – and analysis of CP70 alone will not give a holistic view. For further commentary on the spread risk sub-module and on interest rate volatility, please refer to the more detailed responses in the relevant section below as well as the revised final advice.
31.	XL Capital Ltd	General Comment	Overall our internal risk model captures the elements being addressed in the stress scenarios presented in the market risk model updates. We believe the capital charges in the standard formula calculations to be on the high end, particularly the credit spread risk charges which would result in significant increases in implied capital vs internal and rating agency capital. Our Investment policy prohibits us from owning real property within our portfolios so we have not offered any comments regarding the property charge assumptions.	Noted. Please refer to the more detailed comments on spread risk as well as the revised proposals for this calibration.
32.	CRO Forum	1.	A There is no consistent method applied in deriving the shocks and too little information about the derivation of the shocks to judge whether approach was appropriate (priority: very high) There does not seem to be a clear cut approach to determining a 1-in-200 year event: ☐ at times, an attempt is made to fit a specific distribution,	

			☐ other times empirical distributions are used (e.g. higher shocks for LT maturities (>25Y – based on GBP figures), which leads in fact to overly unreliable figures), ☐ and, in the case of equities, an "equity dampener" is used that can be interpreted to inject a certain amount of mean reversion. Please note: We would like to highlight our concerned with the proposed calibration. The CRO Forum will work on a full counter-proposal for the numeric calibration of the market risk; given the timeline we did not have ample time to do so. We will come back to CEIOPS in the coming weeks with a detailed proposal. B The proposed interest rate implied volatility shock is highly pro-cyclical (see 4.38) (priority: very high) The CRO Forum has recommended the introduction of this Interest Rate implied volatility shock as it reflects the price of options. (cf. CROF paper on calibration published in May). But as currently written, the advice implies a 100% correlation between pure shock and the volatility shock, which is not justified. Even if we recognize that these 2 risks are quite correlated, at least the advice should mention and allow a part of diversification (e.g. 75% correlated in line with industry players). We are also concerned with the calibration of the shock in % (percentages). The long term down stress proposed seems too strong – this is influenced by technical issues in data used to calibrate it. In addition, it is highly unlikely that a downward shock coincides with a large movement in interest rates. We believe that there exists a mean reversion for the volatility. Therefore we suggest that the calibration of the shock should be set in absolute changes and not in % to avoid pro-cyclical effect during a highly stressed event.	

			C Diversification effects within currency risk should be captured (priority: high) Split the currency risk stress to be applied per currency pair or consider a portfolio diversification effect for currency pairs to reflect that not all currencies move in the same direction in a market event. Even during the recent crisis, currency risk has been the most diversifiers among currencies but also with all other asset classes, and this should be reflected in the calibration of the individual shock and correlation (CP74). 70.D Spread risk module has various inconsistencies in its calibration (priority: very high) The difference between the spread on liquid instruments (CDS) that contain the same credit risk as the cash instruments was substantial at the height of the crisis. The effects of this illiquid market should be considered when calibrating the capital charges: it advocates that the risk charges should be calibrated based on CDS rather than corporate bonds. So, calibration of the shock should not only be based on this reference point, in particular. For CDS, the spread widening scenario of 600% is too harsh, especially compared to the risk charges for corporate bonds. There is no argument why CDS shock should be higher than bonds. It may give the wrong incentive: companies will optimize their SCR by including hedges either in the bonds module or in the CDS module (if there is a large part of CDS where protection is sold, it will be cheaper to treat hedges in the CDS module since they will lead to a netting). For the spread narrowing we agree having a relative shock. The determination of the shocks should be clearly documented. We further ask for more guidance how itraxx/CDX CDS should be treated when protection is bought. For structured products, the proposals in CP70 are quite complicated.	

			The proposals depend on the ability to look through to the underlying pool of assets and perform calculations based on the ratings and other details of these assets. However, this information is not readily available in most cases (it may be possible to research this information based on e.g. paper records, but not possible for hundreds of holdings and this introduces undue complexity to the standard formula). Lastly, the spread module excludes government bonds of EEA countries while some of these countries were nearly downgraded to junk during the crisis. This is not consistent with good risk management practices to ignore this risk. 70.E Where Insurers hold the exact risks as banks, CEIOPS should consider consistency with Basel II (priority: very high) While Insurance companies are certainly different to Banks, we suggest that for identical risks (such as credit exposures to same entity), insurance firms should not be penalised (in comparison to banks). This is especially relevant in areas where banks and insurance companies compete. The credit calibration in particular, implies that insurance companies have to hold significantly more capital than banks for similar exposures. Below graphs show the enormous difference in capital that insurance companies have to hold under Solvency II versus Basel II (in some cases a factor 10 more).	

			  Comparison Solvency requirements for Mortgages Comparison Solvency requirements Corp. Bonds.	
33.	ACA	3.4.	We noted that some undertakings asked for guidance on how to stress the term structure for index-linked bonds. But we have not	Agreed. Thank you for pointing this out; please refer to the

			found the solution in CP 70?	revised text.
34.			Confidential comments deleted.	
35.			Confidential comments deleted.	
36.	FRACTALES	4.2.	Even when starting with a flat yield curve, the proposed downward shock produce negative forward rates for year 24 and 25. This precludes any possibility of calibrating a set of risk-neutral scenarios for Life BE calculation. We give here as an example of forward rates for a 4% flat yield curve. The effect can be much worse with an unsmoothed swap yield curve.	Partially agreed. This is a helpful analysis. We have revised our proposals for the calibration of the interest rate sub-module with the aim that the new proposals should help to address this point, among others.

year	"flat" yield curve Forward 1 year rate		Compounded yield
0		100,00%	
1	4,00%	104,00%	4,00%
2	4,00%	108,16%	4,00%
3	4,00%	112,49%	4,00%
4	4,00%	116,99%	4,00%
5	4,00%	121,67%	4,00%
6	4,00%	126,53%	4,00%
7	4,00%	131,59%	4,00%
8	4,00%	136,86%	4,00%
9	4,00%	142,33%	4,00%
10	4,00%	148,02%	4,00%
11	4,00%	153,95%	4,00%
12	4,00%	160,10%	4,00%
13	4,00%	166,51%	4,00%
14	4,00%	173,17%	4,00%
15	4,00%	180,09%	4,00%
16	4,00%	187,30%	4,00%
17	4,00%	194,79%	4,00%
18	4,00%	202,58%	4,00%

			19	4,00%	210,68%	4,00%		
			20	4,00%	219,11%	4,00%		
			21	4,00%	227,88%	4,00%		
			22	4,00%	236,99%	4,00%		
			23	4,00%	246,47%	4,00%		
			24	4,00%	256,33%	4,00%		
			25	4,00%	266,58%	4,00%		
			Downward shock		**Yield curve after downward shock**			
				Compounded yield		**Forward 1 year rate**		
				Forward 1 month rate				
					100,00%			
			-87%	0,52%	100,52%	0,52%	0,04%	
			-73%	1,08%	102,17%	1,64%	0,14%	
			-63%	1,48%	104,51%	2,28%	0,19%	
			-56%	1,76%	107,23%	2,60%	0,21%	
			-50%	2,00%	110,41%	2,97%	0,24%	
			-46%	2,16%	113,68%	2,96%	0,24%	
			-42%	2,32%	117,42%	3,29%	0,27%	
			-39%	2,44%	121,27%	3,28%	0,27%	
			-36%	2,56%	125,55%	3,53%	0,29%	
			-34%	2,64%	129,77%	3,36%	0,28%	
			-34%	2,64%	133,19%	2,64%	0,22%	
			-34%	2,64%	136,71%	2,64%	0,22%	
			-34%	2,64%	140,32%	2,64%	0,22%	
			-34%	2,64%	144,02%	2,64%	0,22%	
			-34%	2,64%	147,83%	2,64%	0,22%	
			-33%	2,68%	152,68%	3,28%	0,27%	
			-33%	2,68%	156,77%	2,68%	0,22%	
			-32%	2,72%	162,10%	3,40%	0,28%	
			-32%	2,72%	166,51%	2,72%	0,22%	
			-33%	2,68%	169,71%	1,92%	0,16%	
			-33%	2,68%	174,26%	2,68%	0,22%	
			-33%	2,68%	178,93%	2,68%	0,22%	
			-34%	2,64%	182,09%	1,76%	0,15%	

			-43% 2,28% 171,78% -5,66% -0,48% -49% 2,04% 165,68% -3,55% -0,30% We suggest that a (second order) smooth zero yield curve is the best basis for BE computation. This could be for example the BCE "Svennson type" gov bonds yield curve, with the addition of a suitable corporate spread to get closer to swap rates. On that basis a continuous shock function would prevent the apparition of abnormal forward rates, technically unmanageable.	
37.	CRO Forum	4.3.	We agree with CEIOPS' observation. However, we would like to point out that the insurance industry has not experienced the exceptional wave of financial difficulties as the banks did and sustained the crisis relatively well. However, care should be given to respect at the aggregate level of the SCR the risk tolerance laid down in the Directive and therefore avoid blowing out both calibration and correlation factors used in the standard approach for all risk modules.	Partially agreed. In calibrating the market risk module, we have taken as the objective the requirement to calibrate at the 99.5% VaR level, as set out in the Level 1 text. As our analysis shows, this has driven our choice of calibration. This is expected to result in an overall level of capital commensurate with the confidence level required by the Directive. In some cases this means an increase on the level of capital seen at QIS4 is appropriate. However, we have not carried out an impact assessment nor a cost-benefit analysis, as this is outside the scope of CP70 and should be approached in a holistic manner.

<table>
<tr>
<td>38.</td>
<td>FRACTALES</td>
<td>4.3.</td>
<td>A quasi constant ten year rate Black volatility of 12% for all maturities is highly unlikely. Black volatility cannot be constant and must decrease with maturity.

As an illustration we compute here the total volatility of a set of risk neutral scenarios for the 10 years zero coupon yield.

<table>
<tr><th>year</th><th>"Black model" volatility</th><th>Square root of time</th><th>Total volatility</th></tr>
<tr><td>1</td><td>12,0%</td><td>1,00</td><td>12%</td></tr>
<tr><td>2</td><td>12,0%</td><td>1,41</td><td>17%</td></tr>
<tr><td>3</td><td>12,0%</td><td>1,73</td><td>21%</td></tr>
<tr><td>4</td><td>12,0%</td><td>2,00</td><td>24%</td></tr>
<tr><td>5</td><td>12,0%</td><td>2,24</td><td>27%</td></tr>
<tr><td>10</td><td>12,0%</td><td>3,16</td><td>38%</td></tr>
<tr><td>15</td><td>12,0%</td><td>3,87</td><td>46%</td></tr>
<tr><td>20</td><td>12,0%</td><td>4,47</td><td>54%</td></tr>
<tr><td>30</td><td>12,0%</td><td>5,48</td><td>66%</td></tr>
<tr><td>40</td><td>12,0%</td><td>6,32</td><td>76%</td></tr>
<tr><td>50</td><td>12,0%</td><td>7,07</td><td>85%</td></tr>
</table>

<table>
<tr><th>year</th><th>Shocked Black volatility</th><th>Square root of time</th><th>Total volatility</th></tr>
<tr><td>1</td><td>23,4%</td><td>1,00</td><td>23%</td></tr>
<tr><td>2</td><td>23,4%</td><td>1,41</td><td>33%</td></tr>
<tr><td>3</td><td>23,4%</td><td>1,73</td><td>41%</td></tr>
<tr><td>4</td><td>23,4%</td><td>2,00</td><td>47%</td></tr>
<tr><td>5</td><td>23,4%</td><td>2,24</td><td>52%</td></tr>
<tr><td>10</td><td>23,4%</td><td>3,16</td><td>74%</td></tr>
<tr><td>15</td><td>23,4%</td><td>3,87</td><td>91%</td></tr>
<tr><td>20</td><td>23,4%</td><td>4,47</td><td>105%</td></tr>
<tr><td>30</td><td>23,4%</td><td>5,48</td><td>128%</td></tr>
<tr><td>40</td><td>23,4%</td><td>6,32</td><td>148%</td></tr>
<tr><td>50</td><td>23,4%</td><td>7,07</td><td>165%</td></tr>
</table>

After shock scenarios become unmanageable as such high volatilities produce a quantity of scenarios with ten year rates over 30 or 40 percents.

NB : the case for equities is similar. Long term Black volatility must decrease for long maturities.</td>
<td>Noted. We are not sure of the relevance of Black volatility in the context of this particular paragraph of CP70.</td>
</tr>
<tr>
<td>39.</td>
<td></td>
<td></td>
<td>Confidential comments deleted.</td>
<td></td>
</tr>
<tr>
<td>40.</td>
<td>Just Retirement</td>
<td>4.7.</td>
<td>We agree that the experience in the credit crisis should be taken into account, but not to the extent that it dominates relevant longer-term experience.</td>
<td>Agreed. In calibrating the market risk stresses we have not given any additional weighting to date from the crisis period. In some cases (see for example currency risk) the data showing the strongest historical experience is not in fact drawn</td>
</tr>
</table>

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
				from the crisis period.
41.	AMICE	4.9.	Interest rate risk	-
42.	UNESPA	4.9.	Use of Delta-NAV Model We support the proposal to use Delta-NAV model for the calculating of the interest rate risk, allowing a reduction of capital by ALM, and therefore promoting risk management good practices.	Agreed.
43.	Just Retirement	4.10.	To be consistent with 99.5% 1-year VaR, diversification between the interest rate and volatility stresses should be included.	Agreed. The original draft of CP70 made the simplifying assumption of 100% correlation between interest rate volatility and term structure. We agree some degree of diversification is justified, and in response to stakeholder support for this increased complexity we have revised our proposals accordingly.
44.	UNESPA	4.10.	Volatility scenarios should not be included Volatility scenarios should not be included, mainly because the shocks would be capture in the interest rate curve shock scenarios, additionally, volatility has an effect in trading positions which are not typical transactions for insurance companies, and also, the calibration of the interest rate risk could end up higher than 99.5th percentile, etc.	Not agreed. Volatility is not one of the components captured in the interest rate term structure stress. Additionally, volatility risk can be an important part of an insurer's risk profile, whether as a result of optionality embedded in the policyholder liabilities, or as a result of volatility-sensitive assets they may hold. It is important that this risk is captured adequately in the SCR.

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
				The question of calibration is addressed in some of the comments below
45.	CEA	4.11.	See comments to Para 4.12.	Please see comment #51
46.			Confidential comments deleted.	
47.	GDV	4.11.	See comments to Para 4.12	Please see comment #54
48.	Groupe Consultatif	4.11.	In our opinion the interest rate shock and the volatility shock are two risk events which do not necessary occur simultaneously. Therefore a diversification should be applied on this two risk drivers.	Agreed – please refer to the revised proposals and to other comments on this theme below.
49.	ABI	4.12.	We agree in principle that volatility should be taken into account. However, the current proposal which implies a correlation between intrerest rate and volatility shock of 100% is not justified. For example, there is no evidence of a sharp downward move in rates and volatility at the same time. It may be that some form of a volatility dampener should be introduced, as the stress is non-linear, to ensure that the standard overall stress meets the 99.% one year VaR and avoids bounting of risk. Furthermore, it will be important to ensure that the stress will be be realily achievable for all undertakings.	Partially agreed. Please see the revised proposals for the combination of interest rate volatility and term structure capital charges. We have calibrated the volatility shock itself at the 99.5% level and, in response to stakeholders' requests for a more complex approach, we have also introduced diversification between volatility and term structure stresses.
50.	AMICE	4.12.	As mentioned in our response to CP47 the interest-rate scenarios allow for an increase in the volatility of interest rates (interest rate volatility shock will be included in interest rate up and down shocks). We believe that volatility shocks were already included in QIS4. At least their inclusion should not lead to a more conservative calibration.	Not agreed – but please refer to our responses to stakeholder comments on CP47.

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
51.	CEA	4.12.	We are not convinced that the inclusion of the interest rate volatility shock, as it is currently proposed, is appropriate The introduction of this additional stress could lead to an over-estimation of capital requirements for interest rate risk as it could include a double-counting of capital requirements. This needs to be carefully considered and the current proposals are not justified. If an interest rate volatility shock is taken into account in the shock scenario, the calibration of the volatility shock and the level shock should be such so as to ensure that the total capital requirements reflect the 1 in 200 year event and should not result in capital requirements for interest rate risk which are far in excess of the 1 in 200 level. We should also note that the suggested volatility stresses will increase pro-cyclicality as the use of a multiplicative stress will lead to higher capital requirements in stressed markets when volatility is also expected to be high. Furthermore, in distressed situations there could potentially be a huge demand for instruments that hedge volatility risk, which could cause market volatility to increase. If a volatility stress is introduced, then the following conditions must be met: ☐ The stress should apply only over a one year period of time. Otherwise the assumed level volatility stress is inconsistent with historical data because any volatility spike is usually observed over a very short period of time. ☐ Any double counting with the level stress should be avoided to keep consistency with the 99.5% VAR level. The combination of the two stresses with no analysis to ensure that the combined capital requirements do not exceed the 99.5th% level is inappropriate. Furthermore Ceiops assumes that the stresses are perfectly	Partially agreed. Please refer to the revised proposals contained in the final text. We do not consider that these proposals lead to double-counting, and note that the Level 1 text explicitly mentions the inclusion of interest rate volatility. Both term structure and volatility have been calibrated at the 99.5% level, and the revised proposals incorporate diversification between these two risks. We have also aimed to address in our revised proposals some of the shortcomings associated with a multiplicative stress. Our interest rate volatility calibration is based on a one-year time horizon, in accordance with the Directive requirements. However, as the characteristics of interest rates and equities (and the associated volatilities) differ, not all aspects of the calibrations can be read across from one to the other.

			correlated and allows for no diversification between the risks which does not appear appropriate. We discuss this further below. ☐ The application of the volatility stress should not be pro-cyclical. The stress should be additive and not multiplicative and the stressed volatility (once the stress is applied) should be capped and floored, otherwise the capital requirements will be higher in stresses market conditions. We should add that we would expect that the methodology used to calibrate the equity and interest rate volatility stresses (i.e. between this CP and CP70) is consistent. An assumption of perfect correlation between interest rate up/down stresses and interest rate volatility is excessively prudent We note that it is unrealistic to assume that a 1-200 year movement in interest rate levels would coincide with volatility down effects. In our opinion the interest rate shock and the volatility shock are two risk events which do not necessarily occur simultaneously. Therefore a diversification should be applied on this two risk drivers. In other words, it would be preferable if firms had the option to have separate stresses applied to the term structure of interest rates and to interest rate volatilities, and then combine them using a correlation matrix. The current proposal assumes that they are perfectly correlated which seems excessively prudent.	
52.	Deloitte	4.12.	It is appropriate to include a test of interest rate volatility. However, we do not believe this should be combined with the interest rate stresses. Rather, the higher implied interest rate volatility should be applied together with equity and property volatility stress to produce a volatility SCR. This volatility SCR should then be combined with other market risk SCR's using an enlarged correlation matrix.	Partially agreed. We agree it is important that volatility is adequately treated in the market risk SCR. However, the Level 1 text, in Article 105, requires volatility to be treated

			See same comment provided on CP 69, para 3.81	alongside level stress in each of the separate sub-modules – for example, interest rate level and volatility both fall under the remit of the interest rate sub-module. This has motivated our advice on the formulation of the market risk sub-modules.
53.	FFSA	4.12.	CEIOPS states that four stresses should be performed to reflect both the level of the yield curve and the implied volatility. FFSA considers that interest rate risk should be considered as a single stress. Hence, FFSA believes that no volatility stress should be added to the standard formula as it's not a major risk for insurance companies. Volatility stress seems more relevant when using internal model for specific portions of the undertakings activity subject to short-term volatility.: - There hasn't been any established definition of the volatility (volatility surface, implied vs. historical,…) - The calibration of the volatility stress along with the interest rate level stress is inconsistent because it leads to go beyond the 99.5% VAR level - The assumed level volatility stress is inconsistent with historical data because any volatility spike is usually observed over a very short period of time - It's a burdensome in terms of calibrating the ESG with many additional runs - The multiplicative stress would lead to a high capital charge when the volatility is high which is pro cyclical. This is inconsistent with the Level 1 directive. FFSA believes that had a volatility stress been introduced, the	Not agreed. Volatility is not one of the components captured in the interest rate term structure stress. Additionally, volatility risk can be an important part of an insurer's risk profile, whether as a result of optionality embedded in the policyholder liabilities, or as a result of volatility-sensitive assets they may hold. It is important that this risk is captured adequately in the SCR, whether the SCR is calculated via the standard formula or using an internal model. (If an undertaking is not sensitive to volatility risk, however, then clearly there will be no resulting contribution to the SCR.) For a response to the comments regarding calibration and formulation of the volatility stress, please refer to comment

			following conditions should be met: - The stress should apply only over a one year period of time - Any double counting with the level stress should be avoided to keep consistency with the 99.5% VAR level - The stress should be additive and not multiplicative and the stressed volatility (once the stress is applied) should be capped and floored	#51 above.
54.	GDV	4.12.	We object against the introduction of an interest rate volatility shock as volatility shocks are already implicitly included within the interest rate shock itself. We would like to highlight that the consideration of volatility risks, as it is proposed in this CP (multiplicative approach and perfect correlation) are pro-cyclical. At least the interest rate volatility shock should not be included without reconsideration of double-counting of risks within the interest rate stress. If a volatility stress been introduced, then we believe that following conditions should be met: ■The stress should apply only over a one year period of time. Otherwise the assumed level of volatility stress is inconsistent with historical data because any volatility spike is usually observed over a very short period of time. ■Any double counting with the level stress should be avoided to keep consistency with the 99.5% VAR level. The combination of the two stresses with no analysis to ensure that the combined capital requirements do not exceed the 99.5th% level is inappropriate. Furthermore CEIOPS assumes that the stresses are perfectly correlated and allows for no diversification between the risks which does not appear appropriate. Therefore we suggest to include volatility risks by means of a separate sub-module into the market risk module thereby allowing for adequate correlation assumptions. ■ The application of the volatility stress should not be pro-cyclical.	Not agreed. The interest rate term structure stress is formulated to incorporate level, slope, curvature and twist but does not include volatility. For further discussion on the other points raised here, please refer to comment #51.

			The stress should be additive and not multiplicative and the stressed volatility (once the stress is applied) should be capped and floored, otherwise the capital requirements will be higher in stresses market conditions. We discuss this further below. An assumption of perfect correlation between interest rate up/down stresses and interest rate volatility is excessively prudent We note that it is unrealistic to assume that a 1-200 year movement in interest rate levels would coincide with volatility down effects. In our opinion the interest rate shock and the volatility shock are two risk events which do not necessarily occur simultaneously. Therefore a diversification should be applied on this two risk drivers. In other words, it would be preferable if firms had the option to have separate stresses applied to the term structure of interest rates and to interest rate volatilities, and then combine them using a correlation matrix. The current proposal assumes that they are perfectly correlated which seems excessively prudent. In particular, we suggest including volatility risks by means of a separate sub-module into the market risk module thereby allowing for adequate correlation assumptions.	
55.	Groupe Consultatif	4.12.	The shock scenarios correspond to an extreme correlation of +/- 1 between interest rates and implied volatility, together with extreme scenarios for volatility and interest rate shocks. We worry that this shock scenario is an extreme tail event far below the 0,5% quantile. Hence we ask CEIOPS to give a verifiable quantitative derivation of the shocks and to prevent double counting. Combining VAR(99.5%)s by taking the maximum of four different VARs will not necessarily give a VAR(99.5%)	Please refer to comment #51 for our response with regard to calibration. As to a quantitative derivation, as explained in paragraphs 4.28 to 4.38 we have taken data publicly available from Bloomberg for the option/swap combinations listed in para 4.31, and have then used these to set up an empirical distribution,

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
				from which the 99.5% VaR level can be taken.
56.	Legal & General Group	4.12.	Volatility should be taken into account but the proposal as it stands is over prudent due to double counting risks. Further the stress should be over 1 year in line with the level 1 directive and also be in accord with the 1:200 criteria.	Partially agreed. We agree it is important to take volatility into account, and that the calibration should be in line with the one-year 99.5% VaR requirement. The analysis we have set out in CP70 looks at one-year changes in implied volatility and used the empirical distribution to obtain the 99.5% VaR level.
57.	Munich Re	4.12.	The shock scenarios correspond to an extreme correlation of +/- 1 between interest rates and implied volatility, together with extreme scenarios for volatility and interest rate shocks. We feel that this shock scenario is an extreme tail event far beyond the 99,5% quantile. Hence we propose to give a verifiable quantitative derivation of the shocks to properly define the 99,5% quantile.	Please refer to comment #51 for our response with regard to calibration. As to a quantitative derivation, as explained in paragraphs 4.28 to 4.38 we have taken data publicly available from Bloomberg for the option/swap combinations listed in para 4.31, and have then used these to set up an empirical distribution, from which the 99.5% VaR level can be taken.
58.			Confidential comments deleted.	
59.	Unum Limited	4.12.	We agree in principle that volatility should be taken into account, but it should be within the 1 in 200 scope and avoid any double counting. It will also be important to ensure that the majority of insurers will be able to apply the stress.	Please refer to comment #51, which provides a fuller response to these points.

			An assumption of perfect correlation between interest rate up/down stresses and interest rate volatility is excessively prudent	
60.	CEA	4.13.	Ceiops recognises that volatility shocks are only relevant to the asset portfolio if the asset portfolio is sensitive to changes in interest rate volatility, and we note that where the asset portfolio includes interest rate/equity options, the volatility stress can be material.	Agreed.
61.	Groupe Consultatif	4.13.	If the asset portfolio includes interest rate/equity options, the volatility stress can be material in non-life.	Agreed. Please see revised wording which clarifies this point.
62.	PWC	4.13.	We welcome the acknowledgement that interest rate volatility shocks are not relevant to all insurance business and hence that this component of the sub-module may be ignored. We suggest that there is a need for further clarification of the circumstances in which this stress should be applied.	Partially agreed. We agree not all insurers will be sensitive to volatility risk. However, this must be determined on a case by case basis for each undertaking, based on their own risk profile, and therefore we consider a more prescriptive list at Level 2 would not necessarily be appropriate.
63.	UNESPA	4.13.	Assets that have a volatility exposure in which shock scenarios should be applied. Since the calculation is based in a Delta-NaV model, it would be a complex task to identify the financial assets that are exposed to interest rate volatility, in which shock scenarios should apply, (e.g. liabilities with embedded optionality and warranties).	Not agreed. We consider that for effective risk management, it is important for undertakings to be able to identify the risks inherent in their assets, liabilities and investment in order to understand their risk profile.
64.	AMICE	4.15.	Shocks to interest rate term structure	-
65.	CEA	4.16.	Ceiops' approach to make use of daily data points, which are then used to derive yearly shocks, is subject to auto-correlation.	Noted. The challenge in arriving at suitable calibrations is to

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			Therefore the extreme scenarios are overstated.	balance the risks of possible autocorrelation effects against having sufficient data to produce a meaningful conclusion. However, in the case of interest rates, the daily data is used to carry out the principal components analysis and arrive at the weightings for each component, rather than to produce an empirical distribution.
66.	CRO Forum	4.16.	A longer time series could provide valuable information, for instance there is a German Mark time series of zero rates on the BuBa site. This should provide valuable input and can be used as a precursor to the Euro.	Partially agreed. In some cases longer time series may be available. However, we have based our analysis on the data sources listed in paragraph 4.16 for various reasons, noting also that the periods chosen provide full daily data sets comparable between the sources selected. There is no reason why undertakings carrying out analysis for internal model calibration should not consider other data sources and time periods so long as this fulfils the criteria required for data inputs to internal models: relevance may be one of the factors to consider here.
67.			Confidential comments deleted.	

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68.	Deloitte	4.16.	We would appreciate some justification on why these curves are selected and why they are deemed appropriate benchmarks for interest rate stress tests across the whole of Europe.	Noted. We agree that interest rate term structures may behave differently in other markets. However, we have chosen to focus on EUR and GBP as providing rich data sets to inform a generalised standard formula calibration. For undertakings operating in different markets, it might be the case that they choose to pursue a (partial) internal model to incorporate information from that market in order to arrive at a more tailored calibration appropriate to their risk profile.
69.	Groupe Consultatif	4.16.	Consideration of daily data points but yearly shocks is auto-correlated. Therefore the extreme scenarios are overstated.	Noted. The challenge in arriving at suitable calibrations is to balance the risks of possible autocorrelation effects against having sufficient data to produce a meaningful conclusion. However, in the case of interest rates, the daily data is used to carry out the principal components analysis and arrive at the weightings for each component, rather than to produce an empirical distribution.
70.	Just Retirement	4.16.	Annex A shows that the interest rate shocks vary materially by currency and by reference asset (government bonds or swaps). We	On the choice of reference asset: we note that CP70 (and

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			recognise the need for a cross-currency interest-rate stress in the context of the standard formula. However, it seems inappropriate to blend government bonds and swaps ahead of a decision from the European Commission on the reference risk-free asset. We suggest that the calibration of the interest-rate shock is revisited when the risk-free reference asset has been determined. It appears from the table in Annex A that the QIS4 stress factors have been applied as an underpin to the refreshed analysis. The new results are more relevant than QIS4 and therefore we believe that they should simply replace the QIS4 stresses.	its finalised version) represent CEIOPS' advice on Level 2; the final decision on the market risk calibrations as well as on the choice of risk free rate will be made by the European Commission. We have aimed to be transparent in our advice in setting out (in Annex A) the stresses that would result for each choice of reference asset. On the relationship with the QIS4 stress factors: please see the revised text. This was a typographical error, and it was not intended that the QIS4 stress factors are applied as an underpin. We note this highlights that the calibrations have not all been increased from QIS4 as a result of the financial crisis.
71.	UNESPA	4.16.	The samples used for the shock scenarios for the interest rate curve analysis, do not represent insurance company's portfolios, and the selected interest rate curves data is not behind the links that are in the CP. The datasets used do not represent insurance company's portfolios. Also, the links are not exactly point out to the used interest rate curve for the analysis, making it difficult to know exactly which was	Not agreed. With regard to relevance of the data sets used, we agree that interest rate term structures may behave differently in other markets. However, we have chosen to focus on EUR and GBP as providing rich data sets to

			used for the study (e.g. in the zero coupon curve for GBP link, there are 3 curves, nominal, real and inflation, and also classified by years). In conclusion, the data is not disclosed, therefore, giving a precise commentary is almost impossible.	inform a generalised standard formula calibration. For undertakings operating in different markets, it might be the case that they choose to pursue a (partial) internal model to incorporate information from that market in order to arrive at a more tailored calibration appropriate to their risk profile. We completely disagree that the data is not disclosed. We have verified the links cited in 4.16. The Bundesbank statistics are indeed at the link cited in 4.16 and can be obtained by following the choices "interest rates, yields" and "time series" at the left of the page. See also http://www.bundesbank.de/statistik/statistik_zeitreihen.en.php?open=zinsen. The data sets from the Bank of England are indeed linked from the address cited in 4.16 – however, more precisely the location is http://www.bankofengland.co.uk/statistics/yieldcurve/archive.htm using the Government liability yield curve (GLC) – nominal statistics, and more up to date data is available at http://www.bankofengland.co.u

				k/statistics/yieldcurve/index.htm We are happy to clarify this further in an additional footnote to paragraph 4.16.
72.	XL Capital Ltd	4.16.	The dataset used in CEIOPS' analysis only reflects GBP and EUR, what about the US and other countries? We have a multi currency exposure and would want to validate these assumptions.	Noted. We agree that interest rate term structures may behave differently in other markets. However, we have chosen to focus on EUR and GBP as providing rich data sets to inform a generalised standard formula calibration. For undertakings operating in different markets, it might be the case that they choose to pursue a (partial) internal model to incorporate information from that market in order to arrive at a more tailored calibration appropriate to their risk profile.
73.	CRO Forum	4.18.	1. Our own principal component analysis shows principal components and Eigen values that are very different from the ones presented in CP 70, despite the fact that we use the same what we observe for the same historical period. In particular, the first standardized Eigen values (around 90% for EU GOV, GBP GOV & GBP Swap) are much higher than what we observe in our own analysis. This is one example where more detail on the specifics of the method and the data used would help: ☐ Are the data normalized in any way? ☐ Was the PCA performed on log-ratios of sequential rates?	Noted. The PCA was performed using the annual percentage rate changes, and the graph in 4.21 is based on the Bundesbank rates. However, we understand eigenvalues of this order are observed fairly commonly. It is difficult to comment, however, on what might be the differences between our analysis and the

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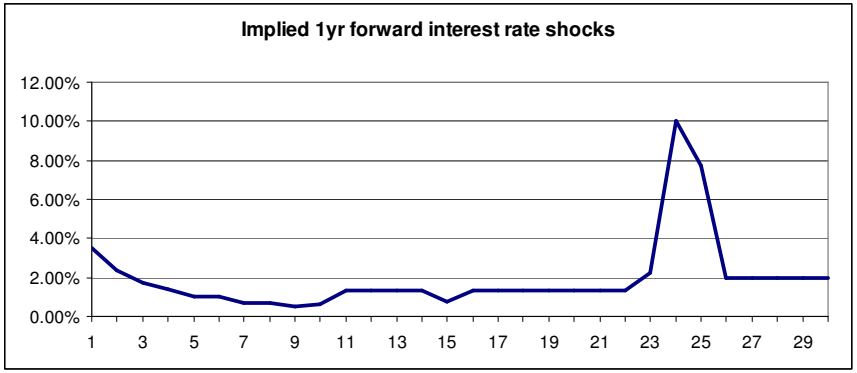
			☐ Which of the 4 rates (EU GOV, EUR Swap, GBP GOV or GBP Swap) is represented by the graph in 4.21?	CRO Forum analysis without comparing the two in detail.
74.	UNESPA	4.18.	The methodology applied for the principal component analysis is not disclosed. The principal component analysis is a technique widely used and accepted; however, no information exists on how this has been applied in the data series.	Not agreed. See for example paragraphs 4.18 to 4.23. We have not, however, included such detailed descriptions as, for example, the source code used to generate the analysis.
75.	CEA	4.22.	Ceiops has used the four risk factors (level, slope, curvature and twist) to calibrate the stresses. We question the use of the two last factors as they don't explain a large part of the variance.	Noted. These four factors were selected as they are common across all the datasets investigated. This selection of factors is a fairly standard choice, and we do not believe inclusion of the last two factors has an adverse effect on the robustness of the results.
76.			Confidential comments deleted.	
77.	FFSA	4.22.	CEIOPS has used the four risk factors (level, slope, curvature and twist) to calibrate the stresses. FFSA questions the use of the two last factors as they don't explain a large part of the variance.	Not agreed. These four factors were selected as they are common across all the datasets investigated. This selection of factors is a fairly standard choice, and we do not believe inclusion of the last two factors has an adverse effect on the robustness of the results.
78.	UNESPA	4.22.	The level of interest rates explains the variance. The table shows that the level of interest rates explains most of the	Not agreed. The four components applied in the principal components analysis

			variance of the components, in consequence, if the level of interest rates explains most of the variance, when applying interest rate curve shock scenarios, volatility will also be captured.	are level, slope, curvature and twist. Volatility is not captured among these factors.
79.	ABI	4.23.	The proposed interest rate upward and downward stresses will lead to capital requirements above the 99.5% VaR requirement. We believe that the factors in QIS4 were more appropriate and should therefore be retained.	Not agreed. We note that in many cases, and particularly following the revision highlighted by comment #70, the stresses will be lower than in QIS4.
80.	ACA	4.23.	We noted in 4.22 that the sum of projections of the four risk factor (level, slope,...) on ACP axis explain more than 99,5% of variance. For each maturity, we also noted that the stress factor is obtained by a regression model combined with the result of the ACP. But is a regression model realistic in the case of crisis (shock at 0.5% of risk)? According to us, a 'predefined scenarios 'method would be more appropriate than only a proportional shock estimated by a model. In this way, we suggest to calibrate different proportional shocks depending of the level (<2%; 2-4%;>4%) and the slope (<0;0 à 3%, >3%).	Not agreed. There are several ways of analysing the behaviour of term structures; Principal Components Analysis is a widely used method, although we note there are other valid approaches. However, we consider that a method producing a different shock depending on the level of the term structure would result in an approach that is overly complex in the context of the standard formula. Use of different stresses according to the term structure level could be a possibility for more sophisticated modelling in an internal model context.
81.	CEA	4.23.	The approach for interest rate up/down stresses will lead to capital requirements above the 99.5th percentile It is not clear why the maximum and minimum interest rate up and	Partially agreed. Please see the revised proposals for calibration, which aims to

			down-ward shocks were used when the aim is to generate a stress at the 99.5th percentile level. This approach is very conservative and is not supported. The maximum-minimum approach leads to stresses above the 99.5% VAR level. These stresses should therefore be reviewed. We think that it is inappropriate that Ceiops derives stress levels from five different references by taking systematically the highest stress rate that has been observed with respect to either of these interest rate term structures (see Annex A). This leads to inappropriate results, as the interest rate upwards stress decreases over time from 94% at the shortest maturity to 37% at the longest maturity, while there occurs an increase instead of a decrease at the 15 yr term. Similarly, it seems to be unreasonable that the level of the downward stress test for longer maturities starts to increase from year 23 onwards. It is vital to take the extrapolation method for the long-end of the curve into account Please see also our comments to Para 4.46 – depending on the extrapolation method used for the long end of the curve we could expect very little volatility at the long end of the curve (i.e. if the macro-economic extrapolation method is used). Consideration would need to be given to the extrapolation method used and the appropriateness of these figures. For example at the 15 year duration a stress of 44% seems far too onerous, especially considering that some markets may have the longest liquid asset with a duration of 10 year and so at the 15 year duration the interest rates used for discounting would be stable long-term rates. Therefore, we would definitely not expect the interest rate shock levels for long maturities to be more severe than those of medium maturities which is currently the case for the interest rate down	address the concerns raised here. With regard to extrapolation, we note that no extrapolation has been used to complete any of the interest rate datasets. Therefore the results do not depend at all on extrapolation methodology; they are based solely on observed market data. The text has been clarified in this regard. As pointed out, according to CEIOPS' Level 2 advice there are so far a number of possibilities available for extrapolation of the risk free reference yield curve. As a result it is impossible to take any particular extrapolation method into account when formulating the interest rate SCR stresses. For this reason we have relied solely on observable market data. We note also that where undertakings consider the assumptions underlying the standard formula inappropriate for their own risk profile (or otherwise) they are free to

			stresses and which was not the case for QIS4. The extrapolation method would need to be taken into account.	develop their own internal model approach.
82.			Confidential comments deleted.	
83.	CRO Forum	4.23.	The task of turning multiple principal component shocks into a single shock is not described well - how are the 4 PC vectors "regressed" into a single implied shock? We have attempted to replicate this calculation without success. In addition, the paper provides standardized Eigen values. However, without the raw Eigen values, it is difficult/impossible to reproduce the table in 4.23. Also, when interests rate are low, a multiplicative factor will produce unreasonably small up-shocks. The resulting shocks are not sensible for the very long tenors. The sharp increase in the 24 and 25+ buckets implies enormous shocks to the forward rate in that part of the curve. Below a graph of the implied 1yr forward shocks if the starting curve is 4% flat. The resulting forward rate from year 24 to 25 equals -6% after the shock!  Based on an initial flat yield curve of 4% the interest rate shocks imply a shock of -1.36% at year 23 and -1.72% at year 24%. This	Partially agreed. We agree that a multiplicative approach could result in small shocks in a low interest rate environment; this is the motivation behind the proposals in paragraph 4.26. As to the calibration for long tenors, please see the revised calibration set out in the final version of the paper. The revised proposal is intended to help mitigate unintuitive effects on forward rates.

			implies a shock to the 1yr forward rate from year 23 to 24 of shock = 24 x -1.72% - 23 x -1.36% = -10.0%. Graph shows absolute shock sizes.	
84.			Confidential comments deleted.	
85.	Deloitte	4.23.	We would welcome greater clarity on how the proposed stress tests derive from the principal components analysis. If four components are analysed, we would expect to see four pairs of stress tests as each component is tested up and down.	Noted. Please see the footnote to paragraph 4.23 which explains that for each maturity, the series of annual percentage rate changes are regressed on the four components to derive beta sensitivities, which are then summed to obtain a single, combined stress factor.
86.	FFSA	4.23.	CEIOPS has calibrated the stresses on interest rate based on extreme variations (minimum for downward shock and maximum for upward shock) observed on a basket of yield curves and on the shocks issued for QIS 4. FFSA believes that this approach is very conservative and is not supported, because it is calibrated with yield curves which differ from the one used for discounting. The maximum-minimum approach leads to stresses above the 99.5% VAR level. These stresses should therefore be reviewed. FFSA would like to understand the shape of the downward stress test for longer maturities (increase after year 23) and whether a more smooth shape should be made. Care should be taken to the shape of these stresses in order to avoid certain abnormalities in the simulations.	Noted. Please refer to the revised proposals in the new text.
87.			Confidential comments deleted.	
88.	GDV	4.23.	The approach for interest rate up/down stresses will lead to capital requirements above the 99.5th percentile	Noted. Please refer to revised proposals in the new text.

			It is not clear why the maximum and minimum interest rate up and down-ward shocks were used when the aim is to generate a stress at the 99.5th percentile level. This approach is very conservative and is not supported. The maximum-minimum approach leads to stresses above the 99.5% VAR level. These stresses should therefore be reviewed. We think that it is inappropriate that CEIOPS derives stress levels from five different references by taking systematically the highest stress rate that has been observed with respect to either of these interest rate term structures (see Annex A). This leads to inappropriate results, as the interest rate upwards stress decreases over time from 94% at the shortest maturity to 37% at the longest maturity, while there occurs an increase instead of a decrease at the 15 yr term. Similarly, it seems to be unreasonable that the level of the downward stress test for longer maturities starts to increase from year 23 onwards. It is vital to take the extrapolation method for the long-end of the curve into account Please see also our comments to Para 4.46 – depending on the extrapolation method used for the long end of the curve we could expect very little volatility at the long end of the curve (i.e. if the macro-economic extrapolation method is used). Consideration would need to be given to the extrapolation method used and the appropriateness of these figures. For example at the 15 year duration a stress of 44% seems far too onerous, especially considering that some markets may have the longest liquid asset with a duration of 10 year and so at the 15 year duration the interest rates used for discounting would be stable long-term rates. Therefore, we would definitely not expect the interest rate shock	

			levels for long maturities to be more severe than those of medium maturities which is currently the case for the interest rate down stresses and which was not the case for QIS4. The extrapolation method would need to be taken into account.	
89.	Groupe Consultatif	4.23.	The extreme high level of IR down shock by maturities of 24y and longer can not be derived from deep and liquid market data. As no reliable market for long term maturities exist, adequate calibration in long term rates could be only achieved by a sensible extrapolation method. Especially for insurances with long term liabilities this is a very important issue. See also comments on Annex A In our view it is not appropriate to derive interest rate stress factors as a maximum of four stress curves. For the sake of consistency the stresses should correspond to the respective type of interest rate curve (swap or government), derived as a weighted average of the GBP and the EUR stresses (by market volume). The type of interest rate curve used for the calibration of the stresses should depend on the definition of the risk free rate for Solvency II, and this has to be taken into account in the spread risk module to avoid double counting of spread risk. The highly increased downward stresses at the long end seems to make little sense although the data used might indicate such stresses. The reason for this is most likely due to market illiquidity and should therefore not be used as a basis for the stress. Further such stresses makes little sense if a macro-economic extrapolation method is used for the long end of the yield curve used for valuation of the technical provisions. Instead of a multiplicative stress an additive stress could be used or even a stress that depends on the level of the interest rate (for example higher upward stresses in case of a low interest rates than in case of high interest rates) which	Partially agreed. There are some shortcomings regarding long tenors in certain datasets, and as a result we have revised our proposals. However, we do not consider it necessary to rely on extrapolation of the underlying data sets; the calibration of the principal components still relies on observable market data only. As to extrapolation methods for the risk free rate (mentioned at the end of this comment) there are currently a number of methods available and so it is not possible to tailor the interest rate stress to any one of these in particular. In terms of the quantitative results, please refer to the revised proposals. We have been careful to be transparent about the stresses that would result for each different type of yield curve when presenting our advice (see for example Annex A) so that the drivers underlying

			would fit well with an macro-economic extrapolation method.	our chosen calibration are clear.
90.	Institut des actuaires	4.23.	Institut des Actuaires favours upward and downward stresses that would be expressed as the maximum between: - the multiplicative stresses as discribed in §4.23 - additive stresses (down and up) with parameters to be setted up Institut des Actuaires is confident that such an approach should avoid a too limited stress when interest rates are low.	Noted. Our proposals for treating the case where interest rates are low are set out in 4.26; this includes a form of "additive" approach. However, we are unconvinced of the suitability of an additive stress in the "up" case.
91.	Just Retirement	4.23.	It is unclear that applying the worst of the beta-based stress factors at each point of the term structure simultaneously is consistent with 99.5% 1-year VaR. There is also a risk that the resulting term structure is not arbitrage-free, as the PCA derivation is not necessarily aligned with economic movements that could reasonably be expected in the term structure. The 25-year shock factor must be aligned with the extrapolation method for the long end of the term structure otherwise the interest-rate SCR will be misaligned with actual economic movements, and sensible hedging strategies will not be rewarded by reductions in regulatory capital.	Noted. Please see the revised proposals presented in the final version of the advice. This aims to address some of the anomalies that could have arisen based on the original proposal. In terms of extrapolation methods for the risk free rate there are currently a number of methods available under CEIOPS' Level 2 advice, and so it is not possible to tailor the interest rate stress to any one of these in particular.
92.	KPMG	4.23.	We would like to note that in the absence of data for the EURO for maturities in excess of 15 years there is little evidence that the down stress should increase for maturities in excess of 20 years. We also refer to the comment below (4.26) on mean reversion, which would in particular let one expect stresses of a smaller scale for the long term maturities.	Noted. Please refer to the revised proposals for the term structure stresses.

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93.	Munich Re	4.23.	In our view it is not appropriate to derive interest rate stress factors as a maximum of four stress curves. For the sake of consistency the stresses should correspond to the respective type of interest rate curve (swap or government), derived as a weighted average of the GBP and the EUR stresses (by market volume). The type of interest rate curve used for the calibration of the stresses should depend on the definition of the risk free rate for Solvency II, and this has to be taken into account in the spread risk module to avoid double counting of parts of interest rate risk (for example increase or decrease of swap rates relative to government) both in interest rate risk and spread risk.	Noted. Please refer to the revised proposals. We have been careful to be transparent about the stresses that would result for each different type of yield curve when presenting our advice (see for example Annex A) so that the drivers underlying our chosen calibration are clear.
94.			Confidential comments deleted.	
95.	UNESPA	4.23.	The scenarios exceed the 99.5th percentile. The increase in the shock scenarios, in relation with those established in the QIS 4, exceeds the 99.5th percentile. The volatility focuses on the first part of the curve, therefore longer-term scenarios should be much lower, considering also that there will be more debt issues in the short and medium term. There is an increase in the upward scenarios from 43% to 44% in the 15 year maturity scenario, while the entire set of scenarios is declining. There is an increase in the downward scenarios beginning in the 22 years maturity scenario. There should be more transparency in the definition of scenarios.	Noted. Please refer to the revised proposals in the final text. It is not clear, however, in which area it would be helpful to see more transparency.
96.	Unum Limited	4.23.	The proposed interest rate upward and downward stresses will lead to capital requirements above the 99.5% VaR requirement. We believe that the factors in QIS4 were more appropriate and should therefore be retained.	Noted. Please refer to the revised proposals in the final text.

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97.	ABI	4.24.	An additive stress would be more appropriate to reduce pro-cyclicality Given current yields the proposed multiplicative factors will produce upwards movements in the yield curve which are not unreasonable. However if yields return to more "normal" levels the resulting stresses will be extremely large. For example, if yield curve was flat at 5% then the 1-year stress would be +470bps/-435bps and the 10-year stress would be +255bps/-170bps which is large by historical standards. Therefore, the multiplicative stress would lead to a high capital charge when yields are high which is pro-cyclical. This is inconsistent with the aims of the Level 1 directive and we propose that an additive stress would be more appropriate. We would also point out that a single shock is a significant simplification and using (four) separate shocks could provide a better insight into interest rate risks. See also comments to 4.46.	Not agreed. We consider that an additive stress calibrated to be generally suitable for all levels of interest rates could result in an unreasonably large stress at lower interest rates. We have maintained the multiplicative method tested in QIS4 given that this was not an area undertakings highlighted for particular concern in the feedback to QIS4. Ideally, a full approach to the interest rate sub-module might well take into account stresses to different elements and risk drivers for the term structure stress. This could be an area internal modellers might want to explore - however, we consider this would be overly complex in the context of the standard formula.
98.	CEA	4.24.	An additive stress would be more appropriate to reduce pro-cyclicality Given current yields the proposed multiplicative factors will produce upwards movements in the yield curve which are not unreasonable. However if yields return to more "normal" levels the resulting stresses will be extremely large. For example, if yield curve was flat at 5% then the 1-year stress would be +470bps/-435bps and the	Not agreed. We consider that an additive stress calibrated to be generally suitable for all levels of interest rates could result in an unreasonably large stress at lower interest rates. We have maintained the

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			10-year stress would be +255bps/-170bps which is large by historical standards. Therefore, the multiplicative stress would lead to a high capital charge when yields are high which is pro-cyclical. This is inconsistent with the aims of the Level 1 directive and we propose that an additive stress would be more appropriate.	multiplicative method tested in QIS4 given that this was not an area undertakings highlighted for particular concern in the feedback to QIS4. Ideally, a full approach to the interest rate sub-module might well take into account stresses to different elements and risk drivers for the term structure stress. This could be an area internal modellers might want to explore - however, we consider this would be overly complex in the context of the standard formula.
99.			Confidential comments deleted.	
100.	CRO Forum	4.24.	Observations: o The rapid increase of shock factors implies enormous shocks to the forward rates in years 24 and 25 which is not sensible. o The shocks for long-term (25+) forward rates are nearly 50% higher than for 15-20yr rates, which doesn't seem to make sense. General comment on the methodology: o When CEIOPS announced that they would look at non-parallel shocks to interest rates, this was welcomed, but the implementation of this in a single shock doesn't make sense. The idea of principal components is to decompose interest rate movements in independent shocks (uncorrelated). So it would make more sense to	Please see the revised proposals in the final text. We agree that ideally, a full approach to the interest rate sub-module might well take into account stresses to different elements and risk drivers for the term structure stress. This could be an area internal modellers might want to explore - however, we consider this

			also apply them as separate shocks and not in one convoluted single shock. We think that for instance a set of four interest rate shocks could provide a better insight into the interest rate risks. Lastly, the text does not comment on whether the shock also applies to the extrapolated part of the interest rate curve. The 25+ seems to indicate this. Our view is that the standard shock should first of all reflect how market data is shocked. Long-term best estimate level used in extrapolation will not change (at least not drastically) in a market event and therefore shouldn't be stressed in the market shock. Any effect from recalibration of the extrapolated part of the curve as a result of the shock on the "existing" part of the curve should be taken into account. The market risk margin should capture such un-hedgeable market risk related to change in long-term best estimate levels.	would be overly complex in the context of the standard formula. We do not, however, regard the single up/down shock as presented in CP70 as convoluted. We agree that extrapolation is not discussed in CP70. All the stresses are derived from observed market data, without reliance on extrapolation. As there are currently several possibilities for extrapolation methods for the risk free rate, it is not possible to address these at present in CP70.
101.	Deloitte	4.24.	It is not clear how the resulting parameters relate to a 99.5% VaR over a one year calibration. We would appreciate a justification of choosing the maximum stress from the five interest rates. In particular, we doubt whether it is justified to include the QIS4 parameters in this analysis, as they were determined based on a completely different method.	Partially agreed. We agree that the QIS4 parameters were not intended to be included in the analysis; this was a typographical error and has been corrected. Please see the revised proposals.
102.	GDV	4.24.	An additive stress would be more appropriate to reduce pro-cyclicality Given current yields the proposed multiplicative factors will produce upwards movements in the yield curve which are not unreasonable. However if yields return to more "normal" levels the resulting stresses will be extremely large. For example, if yield curve was flat at 5% then the 1-year stress would be +470bps/-435bps and the	Not agreed. We consider that an additive stress calibrated to be generally suitable for all levels of interest rates could result in an unreasonably large stress at lower interest rates. We have maintained the

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			10-year stress would be +255bps/-170bps which is large by historical standards. Therefore, the multiplicative stress would lead to a high capital charge when yields are high which is pro-cyclical. This is inconsistent with the aims of the Level 1 directive and we propose that an additive stress would be more appropriate.	multiplicative method tested in QIS4 given that this was not an area undertakings highlighted for particular concern in the feedback to QIS4.
103.	Legal & General Group	4.24.	The stresses as proposed will lead to pro cyclicality and we propose to use an additive approach.	Not agreed. We consider that an additive stress calibrated to be generally suitable for all levels of interest rates could result in an unreasonably large stress at lower interest rates. We have maintained the multiplicative method tested in QIS4 given that this was not an area undertakings highlighted for particular concern in the feedback to QIS4.
104.	UNESPA	4.24.	In the current crisis there has been a decline in interest rates, considering this, it makes no sense to have a greater stress in the interest rate curves. The current crisis is a market liquidity and credit crisis, in which interest rates have fallen, and spreads have widened, but this does not justify, the tightening in the different scenarios.	Not agreed. The refreshing of the calibration since QIS4 has enabled valuable data on a declining interest rate environment to be taken into account.
105.	CEA	4.25.	We do not believe that data from UK are generally suitable for a calibration in the EUR market. For example the extreme interest rate down shock (25y) is derived from only one data point from UK market.	Not agreed. GBP statistics are a useful contribution to a generalised picture of interest rate behaviour for a pan-European calibration. The statement about derivation

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
				of the 25 year shock is not correct. Note that this stress has been adjusted, however, in the revised proposal.
106.	GDV	4.25.	We do not believe that data from UK are generally suitable for a calibration in the EUR market. For example the extreme interest rate down shock (25y) is derived from only one data point from UK market.	Not agreed. GBP statistics are a useful contribution to a generalised picture of interest rate behaviour for a pan-European calibration. The statement about derivation of the 25 year shock is not correct. Note that this stress has been adjusted, however, in the revised proposal.
107.	Groupe Consultatif	4.25.	We do not believe that data from UK are generally suitable for a calibration in the EUR market. For example the extreme IR down shock (25y) is derived from only one data point from UK market.	Not agreed. GBP statistics are a useful contribution to a generalised picture of interest rate behaviour for a pan-European calibration. The statement about derivation of the 25 year shock is not correct. Note that this stress has been adjusted, however, in the revised proposal.
108.	Just Retirement	4.25.	The UK has experienced some degree of deflation (measured by RPI) while having low short-term interest rates. We expect that this is already embodied in the PCA dataset and should need no further adjustment.	Agreed. No further adjustment for UK is proposed here. For the purposes of this paragraph, "European" can be read to include UK.
109.	UNESPA	4.25.	All Curves do not represent the portfolios of European insurance	Partially agreed. We agree that

			companies. The euro interest rate curve does not reflect the past 30 year's experience, and the GBP interest rate curve is not representative of the portfolios of European insurance companies.	interest rate term structures may behave differently in other markets. However, we have chosen to focus on EUR and GBP as providing rich data sets to inform a generalised standard formula calibration. For undertakings operating in different markets, it might be the case that they choose to pursue a (partial) internal model to incorporate information from that market in order to arrive at a more tailored calibration appropriate to their risk profile. We have aimed to select data spanning the maximal possible period that is both relevant and consistent with the other (daily) datasets.
110.	ABI	4.26.	There is no sufficient justification given for the 1% minimum deduction under the interest rate down stress – we request this requirement is removed/re-considered We request that further supporting information be supplied as to the choice of the 1% minimum deduction. Furthermore, we should state that an additive stress would remove the need for any such requirement. The requirement also creates additional complexity in the standard formula. Lastly, if this type of requirement is retained we request justification as to why an asymmetric treatment is considered and so why a cap	Not agreed. We do not consider that the formulation set out in 4.26 is overly complex, and would compare with comment #97 where four separate shocks are proposed. Use of an additive stress could result in unrealistic results when considering, for example, a downward stress in a low interest rate environment (negative interest rates could

			is not also considered on upward stresses (to a level to be determined).	result). Additionally, particularly with reference to short tenors, these may be influenced by central bank rates, which typically move in steps which are multiples of a fixed quantum (such as 0.25%) which does not diminish as interest rates decline.
111.	CEA	4.26.	There is no sufficient justification given for the 1% minimum deduction under the interest rate down stress – we request this requirement is removed/re-considered We request that further supporting information be supplied as to the choice of the 1% minimum deduction. Furthermore, we should state that an additive stress would remove the need for any such requirement. The requirement also creates additional complexity in the standard formula. Lastly, if this type of requirement is retained we request justification as to why an asymmetric treatment is considered and so why a cap is not also considered on upward stresses (to a level to be determined).	Not agreed. We do not consider that the formulation set out in 4.26 is overly complex, and would compare with comment #97 where four separate shocks are proposed. Use of an additive stress could result in unrealistic results when considering, for example, a downward stress in a low interest rate environment (negative interest rates could result). Additionally, particularly with reference to short tenors, these may be influenced by central bank rates, which typically move in steps which are multiples of a fixed quantum (such as 0.25%) which does not diminish as interest rates decline.
112.			Confidential comments deleted.	

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113.	CRO Forum	4.26.	Shocks are estimated using PCA but in section 4.26 proposes a minimum shock of 1% to cover the deflation risk like in Japan. However no explanation is provided to support the 1% parameter. Neither has it been clear why this boundary only applies to downward shocks.	Noted. The rationale for the 1% floor is to provide a pragmatic method to avoid underestimation of interest rate risk in a deflationary environment – else the multiplicative formulation of the term structure stress could mean very small absolute stress levels when interest rates are low, which we could consider to be unrealistic. Interest rates have a natural "floor" at the lower end but are theoretically unrestricted at the upper side. This is why we have only considered a boundary on the down side.
114.	Deloitte	4.26.	We note that if the calibration has been done properly, based on adequate data, the resulting stress should capture the risk on the required level of calibration. It should therefore not be necessary to make manual adjustments such as presented in this paragraph, unless the calibration is deemed inadequate. The adjustment of the downward shock to an absolute level of 1% is not substantiated in any way; and it is not clear why, in the presented example, a shock of 1% should be more reasonable than a shock of 1.32%, given that the 1.32% would be derived from an appropriate calibration.	Noted. In proposing the 1% floor we have aimed to provide a pragmatic method to avoid underestimation of interest rate risk in a low interest rate environment – else the multiplicative formulation of the term structure stress could mean very small absolute stress levels when interest rates are low, which we would consider to be unrealistic.
115.	DIA Danish	4.26.	4.26: We appreciate the analysis regarding calibration of interest	Noted. Our concern regarding

	Insurance Association		rate stress test factors. However, no analysis has been presented as to whether additive or multiplicative stress test factors are in fact the most appropriate choice.	an additive approach for term structures is that this could result in an excessive stress relative to low interest rate environments but an inadequate stress at times when interest rates are high. A multiplicative approach was used in QIS4, and there was not overwhelming criticism of the methodology.
116.	GDV	4.26.	There is no sufficient justification given for the 1% minimum deduction under the interest rate down stress – we request this requirement is removed The absolute stress downwards of minimum 100bp is overstated. The relative volatility should be unchanged in the interest level shock. Otherwise there would be a double-counting of volatility interest risk. The requirement also creates additional complexity in the standard formula.	Noted. In proposing the 1% floor we have aimed to provide a pragmatic method to avoid underestimation of interest rate risk in a low interest rate environment – else the multiplicative formulation of the term structure stress could mean very small absolute stress levels when interest rates are low, which we would consider to be unrealistic. We are not convinced, however, that introduction of this minimum stress would result in any double counting.
117.	Groupe Consultatif	4.26.	We understand the difficulties with the QIS4 approach but would wish to reserve final judgement on the appropriateness of this change until it has been tested in QIS5.	Noted.
118.	Institut des actuaires	4.26.	Institut des Actuaires considers that the proposal of a lower bound of one percentage point for the absolute decrease create a difference	Not agreed. Interest rates have a natural "floor" at the lower

			between the up and down stresses that is not justified. However, Institut des Actuaires considers that its proposed approach (see comment on §4.23) does not require a lower bound.	end but are theoretically unrestricted at the upper side. This is why we have only considered a boundary on the down side.
119.	Just Retirement	4.26.	We think it is reasonable that lower levels of interest rates are subject to lower absolute downward stresses, and as noted under 4.25, we believe that the PCA already accounts for deflation risk on sterling assets. It is disappointing (given the large volumes of data available from the PCA exercise) that no quantitative justification of the proposed absolute reduction of 1% has been provided.	Not agreed. In proposing the 1% floor we have aimed to provide a pragmatic method to avoid underestimation of interest rate risk in a low interest rate environment – else the multiplicative formulation of the term structure stress could mean very small absolute stress levels when interest rates are low, which we would consider to be unrealistic.
120.	KPMG	4.26.	We agree that the current approach leads to lower absolute stresses in times where interest rates are low and to higher stresses in times where interest rates are high. However, such a behaviour would be appropriate if interest rates can be modelled by a process such as geometric Brownian motion. However, geometric Brownian motion is not considered to be an appropriate model for interest rates, neither spot rates nor rates for specific maturities. Interest rate models usually try to capture in some way the "mean-reversion"-property, meaning that below a certain level, interest rates are more likely to increase than to decrease, and above a certain level interest rates are more likely to decrease than to increase. So one would expect stress scenarios where the upward stress is big for low rates, but the downward stress is small for low rates, and vice versa the downward stress is big for very high rates, and the upwards stress is small for very high rates. This is not	Partially agreed. The alternative to a multiplicative approach would be to use an additive stress. However, our concern under that approach is that it could result in an excessive stress relative to low interest rate environments but an inadequate stress at times when interest rates are high. A multiplicative approach was used in QIS4, and there was not overwhelming criticism of the methodology.

			captured by the current calibration.	
121.	Legal & General Group	4.26.	The 1% minimum deduction is arbitrary and should be dropped.	Not agreed. In proposing the 1% floor we have aimed to provide a pragmatic method to avoid underestimation of interest rate risk in a low interest rate environment – else the multiplicative formulation of the term structure stress could mean very small absolute stress levels when interest rates are low, which we would consider to be unrealistic.
122.	Munich Re	4.26.	A verification of the 1% minimum interest rate stress should be given since this is not adequate in our view.	Noted. The 1% floor aims to provide a pragmatic method to avoid underestimation of interest rate risk in a low interest rate environment – else the multiplicative formulation of the term structure stress could mean very small absolute stress levels when interest rates are low, which we would consider to be unrealistic.
123.			Confidential comments deleted.	
124.	UNESPA	4.26.	It makes no statistical sense to include the 1% for the downward scenario. It makes no statistical sense to include 1% for the downward scenario, as it is completely asymmetrical and has no statistical justification.	Not agreed. The 1% floor aims to provide a pragmatic method to avoid underestimation of interest rate risk in a low interest rate environment – else the

				multiplicative formulation of the term structure stress could mean very small absolute stress levels when interest rates are low, which we would consider to be unrealistic. Interest rates have a natural "floor" at the lower end but are theoretically unrestricted at the upper side. This is why we have only considered a boundary on the down side.
125.	Unum Limited	4.26.	There is no sufficient justification given for the 1% minimum deduction under the interest rate down stress. We request CEIOPS to remove this requirement.	Not agreed. The 1% floor aims to provide a pragmatic method to avoid underestimation of interest rate risk in a low interest rate environment – else the multiplicative formulation of the term structure stress could mean very small absolute stress levels when interest rates are low, which we would consider to be unrealistic.
126.	PWC	4.27.	We recognise that the multiplicative stress approach for interest rate risk would lead to low absolute stresses at times of low interest rates. However, no justification is given for setting the minimum downward stress to be 1%. What is the basis for saying that a change from 2% to 1% is more reasonable than a change from 2% to 1.32%? In addition, we question whether the use of such a floor would jeopardise a company's solvency position unnecessarily at a time when economic activity may already be low.	Noted. The alternative to a multiplicative approach would be to use an additive stress. However, our concern under that approach is that it could result in an excessive stress relative to low interest rate environments but an inadequate stress at times when interest

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			This comment also applies to para 4.47.	rates are high. The 1% floor aims to provide a pragmatic method to avoid underestimation of interest rate risk in a low interest rate environment – else the multiplicative formulation of the term structure stress could mean very small absolute stress levels when interest rates are low, which we would consider to be unrealistic.
127.	AMICE	4.28.	Shocks to interest rate term volatilities	-
128.	FFSA	4.28.		-
129.	Just Retirement	4.28.	Implied volatilities should be derived from the options on the reference risk-free asset; there would be a mismatch if swaption-implied volatilities were used alongside AAA government bonds.	Partially agree. Although ideally the volatility calibration would be based on instruments corresponding to the same reference rate, we have chosen to use the richest available relevant datasets for the calibration – i.e., swaptions based on EUR and GBP data.
130.			Confidential comments deleted.	
131.	CRO Forum	4.30.	The impact of changes in interest rate volatility is quoted as 1% of undiversified SCR. This seems to be unreasonably small.	Noted. We have amended the text to reflect this observation.
132.	ABI	4.31.	We agree with the use of swaption volatilities and highlight that CEIOPS' assumption for the benchmark risk-free rate is inconsistent with this	Agreed. However, the choice of the risk free reference rate is beyond the scope of CP70. Please see also the response to

			We agree that the volatility data should be derived from swaps. We highlight the fact the CEIOPS' choice of a benchmark risk-free rate which is based on the AAA-rated government bond curve and not the swap curve is inconsistent with the volatility data used here. In this light of this, we request that CEIOPS re-visits their assumption for the benchmark risk-free rate.	comment #129.
133.	CEA	4.31.	We request reconsideration of the methodology chosen Ceiops' approach to make use of daily data points, which are then used to derive yearly shocks, is subject to auto-correlation. Therefore the extreme scenarios are overstated. Furthermore, we would like clarification as to whether the historical data series used was adjusted or cleaned in any way to remove anomalies (e.g. spikes which get reversed the next day) since pricing errors can distort the analysis and conclusions. We agree with the use of swaption volatilities and highlight that Ceiops' assumption for the benchmark risk-free rate is inconsistent with this We note, and agree with, the fact that volatility data is derived from swaps as option prices are calculated/quoted based on swap curves. We highlight the fact the Ceiops' choice of a benchmark risk-free rate which is based on the AAA-rated government bond curve and not the swap curve is inconsistent with the volatility data used here. It is currently unknown how the market would convert market implied volatility based on swaps into implied volatility based on AAA government bond curves. In this light of this, we reiterate our request that Ceiops re-visits their assumption for the benchmark risk-free rate.	Partially agreed. With regard to autocorrelation: we have needed to strike a balance between having enough data within the analysis to produce meaningful results and incurring the risk of autocorrelation effects. In this case we consider the risks arising from possible autocorrelation to be outweighed by the advantage of having a rich data set. Moreover, if annualised daily data is used, this could introduce unreasonable distortions due to short-lived spikes in volatility. The data used for the volatility analysis was not adjusted or cleaned to remove spikes. On the choice of data underlying the volatility calibration: we have chosen to use swaption data as this provides the richest

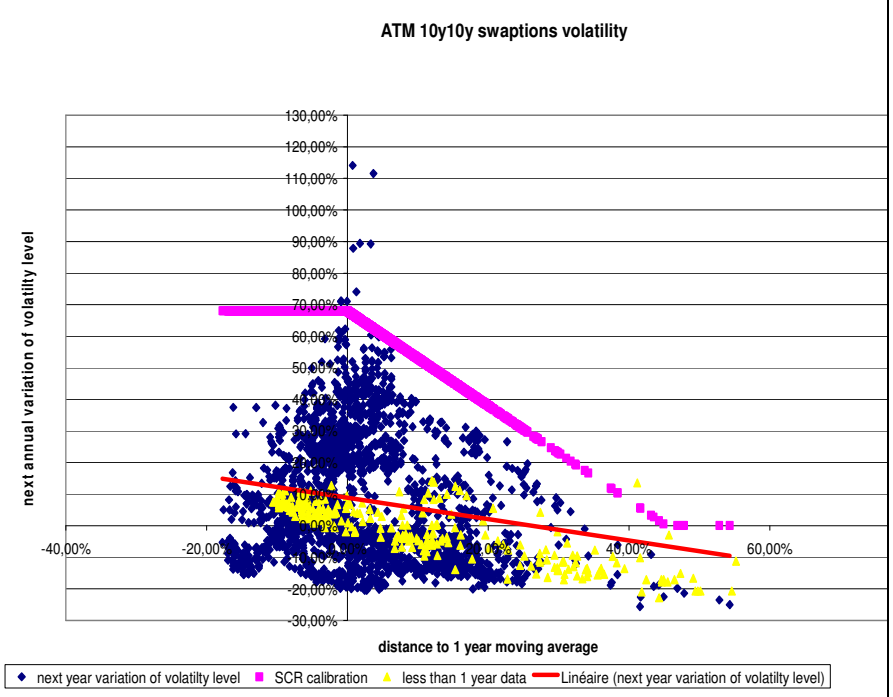
				possible data set for analysis of interest rate volatility. Given the way we have derived the term structure stress we do not consider the choice of swaptions for the calibration of volatility to be inconsistent. However, we note that the choice of reference instrument for the risk free rate is beyond the scope of CP70.
134.			Confidential comments deleted.	
135.	Groupe Consultatif	4.31.	Consideration of daily data points but yearly shocks is auto-correlated. Therefore the extreme scenarios are overstated.	Partially agreed. With regard to autocorrelation: we have needed to strike a balance between having enough data within the analysis to produce meaningful results and incurring the risk of autocorrelation effects. In this case we consider the risks arising from possible autocorrelation to be outweighed by the advantage of having a rich data set. Moreover, if annualised daily data is used, this could introduce unreasonable distortions due to short-lived spikes in volatility.
136.	Unum Limited	4.31.	We agree that the volatility data should be derived from swaps. We highlight the fact the CEIOPS' choice of a benchmark risk-free rate which is based on the AAA-rated government bond curve and not the swap curve is inconsistent with the volatility data used here. In this	Partially agreed. We have chosen to use swaption data as this provides the richest possible data set for analysis of interest

			light of this, we request that CEIOPS re-visits their assumption for the benchmark risk-free rate.	rate volatility. Given the way we have derived the term structure stress we do not consider the choice of swaptions for the calibration of volatility to be inconsistent. However, we note that the choice of reference instrument for the risk free rate is beyond the scope of CP70.
137.	ABI	4.32.	The methodology does not seem appropriate We do not agree that it is correct to generate stresses using the empirical distribution of the annual percentage change and then apply these values to current volatility levels. This is because this approach ignores any trends in the data, possible mean reversion and whether there are any natural floors or ceilings. Also this approach takes no account of the relative level of implied volatility (i.e. whether high percentage changes tended to happen when volatilities were high or low). No adjustment is mentioned for the use of overlapping periods in generating the data.	Partially agreed. On application of the volatility stress, please refer to the revised text which seeks to address the points made. (We note, however, that the original proposal, setting out a multiplicative approach, does lead to a natural floor of zero in the stressed volatility.) With regard to autocorrelation: we have needed to strike a balance between having enough data within the analysis to produce meaningful results and incurring the risk of autocorrelation effects. In this case we consider the risks arising from possible autocorrelation to be outweighed by the advantage of

				having a rich data set. Moreover, if annualised daily data is used, this could introduce unreasonable distortions due to short-lived spikes in volatility.
138.	CEA	4.32.	The methodology does not seem appropriate We do not agree that it is correct to generate stresses using the empirical distribution of the annual percentage change and then apply these values to current volatility levels. This is because this approach ignores any trends in the data, possible mean reversion and whether there are any natural floors or ceilings. Also this approach takes no account of the relative level of implied volatility (i.e. whether high percentage changes tended to happen when volatilities were high or low). In addition, the rationale of Ceiops for using implied volatilities is unclear. Hence, the use of historical volatilities might be equally appropriate. No adjustment is mentioned for the use of overlapping periods in generating the data. It is unreasonable to make use of DAILY data, if the aim is to derive a yearly shock, since this overestimates those periods of high volatilities. Again, volatility is subject to mean-reversion effects. One shock for all maturities is also inappropriate since volatility tends to decrease with increasing maturities. Hence, the calibration tends to get too conservative.	Please refer to comment #137. We have used implied volatilities for consistency with the statement in Doc 33 (formerly CP39) that implied volatilities seem to be more appropriate for the purpose of a market-consistent valuation (see para 3.251 of that document). Although it is also stated that there may be circumstances in which it is appropriate to use historical volatilities, if an undertaking finds this approach more appropriate and considers that as a result the assumptions underlying the interest rate volatility calibration are no longer fully suitable for the corresponding SCR calculation, then a partial internal model could be considered. As can be seen from CP70, we

				have analysed swaptions of several different option and swap terms. We considered that a stress that is differentiated according to where the optionality lies on the volatility surface would be overly complex for the standard formula. However, this type of distinction would sit well with a (partial) internal model framework.
139.	Equitable Life Assurance Society	4.32.	The general approach of using volatility data from a relatively short recent period (10 years in some cases) gives too much weight to the recent crisis period and is pro-cyclical. the multiplicative method exaggerates this effect. It seems intuitive that the probability of, and scope for, volatility increasing over a one-year time horizon is a function of current levels of volatility.	Partially agreed. Please refer to the revised proposals. However, we have selected the data set as being the maximal possible data set in terms of relevance and data availability.
140.	GDV	4.32.	The methodology does not seem appropriate We do not agree that it is correct to generate stresses using the empirical distribution of the annual percentage change and then apply these values to current volatility levels. This is because this approach ignores any trends in the data, possible mean reversion and whether there are any natural floors or ceilings. Also this approach takes no account of the relative level of implied volatility (i.e. whether high percentage changes tended to happen when volatilities were high or low). In addition, the rationale of CEIOPS for using implied volatilities is unclear. Hence, the use of historical volatilities might be equally appropriate. No adjustment is mentioned for the use of overlapping periods in	Please refer to comment #137 and comment #138.

			generating the data. It is unreasonable to make use of DAILY data, if the aim is to derive a yearly shock, since this overestimates those periods of high volatilities. Again, volatility is subject to mean-reversion effects. One shock for all maturities is also inappropriate since volatility tends to decrease with increasing maturities. Hence, the calibration tends to get too conservative.	
141.	Groupe Consultatif	4.32.	We doubt that daily implied volatilities are suitable for calibration of yearly shock parameters for liabilities with maturities of 30y and longer. Therefore historical interest rates volatilities instead of implied volatilities should also be considered.	Please refer to comments #137 and #138. We have used implied volatilities for consistency with the statement in Doc 33 (formerly CP39) that implied volatilities seem to be more appropriate for the purpose of a market-consistent valuation (see para 3.251 of that document). Although it is also stated that there may be circumstances in which it is appropriate to use historical volatilities, if an undertaking finds this approach more appropriate and considers that as a result the assumptions underlying the interest rate volatility calibration are no longer fully suitable for the corresponding SCR calculation, then a partial internal model could be considered.
142.	Institut des actuaires	4.32.	Institut des Actuaires considers that the methodology choosen by CEIOPS ignores the mean-reverting characteristic of volatilities	Partially agreed. We have made some changes to the proposals



We propose a schock dependant on the present level of volatility stress, measured by the relative position of present volatility to a one year moving average.

When the present level is under the moving average, the upward shock is fixed to α%.
When the present level is on top of moving average, the upward shock is fixed to:

in CP70 which are intended to address some of the shortcomings of the original proposals. Please see the revised proposals.

			α %-β*(level –moving average)/moving average, with a floor at zéro Visual analysis of the scatter plot suggest a β near of 1.5. Fixing α %to obtain a number of points above the pink curve gives α = 68%	
143.	Just Retirement	4.32.	We consider that using overlapping daily series of volatility data is an inappropriate methodology for deriving 1-year stress tests. It would be preferable to annualise daily movements allowing for mean-reversion and other longer-duration smoothing effects. We also believe that much of the "spiking" in swaption markets in late 2008 reflect extreme illiquidity rather than being a genuine market-consistent view of the evolution of the underlying assets. It would be inappropriate to base insurance capital requirements on illiquid price movements.	Not agreed. We consider that using annualised daily movements would be more likely to introduce anomalous "spiking" effects, as these are often short-lived. The question of when a market can be considered illiquid vs liquid is complex; however we have chosen to use the full data set in deriving the interest rate volatility calibration.
144.	AFS	4.33.	If the guarantees are already in the money it may be possible that an increase in volatilities will reduce the capital requirements.	Agreed. This would seem to indicate (comparing with 4.39) that a downward vol stress is indeed relevant.
145.	CRO Forum	4.33.	The calibration of the implied volatility is based on the ATM volatilities without providing any insight into how to shock ITM and OTM volatilities.	Agreed. In order to avoid introducing excessive complexity in the standard formula context we have noted that the standard formula approach we have proposed makes the simplifying assumption that the embedded options are at the money.

				However, ideally a full approach to volatility would include also differentiated shocks for in the money and out of the money optionality as well as taking account of the volatility surface.
146.	Groupe Consultatif	4.33.	If the guarantees are already in the money it may be possible that an increase in volatilities will reduce the capital requirements.	Agreed. This would seem to indicate (comparing with 4.39) that a downward vol stress is indeed relevant.
147.	ABI	4.34.	An additive stress would be more appropriate to reduce pro-cyclicality When interest rate volatilities are high a multiplicative stress may produce disproportionately high volatilities. We believe that the interest rate volatility stress should not be multiplicative but instead it should be expressed as an additive stress.	Agreed. Please see the revised proposals, which aim to correct some of the shortcomings of the original proposal.
148.	AMICE	4.34.	CEIOPS points out that the altered implied volatility are derived by multiplying the current implied volatility term structure by upward and downward stress factors. We agree with the CEA that an additive stress would be more appropriate to reduce pro-cyclicality.	Agreed. Please see the revised proposals, which aim to correct some of the shortcomings of the original proposal.
149.	CEA	4.34.	An additive stress would be more appropriate to reduce pro-cyclicality When interest rate volatilities are high a multiplicative stress may produce disproportionately high volatilities. We believe that the interest rate volatility stress should not be multiplicative but instead it should be expressed as an additive stress.	Agreed. Please see the revised proposals, which aim to correct some of the shortcomings of the original proposal.
150.	GDV	4.34.	An additive stress would be more appropriate to reduce pro-cyclicality When interest rate volatilities are high a multiplicative stress may	Agreed. Please see the revised proposals, which aim to correct some of the shortcomings of the original proposal.

			produce disproportionately high volatilities. We believe that the interest rate volatility stress should not be multiplicative but instead it should be expressed as an additive stress.	
151.	DIA Danish Insurance Association	4.36.	4.36: No considerations as to whether multiplicative or additive stress test factors are the most appropriate choice.	Noted. Please see the revised proposals, which aim to correct some of the shortcomings of the original proposal.
152.	FFSA	4.36.	FFSA would like to stress that no volatility stress should be included in the standard formula to begin with. In any case, FFSA points out that the proposed stress test appears to be the maximum observed on historical data rather than the 99.5% VAR level.	Not agreed. Stakeholders' feedback to QIS4 highlighted volatility as being a risk missing from the standard formula approach. We agree that interest rate volatility is an important and relevant risk, and have included a calibration in CP70 as a result. We do not understand why FFSA believes the proposed stress is based on the maximum; please refer to 4.31 which states that the stress factors are derived at the 99.5% level.
153.	PWC	4.37.	The proposed stresses are based on the assumption that 10 years is an appropriate period for both the option term and the swap term. However, we note that the upward stress factors vary widely with these variables and question whether a range of stresses should be prescribed, with firms choosing the single stress at the option and swaption terms which are most relevant to their business. Such a requirement may only be made on firms for which the interest rate volatility capital charge is material.	Partially agreed. We agree that, as our analysis shows, the stresses at the 99.5% level vary across the volatility term structure. However, there are also other dimensions that could also be taken into account such as moneyness. We recommend that in order to avoid too much

				complexity in the standard formula, and to allow the possibility for undertakings to tailor any additional detail to their own circumstances, only one stress factor is proposed for the standard formula, and undertakings can then introduce additional dimensions in (partial) internal models.
154.	ABI	4.38.	The interest rate volatility shock is excessively pro-cyclical If the interest rate implied volatility shock is included then using the 10x10yr volatility as a driver seems appropriate. However we have the feeling that one element is missing or ignored: the implied volatility shock seems to be too pro-cyclical e.g. when the volatility is low, the implied volatility shock is too low; while when volatility is high, the implied volatility shock is too high.	Noted. Please refer to the revised proposal, which aims to address some of the shortcomings of the original proposal. It should be recognised, however, that use of an additive approach brings its own shortcomings – for example, in a low volatility environment the stress would then be much higher in relative terms.
155.	CEA	4.38.	The interest rate volatility shock is excessively pro-cyclical If the interest rate implied volatility shock is included then using the 10x10yr volatility as a driver seems appropriate. However we have the feeling that one element is missing or ignored: the implied volatility shock seems to be too pro-cyclical e.g. when the volatility is low, the implied volatility shock is too low; while when volatility is high, the implied volatility shock is too high.	Noted. Please refer to the revised proposal, which aims to address some of the shortcomings of the original proposal. It should be recognised, however, that use of an additive approach brings its own shortcomings – for example, in

<table>
<tr><td></td><td></td><td></td><td></td><td>a low volatility environment the stress would then be much higher in relative terms.</td></tr>
<tr><td>156.</td><td>CRO Forum</td><td>4.38.</td><td>In general we welcome the introduction of the shocks to the interest rate implied volatility. Using the 10x10yr volatility as a driver makes sense. One element that is ignored that the shock is very anti-cyclically. When volatility is low the implied shock is too low, while when volatility is high the implied shock is too high. In below table the maximum and minimum level of the 10x10 swaption volatility is shown for EUR and USD based on 5yrs data from ICAP. The table also shows the implied shocks.
<table><tr><td></td><td>EUR</td><td>USD</td></tr><tr><td>Max</td><td>23.9</td><td>34.1</td></tr><tr><td>Min</td><td>9.3</td><td>11.5</td></tr><tr><td>Shock based on Max</td><td>8.8</td><td>10.9</td></tr><tr><td>Shock based on Min</td><td>22.7</td><td>32.4</td></tr></table>
This implies that in volatile times the required capital is a factor 3 higher than in less volatile times. This would have implied too little capital to be held before the last crisis and too much at the peak of the crisis. Therefore a relative shock that does not take into account the starting level of volatility might not have the correct impact.</td><td>Noted. Please refer to the revised proposal, which aims to address some of the shortcomings of the original proposal.

We note that the standard formula calibration is intended to be a long-term calibration and would require significant additional complexity to incorporate a stress that varies according to the prevailing economic conditions. This could also be complicated when projecting the SCR for the purposes of the risk margin, as an assessment would need to be made of which stress would apply at each future time.</td></tr>
<tr><td>157.</td><td>GDV</td><td>4.38.</td><td>The interest rate volatility shock is excessively pro-cyclical

If the interest rate implied volatility shock is included then using the 10x10yr volatility as a driver seems appropriate. However, we want to draw attention to the fact that one element is missing or ignored: the implied volatility shock seems to be too pro-cyclical e.g. when the volatility is low, the implied volatility shock is too low; while when volatility is high, the implied volatility shock is too high.</td><td>Please see comment #155</td></tr>
<tr><td>158.</td><td>Groupe Consultatif</td><td>4.38.</td><td>In markets with high volatility levels an additional stress of 95% overestimates volatility risk and leads to procyclical effects. Hence an</td><td>Noted. The Directive text only provides explicitly for an</td></tr>
</table>

			adjustment mechanism with volatility stress depending on the level of volatility should be applied.	adjustment mechanism in the case of equity risk. As a result we have calibrated the volatility stress as an unadjusted stress scenario in accordance with the 99.5% VaR requirement specified by the Level 1 text.
159.	Just Retirement	4.38.	The multiplicative approach is pro-cyclical: it will lead to low stresses in benign periods and higher stresses in turbulent or illiquid markets. An additive stress, having regard to natural collars on implied volatility, would be greatly preferable.	Noted. Please refer to the revised proposal, which aims to address some of the shortcomings of the original proposal. It should be recognised, however, that use of an additive approach brings its own shortcomings – for example, in a low volatility environment the stress would then be much higher in relative terms.
160.	Munich Re	4.38.	In markets with high volatility levels an additional stress of 95% overestimates volatility risk and leads to procyclical effects. Hence an adjustment mechanism with volatility stress depending on the level of volatility should be applied.	Please see comment #156
161.			Confidential comments deleted.	
162.	ABI	4.39.	If an upward shock to interest rate volatilities is tested, it would also be appropriate to test a downward shock Assets as well as liabilities may have exposure to volatility and the volatility exposure on the asset side can be both positive and negative since there may be circumstances where insurers hold interest rate derivatives which have a vega (i.e. sensitivity to	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.

			volatilities) that exceeds that of the liabilities. Therefore, it is difficult to generally discard the downward shock and so it should be included in the standard formula It is crucial, however, that the proportionality principle is sufficiently developed on this issue. This is due to the fact that the introduction of volatility stress testing may severely increase the computational burden as assets and liabilities have to be recalculated in each scenario.	
163.	ACA	4.39.	If the implied volatility decreases the price of the option decreases. According to us, on the liability side we are always "seller" of option so a down stress is relevant because if the implied volatility decreases the risk of the insurer decreases. On the asset side, we can buy a cap option and sell a floor option (collar) and so in this case a down shock is also relevant. In conclusion, we believe that a down shock is relevant both on liability side and on an asset side.	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.
164.	AFS	4.39.	It is possible that a downward shock will increase capital requirements. We would suggest that this is tested within QIS5.	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.
165.	AMICE	4.39.	AMICE members have some doubts regarding the inclusion of a new shock in the standard formula. The interest rate volatility should not be considered for solvency purposes for the following reasons: - Interest rate volatility does not have any impact on the insurance business. The volatility is only a consequence of the market consistent valuation of the balance sheet, but there is not a link with the real management of the undertaking. This is the case for non-lapsable contracts and portfolios with high duration, where short-term variations of the market value do not have any impact on the insurance business. It should also be noted that insurers following a	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice. Please see also the responses to 4.11 and related paragraphs.

			Buy&Hold strategy for bonds, are not affected by the volatility on its market value. - Additionally interest rate volatility would promote procyclicality which is in contradiction with the Level 1 text who promotes the development of contra-cyclical implementing measures. - Finally, CEIOPS paper states that the calibration of the shock is based on implied volatilities. However, it is not stated that implied volatilities would be used in all cases for building the Solvency II balance sheet; Indeed, as requested by the industry and suggested by some CEIOPS members, we would be in favor of using volatility adjustments in case of inconsistency of the Markets (i.e due to a generalized illiquidity situation). These potential adjustments would drastically drop the volatility.	
166.	CEA	4.39.	If an upward shock to interest rate volatilities is tested, it would also be appropriate to test a downward shock, subject to proportionality Assets as well as liabilities may have exposure to volatility and the volatility exposure on the asset side can be both positive and negative since there may be circumstances where insurers hold interest rate derivatives which have a vega (i.e. sensitivity to volatilities) that exceeds that of the liabilities. Therefore, it is difficult to generally discard the downward shock and so it should be included in the standard formula. It is crucial, however, that the proportionality principle is sufficiently developed on this issue. This is due to the fact that the introduction of volatility stress testing may severely increase the computational burden as assets and liabilities have to be recalculated in each scenario. Therefore, if the entity can show that it is not exposed to downward volatility shocks it should not be required to carry of the shock.	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.
167.			Confidential comments deleted.	

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
168.			Confidential comments deleted.	
169.			Confidential comments deleted.	
170.	GDV	4.39.	If an upward shock to interest rate volatilities is tested, it would also be appropriate to test a downward shock, subject to proportionality. Assets as well as liabilities may have exposure to volatility and the volatility exposure on the asset side can be both positive and negative since there may be circumstances where insurers hold interest rate derivatives which have a vega (ie sensitivity to volatilities) that exceeds that of the liabilities. Therefore, it is difficult to generally discard the downward shock and so it should be included in the standard formula It is crucial, however, that the proportionality principle is sufficiently developed on this issue. This is due to the fact that the introduction of volatility stress testing may severely increase the computational burden as assets and liabilities have to be recalculated in each scenario.	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.
171.	GROUPAMA	4.39.	We question the inclusion of a new shock in the standard formula. The interest rate volatility should not be considered for the purpose of solvency: - the impact of interest rate volatility does not have an impact on the insurance business. It is only a consequence of the market-consistent valuation of the solvency II balance sheet, but there is no link with the real management of the undertaking. It is especially the case for non-lapsable contracts or portfolios with high duration, where short-term variations of the market value do not have an impact on the insurance business. It should be noted moreover that for insurers who follow a Buy & Hold strategy for bonds, volatility on market value will not have any impact. - it is highly procyclical, so in contradiction to the Level 1 text which	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice. Please also see comment #165.

			recommend CEIOPS to suggest a contra-cyclical implementing measure - the shock is calibrated based on implied volatilities. However, it is not stated that implied volatilities would be used in all cases for solvency 2 balance sheet calculations. Indeed, as requested by the industry and suggested by some CEIOPS members, we would be in favour of using volatility adjustment in the case of market inconsistency (due to illiquidity conditions for instance). Those potential adjustments would drastically reduce the volatility fluctuations.	
172.	Groupe Consultatif	4.39.	If the asset portfolio includes interest rate options, the volatility stress can be material in non-life. The effects of a downward shock to volatility should be analysed. The derivation of the parameters of the shock scenario (volatility stress, interest rate stress, correlation of volatility stress and interest rate stress) has to be based on multivariate statistical evaluations. It is possible that a downward shock will increase capital requirements particularly if hedges have been put in place (the guarantees may be overhedged with respect to vega). We would suggest that this is tested within QIS5.	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.
173.	Just Retirement	4.39.	It is theoretically possible for a downward volatility stress to reduce basic own funds but we would not expect this type of exposure to be widespread. One example would be where similar options exist on both sides of the balance sheet and the asset exposure is greater than the liability exposure. Due regard must be paid to the proportionality principle and we suggest removing the downward volatility stresses.	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
174.	KPMG	4.39.	It is not clear that a down shock will be very useful. We would recommend that this is included only if this is highlighted as a risk during the supervisory review process and the ORSA.	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.
175.	Munich Re	4.39.	The effects of a downward shock to volatility should be analysed. The derivation of the parameters of the shock scenario (volatility stress, interest rate stress, correlation of volatility stress and interest rate stress) has to be based on multivariate statistical evaluations.	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.
176.	PWC	4.39.	We do not consider the downward stress relevant. We do not believe that any material block of business will be exposed to sufficient losses when interest rate volatility decreases to justify the complexity introduced by a two-sided test.	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.
177.			Confidential comments deleted.	
178.			Confidential comments deleted.	
179.	UNESPA	4.39.	Sensitivity of short positions in derivatives. Short positions in derivatives are sensible to Greeks, and especially to volatility or Vega.	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.
180.	Unum Limited	4.39.	If an upward shock to interest rate volatilities is tested, it would also be appropriate to test a downward shock Assets as well as liabilities may have exposure to volatility and the volatility exposure on the asset side can be both positive and negative. Therefore, it is difficult to generally discard the downward shock and so it should be included in the standard formula It is crucial, however, that the proportionality principle is sufficiently developed on this issue. This is due to the fact that the introduction of volatility stress testing may severely increase the computational	Noted. Thank you for your response to this question to stakeholders; please see the final version of the advice.

			burden as assets and liabilities have to be recalculated in each scenario.	
181.	CEA	4.40.	No allowance for diversification effects between interest rate risk and volatility risk. This seems excessively prudent. In our view the formula overestimates the interest rate risk because all parameters are fixed at extreme values simultaneously. The derivation of the parameters of the shock scenario (volatility stress, interest rate stress, correlation of both stresses) has to be based on multivariate statistical evaluations. If a maximum of several stress scenarios (volatility and interest rate up-up, up-down, down-up, down-down) is required, we request clarifications as to how the interest rate risk is to be considered with respect to insurance groups. We suggest that it would be appropriate to add the respective shocks of the insurance group members and decide upon the most onerous shock given the sum of the respective shocks (up-up, up-down, down-up, down-down), rather than adding up the most onerous shocks of individual insurance group members.	Agreed. The implied 100% correlation was intended to provide a practical approach without introducing undue complexity. However, as stakeholder feedback favours a more complex approach taking into account diversification, we have revised the proposals on this point.
182.			Confidential comments deleted.	
183.	GDV	4.40.	CEIOPS does not allow for diversification effects between interest rate risk and volatility risk. This seems excessively prudent. In our view the formula overestimates the interest rate risk because all parameters are fixed at extreme values simultaneously. The derivation of the parameters of the shock scenario (volatility stress, interest rate stress, correlation of both stresses) has to be based on multivariate statistical evaluations. If a maximum of several stress scenarios (volatility and interest rate up-up, up-down, down-up, down-down) is required, we request clarifications as to how the interest rate risk is to be considered with respect to insurance groups. We suggest that it would be appropriate to add the	Agreed. The implied 100% correlation was intended to provide a practical approach without introducing undue complexity. However, as stakeholder feedback favours a more complex approach taking into account diversification, we have revised the proposals on this point. However, the treatment of the

			respective shocks of the insurance group members and decide upon the most onerous shock given the sum of the respective shocks (up-up, up-down, down-up, down-down), rather than adding up the most onerous shocks of individual insurance group members.	SCR for groups is beyond the scope of CP70.
184.	Groupe Consultatif	4.40.	In our opinion the interest rate shock and the volatility shock are two risk events which do not necessary occur simultaneously. Therefore a diversification should be applied on this two risk drivers. In our view the formula overestimates the interest rate risk because all parameters are fixed at extreme values simultaneously. The derivation of the parameters of the shock scenario (volatility stress, interest rate stress, correlation of both stresses) has to be based on multivariate statistical evaluations. If a maximum of several stress scenarios (volatility and interest rate up-up, up-down, down-up, down-down) is required, we request clarifications as to how the interest rate risk is to be considered with respect to insurance groups. We suggest that it would be appropriate to add the respective shocks of the insurance group members and decide upon the most onerous shock given the sum of the respective shocks (up-up, up-down, down-up, down-down), rather than adding up the most onerous shocks of individual insurance group members.	Agreed. The implied 100% correlation was intended to provide a practical approach without introducing undue complexity. However, as stakeholder feedback favours a more complex approach taking into account diversification, we have revised the proposals on this point. However, the treatment of the SCR for groups is beyond the scope of CP70.
185.	Munich Re	4.40.	In our view the formula overestimates the interest rate risk because all parameters are fixed at extreme values simultaneously. The derivation of the parameters of the shock scenario (volatility stress, interest rate stress, correlation of both stresses) has to be based on multivariate statistical evaluations. If a maximum of several stress scenarios (volatility and interest rate up-up, up-down, down-up, down-down) is required, we request clarifications as to how interest rate risk is to be considered with respect to insurance groups. We suggest that it would be appropriate to add the respective shocks of the insurance group members and decide upon the most onerous	Agreed. The implied 100% correlation was intended to provide a practical approach without introducing undue complexity. However, as stakeholder feedback favours a more complex approach taking into account diversification, we have revised the proposals on this point.

			shock given the sum of the respective shocks (up-up, up-down, down-up, down-down), rather than adding up the most onerous shocks of individual insurance group members. Moreover, the increase of other correlations in CP74 – that leads to a more conservative view in the CEIOPS framework as only quantiles and not distributions are aggregated – leads to results that clearly overshoot the mark.	However, the treatment of the SCR for groups is beyond the scope of CP70.
186.	AFS	4.42.	We note the implicit +/100% correlation between the interest rate stress test and the swaption implied volatility. We believe that some evidence should be provided for this. Our presumption is that this has been done for simplicity, yet it does build in a margin for prudence which may not reflect the true underlying economics.	Agreed. The implied 100% correlation was intended to provide a practical approach without introducing undue complexity. However, as stakeholder feedback favours a more complex approach taking into account diversification, we have revised the proposals on this point.
187.	Groupe Consultatif	4.42.	We note the implicit +/100% correlation between the interest rate stress test and the swaption implied volatility. We believe that some evidence should be provided for this. Our presumption is that this has been done for simplicity, yet it does build in a margin for prudence which may not reflect the true underlying economics and the target calibration standard of 99.5% over one year set out in Article 101 of the Solvency II Directive. It is not clear that a down shock will be very useful. We would recommend that this is included only if this is highlighted as a risk during the supervisory review process and the ORSA.	Agreed. The implied 100% correlation was intended to provide a practical approach without introducing undue complexity. However, as stakeholder feedback favours a more complex approach taking into account diversification, we have revised the proposals on this point.
188.	KPMG	4.42.	We note the implicit +/100% correlation between the interest rate stress test and the swaption implied volatility. We believe that some evidence should be provided for this. Our presumption is that this has been done for simplicity, yet it does build in a margin for	Agreed. The implied 100% correlation was intended to provide a practical approach without introducing undue

			prudence which does not reflect the true underlying economics.	complexity. However, as stakeholder feedback favours a more complex approach taking into account diversification, we have revised the proposals on this point.
189.	UNESPA	4.42.	Based on 99,5 % confidence level principle and the holding horizon (unlimited under going concern approach) of assets backing surplus, namely assets backing own funds in excess of technical provisions and SCR, a drastically reduced calibration for them should be applied. Assets backing surplus should have a drastically reduced shock in the SCR calculation in the market risk module because: ☐ An entity with low risk and with a broad level of capital would have higher SCR, than an entity with exactly the same risk and less capital, which is an inconsistency, since the solvency ratio will be focused on assets backing surplus, and not in the assets that cover insurance liabilities, misaligning solvency ratio ultimate objective established under the Directive. ☐ One of the functions of assets backing surplus is to cover asset losses that back liabilities, due to market risk, in order to cover the losses, assets backing surplus are mark to market and in capacity to cover the solvency ratio. If the solvency ratio is not achieved, there will be an increased in capital requirements. In this since, what is really relevant is the market value of these assets backing surplus, and not the potential loss that they may have in a year horizon, and at a given confidence level. ☐ Depending on the level of assets backing surplus, they could induce a higher result than the 99.5 percentile solvency requirement established in the Directive. ☐ Depending on the insurance and reinsurance undertakings	Please refer to comment #29

			assets backing surplus characteristics (only those assets different from cash), the SCR could substantially be increased, being this a clear disincentive to having excesses on capital, since the more assets backing surplus held by an entity with the same assets backing liabilities than other, the greater market risk SCR the entity will have. In order to have a better perspective of the real issues related to the calculation of SCR for assets backing surplus, we will illustrate some examples: ☐ An entity with no insurance liabilities, and paid up capital, could be more risky, than an entity with insurance liabilities, undercapitalized. ☐ Assume, a newly formed entity that has not sold any insurance policy (0 commitments, and no capital required to ensure risks at a 99.5th percentile). However, capital has been spent on: 70% in property, 10% in debt and equity financial instruments, and 20% in treasury. The propose SCR definition would impose a capital charge of e.g. 30%, and considering that the expected one year return on assets will be 10%, the entity could not distribute the 100% of its financial earnings, in the form of dividends to its shareholders, showing an unrealistic solvency position. Concluding, if the same treatment is defined to assets backing surplus and assets that back liabilities in the SCR calculation, a false impression of the real entity risk profile will be induced. Therefore, and considering the fact that the Solvency II is focus on a total economic balance sheet approach, we think that the assets backing surplus should be included in the SCR calculation, but with a drastically reduced scenario shock.	
190.	ABI	4.44.	See comments to 4.12	Please refer to responses to comments on 4.12

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
191.			Confidential comments deleted.	
192.	CEA	4.44.	Please see comments to Para 4.12.	Please refer to responses to comments on 4.12
193.	CRO Forum	4.44.	In some circumstance a downward shock in implied volatility could be relevant. However, CEIOPS should consider that a drop in volatility does not make sense in combination with large shocks to interest rates in either direction. This comment also holds for combining equity shocks with equity implied volatility in CP69. The combination approach assumes that interest rate risk and interest rate volatility risk is 100% correlated. Although we intuitively expect a very high correlation in a 1-200 year event, we recommend supporting this implicit assumption by data.	Noted. Thank you for your feedback on this point. On the related point of the possibility for diversification between interest rate volatility and term structure, please see our revised proposals.
194.	GDV	4.44.	We object against the introduction of an interest rate volatility shock as volatility shocks are already implicitly included within the interest rate shock itself. We would like to highlight that the consideration of volatility risks, as it is proposed in this CP (multiplicative approach and perfect correlation) are pro-cyclical. At least the interest rate volatility shock should not be included without reconsideration of double-counting of risks within the interest rate stress. If a volatility stress been introduced, then we believe that following conditions should be met: ■ The stress should apply only over a one year period of time. Otherwise the assumed level of volatility stress is inconsistent with historical data because any volatility spike is usually observed over a very short period of time. ■ Any double counting with the level stress should be avoided to keep consistency with the 99.5% VAR level. The combination of the	Please refer to comment #54

			two stresses with no analysis to ensure that the combined capital requirements do not exceed the 99.5th% level is inappropriate. Furthermore CEIOPS assumes that the stresses are perfectly correlated and allows for no diversification between the risks which does not appear appropriate. Therefore we suggest to include volatility risks by means of a separate sub-module into the market risk module thereby allowing for adequate correlation assumptions. ■The application of the volatility stress should not be pro-cyclical. The stress should be additive and not multiplicative and the stressed volatility (once the stress is applied) should be capped and floored, otherwise the capital requirements will be higher in stresses market conditions. We discuss this further below.	
195.	Just Retirement	4.44.	See comment under 4.10.	Please refer to responses to comments on 4.10
196.	UNESPA	4.44.	The level of interest rates explains the variance, and will capture volatility. The level of interest rates explains most of the variance of the components, in consequence, if the level of interest rates explains most of the variance, when applying interest rate curve shock scenarios, volatility will also be captured. Therefore the volatility scenarios should not be included.	Please refer to responses to comment #78
197.	Unum Limited	4.44.	See comments to 4.12	Please refer to responses to comments on 4.12
198.	ACA	4.45.	We support CEA's view: The interest rate stress assumes that the movement in the yield curve and the change in implied interest rate volatility happen at the same time which is very conservative.	Please refer to the revised proposals in the final advice text.
199.	Groupe Consultatif	4.45.	In our opinion the interest rate shock and the volatility shock are two risk events which do not necessary occur simultaneously. Therefore a diversification should be applied on this two risk drivers.	Please refer to the revised proposals in the final advice text.

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
200.	UNESPA	4.45.	See 4.44.	Please see responses to comments on 4.44.
201.	ABI	4.46.	The interest rate stress will be dependent on the extrapolation method used for the long-end of the curve. The proposed stresses do not appear appropriate if the yield curve is extrapolated based on a method which keeps the long-end of the curve stable If a macro-economic extrapolation method is used for the long term interest rates in the valuation of technical provisions, the chosen extrapolation method must influence the stresses of the long term interest rates. Otherwise it will be impossible to be matched against the interest rate stresses and the actual mark to market effect from long term interest rate movements at the same time. More specifically, since a macro-economic extrapolation method usually implies lower interest rate volatility in the long end of the curve compared to the stresses that is suggested in section 4.46, a matching position that successfully reduces the actual mark to market volatility of the own funds would be severely penalised when it comes to capital requirement. Thus, if a macro-economic extrapolation method is used, the interest rate stresses must be calibrated to be fully consistent with the extrapolation method.	Noted. We agree that extrapolation is not discussed in CP70. All the stresses are derived from observed market data, without reliance on extrapolation. As there are currently several possibilities for extrapolation methods for the risk free rate, however, it is not possible to address these at present in CP70.
202.	ACA	4.46.	We support CEA view: the multiplicative approach to yield curve stresses means that the absolute value of the stresses may be very high when yields are high.	Noted.
203.	AFS	4.46.	We note the strengthening of the short term down stress and the fact that this needed to increase from QIS-4. We do not believe that the extra down stress on the long term interest rates is correct and believe it may be placing undue weight on the 2008/09 events. We have understood that the long term interest rate down stress is inferred from the Principle Components Analysis in Annex A using long term rates on UK Government Bonds and EUR swap rates. The	Partially agreed. We appreciate support for the strengthening of the down stress for short tenors. In terms of the stress for long tenors, please refer to the revised proposals.

			long term GBP Government market is not particularly liquid and during the financial crisis there was a considerable 'flight to quality' event with a lot of demand on a limited supply of government bonds. This created a 'convenience yield' on long term government bonds which should be taken into account. It is not evident that had a deep and liquid market with large issuance been available to meet the demand, that long term rates would have fallen. We do not believe it is the intention of Solvency II to penalise long term insurers for a lack of liquidity in the long term government bond market. We also note that the long term swap spread was negative in the euro-zone market for much of the crisis and has remained so thereafter. There is a strong suggestion from banks that this is a technical feature of the market and not related to economic fundamentals. In other words it not expected that that credit risk on government bonds is greater than the credit risk on swaps. Therefore we believe is is inappropriate to penalise long term insurers for a technical issue in the swap market.	
204.			Confidential comments deleted.	
205.	CEA	4.46.	Please see comments to Para 4.23 and 4.24. The interest rate stress will be dependent on the extrapolation method used for the long-end of the curve. The proposed stresses do not appear appropriate if the yield curve is extrapolated based on a method which keeps the long-end of the curve stable If a macro-economic extrapolation method is used for the long term interest rates in the valuation of technical provisions, the chosen extrapolation method must influence the stresses of the long term interest rates. Otherwise it will be impossible to be matched against the interest rate stresses and the actual mark to market effect from long term interest rate movements at the same time. More	Noted. We agree that extrapolation is not discussed in CP70. All the stresses are derived from observed market data, without reliance on extrapolation. As there are currently several possibilities for extrapolation methods for the risk free rate, however, it is not possible to address these at present in CP70. Please see also the revised

			specifically, since a macro-economic extrapolation method usually implies lower interest rate volatility in the long end of the curve compared to the stresses that is suggested in section 4.46, a matching position that successfully reduces the actual mark to market volatility of the own funds would be severely penalised when it comes to capital requirement. Thus, if a macro-economic extrapolation method is used, the interest rate stresses must be calibrated to be fully consistent with the extrapolation method. In the previous paper on risk free yield curves, it was communicated that a macro economic model was probably to be preferred. One of the identified problems with other methods was that they introduced a very high level of volatility (i.e. potentially higher volatility than in the equity markets which seems to be flawed) in the long end (as a consequence of the method). However, in this CP it is then proposed a very high stress test level in the long end of the yield curve. This seems to be a contradiction. This is a problem, considering that the estimation is based only on a few data points, and also that there is no way for all companies to hedge this risk if and when they want to do so (i.e. this stress is a theoretical construction in the absence of observed market prices, and it might create a huge impact on the capital requirement).	proposals with regard to long tenors.
206.	GDV	4.46.	The interest rate stress will be dependent on the extrapolation method used for the long-end of the curve. The proposed stresses do not appear appropriate if the yield curve is extrapolated based on a method which keeps the long-end of the curve stable If a macro-economic extrapolation method is used for the long term interest rates in the valuation of technical provisions, the chosen extrapolation method must influence the stresses of the long term interest rates. Otherwise it will be impossible to be matched against the interest rate stresses and the actual mark to market effect from	Noted. We agree that extrapolation is not discussed in CP70. All the stresses are derived from observed market data, without reliance on extrapolation. As there are currently several possibilities for extrapolation methods for the risk free rate, however, it is not possible to address these at

			long term interest rate movements at the same time. More specifically, since a macro-economic extrapolation method usually implies lower interest rate volatility in the long end of the curve compared to the stresses that is suggested in section 4.46, a matching position that successfully reduces the actual mark to market volatility of the own funds would be severely penalised when it comes to capital requirement. Thus, if a macro-economic extrapolation method is used, the interest rate stresses must be calibrated to be fully consistent with the extrapolation method. In a previous paper on risk free yield curves, it was communicated that a macro economic model was probably to be preferred. One of the identified problems with other methods was that they introduced a very high level of volatility (i.e. potentially higher volatility than in the equity markets which seems to be flawed) in the long end (as a consequence of the method). However, in this CP it is then proposed a very high stress test level in the long end of the yield curve. This seems to be a contradiction. This is a problem, considering that the estimation is based only on a few data points, and also that there is no way for all companies to hedge this risk if and when they want to do so (i.e. this stress is a theoretical construction in the absence of observed market prices, and it might create a huge impact on the capital requirement).	present in CP70. Please see also the revised proposals with regard to long tenors.
207.	Groupe Consultatif	4.46.	The new interest rate worst case down shock is much higher than in QIS 4. The derivation maximum shock from EUR GOV, EUR SWAP, GBP GOV, GBP GOV and QIS 4 does not seem to be adequate. We note the strengthening of the short term down stress and the fact that this needed to increase from QIS-4. We do not believe that the extra down stress on the long term interest rates is correct and believe it may be placing undue weight on the 2008/09 events. It appears that the long term interest rate up and down stresses are	Please see our responses to comments on paragraph 4.23 and refer also to the revised stress proposals in the final advice text.

			derived from the Principal Components Analysis in Annex A using long term rates on UK and EUR Government Bonds and swap rates and then taking the most extreme stress. This approach is not consistent with deriving the 99.5th percentile overall and so does not meet the calibration standard set out in Article 101. Furthermore, the long term GBP Government market is not particularly liquid and during the financial crisis there was a considerable 'flight to quality' event with a lot of demand on a limited supply of government bonds. This created a 'convenience premium' on long term government bonds which should be taken into account. It is not evident that, had a deep and liquid market with large issuance been available to meet the demand, long term rates would have fallen. We do not believe it is the intention of Solvency II to penalise long term insurers for a lack of liquidity in the long term government bond market. We also note that the long term swap spread was negative in the euro-zone market for much of the crisis and has remained so thereafter. There is a strong suggestion from banks that this is a technical feature of the market and not related to economic fundamentals. In other words it not expected that that credit risk on government bonds is greater than the credit risk on swaps. Therefore we believe it is inappropriate to penalise long term insurers for a technical issue in the swap market.	
208.	Just Retirement	4.46.	See comments under 4.16 and 4.23.	Please refer to responses to comments on 4.16 and 4.23.
209.	KPMG	4.46.	We note the strengthening of the short term down stress and the fact that the stress has increased from QIS4. We do not believe that the extra down stress on the very long term interest rates has been properly justified and believe it may place undue weight on the 2008 event. We understand that the long term interest rate down stress has been	Please see our responses to comments on paragraph 4.23 and refer also to the revised stress proposals in the final advice text. The methodology is explained in

			derived from the Principle Components Analysis in Annex A using long term rates on UK Government Bonds and EUR swap rates, although it is not clear how this has been applied. We have the following comments and observations: 1. There is little detail on the way in which this analysis has been derived and we believe it would be helpful if more explanation could be provided. For example, have the rates, been derived by fitting government bonds to a parametric formula? If so then artificial volatility can be imported into the longer term unless the very long term forward rate is constrained to a fixed value. We do not believe it is the intention of Solvency II to penalise long term insurers for a technical issue with a yield curve fitting algorithm. 2. The long term GBP Government market is not particularly liquid and during the financial crisis there was a considerable 'flight to quality' event with a lot of demand on a limited supply of government bonds. This created a 'convenience yield' on long term government bonds which should be taken into account. It is not evident that, had a deep and liquid market with large issuance been available to meet the demand, long term rates would have fallen. This assumes that the long term rate dip was not an artefact of the modelling (as described in 1. above). We do not believe it is the intention of Solvency II to penalise long term insurers for a lack of liquidity in the long term government bond market. 3. We note that the long term swap spread was negative in the euro-zone market for much of the crisis and has remained so thereafter. Bank traders have suggested that this is a technical feature of the market and not related to economic fundamentals, i.e. the credit risk on government bonds is not expected to be greater than the credit risk on swaps. Therefore we believe it is inappropriate to penalise long term insurers for a technical issue in the swap market. We also note that the sharp change in the stress from 24 to 25 years could cause negative forward rates in the resulting interest rate	paragraphs 4.15-4.24. The rate were obtained directly from the cited data sources, so there was no need to introduce any parametric methods to obtain the rates used in the analysis.

			curve and it would not, therefore, be possible to calibrate models to fit the stress curve.	
210.	UNESPA	4.46.	More disclosure regarding the analysis and the studies should be made, avoiding executive summaries. The explanatory text is related to how the rate level, slope, curvature and twist explains the movements in the structure of interest rates. A beta that represents sensitivity of every maturity node is calculated through a regression model , representing the change in the curve due to the four components. This calculations result in the upward and downward scenarios that represent the maximum and minimum values of the model. We think that more disclosure on the calculation methodology used should be accomplished, avoiding executive summaries in order to have consistent commentaries.	Noted. We have aimed to achieve a balance between outlining the assumptions underlying the calibration and including excessive detail, such as source code used to generate the results.
211.	Unum Limited	4.46.	The interest rate stress will be dependent on the extrapolation method used for the long-end of the curve. The proposed stresses do not appear appropriate if the yield curve is extrapolated based on a method which keeps the long-end of the curve stable If a macro-economic extrapolation method is used for the long term interest rates in the valuation of technical provisions, the chosen extrapolation method must influence the stresses of the long term interest rates. Otherwise it will be impossible to be matched against the interest rate stresses and the actual mark to market effect from long term interest rate movements at the same time.	Noted. We agree that extrapolation is not discussed in CP70. All the stresses are derived from observed market data, without reliance on extrapolation. As there are currently several possibilities for extrapolation methods for the risk free rate, however, it is not possible to address these at present in CP70.
212.	ABI	4.47.	See comments to 4.26	Please see our responses to comments on 4.26.
213.	AFS	4.47.	We understand the reason for the minimum downward stress of 1% and the floor in the resulting stress of 0% and believe them to be a pragmatic solution to the issues with QIS-4.	Agreed. We appreciate the support for this point.
214.	AMICE	4.47.	CEIOPS states that the absolute change of interest rates in the	Please refer to our responses to

			downward scenario should at least be one percentage point; We note that no study is given to justify the introduction of this condition. We therefore consider that without a complementary study, we must stay on the treatment of the QIS 4, i.e without any minimum of downward variation.	comments on 4.26.
215.	CEA	4.47.	Please see comments to Para 4.26	Please refer to our responses to comments on 4.26.
216.			Confidential comments deleted.	
217.	CRO Forum	4.47.	It is unclear to us how CEIOPS motivates the rule that 'irrespective of the above stress factors', the absolute change of interest rates in the downward scenario should at least be one percentage point'. However, we support the proposal to have a floor of 1% to the downward stress.	Noted. The support for this proposal is appreciated.
218.	FFSA	4.47.	CEIOPS states that the absolute change of interest rates in the downward scenario should at least be one percentage point. FFSA believes that more support for (a) the choice of a minimum downward stress on interest rates and (b) its calibration (set to 1% 'for example' in 4.26) should be provided. Furthermore, FFSA wonders whether a cap on upward stresses should be considered (to a level to be determined).	Please refer to comment #216 and to our responses regarding 4.26.
219.	GDV	4.47.	There is no sufficient justification for the introduction of1% minimum deduction under the interest rate down stress – we request this requirement is removed The absolute stress downwards of minimum 100bp is overstated. The relative volatility should be unchanged in the interest level shock. Otherwise there would be a double-counting of volatility interest risk. The requirement also creates additional complexity in the standard formula.	Please refer to our responses regarding 4.26.

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220.	GROUPAMA	4.47.	CEIOPS states that the absolute change of interest rates in the downward scenario should be at least one percentage point. We note that no analysis is given to justify this new suggestion. We consider that without complementary analysis, we should stay with the treatment of the QIS 4, ie without any minimum downward variation.	Please refer to our responses regarding 4.26.
221.	Groupe Consultatif	4.47.	We understand the reason for the minimum downward stress of 1% and the floor in the resulting stress of 0% and believe them potentially to be a pragmatic solution to the issues with QIS-4.	Agreed. We appreciate the support for this point.
222.	Just Retirement	4.47.	See comments under 4.25 and 4.26.	Please refer to our responses regarding 4.25 and 4.26.
223.	KPMG	4.47.	We understand the reason for the minimum downward stress of 1% and the floor in the resulting stress of 0% and believe them to be a pragmatic solution to the issues found in QIS4.	Agreed. We appreciate the support for this point.
224.	Legal & General Group	4.47.	Interest rates are very unlikely to remain at zero for more than 3 months, so it might be more realistic to determine that below 1% the proportional changes apply and remove the minimum change of 1%.	Not agreed. Below 1%, the absolute changes that would result from the downward stresses in 4.46 would be unrealistically low: this is the motivation for introducing a minimum of 1% in a very low interest rate environment.
225.	PWC	4.47.	Refer to comment at para 4.27.	Please refer to our responses regarding 4.27.
226.			Confidential comments deleted.	
227.	UNESPA	4.47.	It makes no statistical sense to include the 1% for the downward scenario. It makes no sense to include the 1% for the downward scenario, as	Please refer to our responses on 4.26.

			it is completely asymmetrical and has no statistical justification.	
228.	Unum Limited	4.47.	See comments to 4.26	Please refer to our responses on 4.26.
229.	ABI	4.48.	The interest rate volatility stresses of 95% are in our view too excessive, in particular compared with the equity volatility stress of 60%.	Not agreed. Our analysis indicates that this calibration is reasonable. However, please see our revised proposals relating to the format of the stress.
230.	ACA	4.48.	We support CEA's view: Similarly the multiplicative approach to interest rate shock when volatilities are high the size of the stresses will be high.	Agreed. Please see the revised text.
231.	AFS	4.48.	We believe that the relative implied volatility stresses would be too onerous in stressed market conditions and that consideration should be given to lower stresses which reflect the strong mean reversion in implied swaption volatility. A 95% relative stress seems to be quite a strong stress especially in stressed market conditions.	Please see the revised proposals in the final advice.
232.			Confidential comments deleted.	
233.	CEA	4.48.	The volatility shock of the interest rate module of +95%/-20% has been set on a level which is far too high The calibration should be revised. We do not agree that it is correct to generate stresses using the empirical distribution of the annual percentage change and then apply these values to current volatility levels. This is because this approach ignores any trends in the data, possible mean reversion and whether there are any natural floors or ceilings. Also this approach takes no account of the relative level of implied volatility (i.e. whether high percentage changes tended to happen when	Not agreed. Our analysis indicates that this calibration is reasonable. However, please see our revised proposals relating to the format of the stress. We consider that taking the annual differences in volatility already de-trends the data, making this a suitable approach

			volatilities were high or low). The rationale of Ceiops for using simplified volatilities is unclear. Hence, the use of historical volatilities might be equally appropriate. No adjustment is mentioned for the use of overlapping periods in generating the data. It is unreasonable to make use of DAILY data, if the aim is to derive a yearly shock, since this overestimates those periods of high volatilities. Again, volatility is subject to mean-reversion effects. One shock for all maturities is also inappropriate since volatility tends to decrease with increasing maturities. Hence, the calibration tends to get too conservative. In addition it must be emphasised that the volatility shocks cannot be constant over all maturities. After all, volatility shocks at the short end of the curve tend to be higher than at the long end of the curve. Hence, the shock levels are to be set in accordance with this. That is, shock levels must significantly decrease at the medium and the long part of the curve. Moreover, the current approach (multiplicative stress) may produce disproportionately high volatilities when volatilities are anyway high. Our view is that the interest rate volatility stress should not be multiplicative but instead it should be expressed as an additive stress. This is necessary in order to avoid pro-cyclical effects.	for our analysis. A more complex analysis could be possible, for example distinguishing between different prevailing economic conditions – but this would necessarily lead to a more complex formulation for the volatility stress, which we consider overly onerous in practical terms for the standard formula. We have also aimed for a single, long-run calibration rather than calibrating for different regimes. We agree that the stresses derived do vary across the volatility surface. However, again, to reflect this in the standard formula approach would be excessively complex.
234.	GDV	4.48.	The volatility shock of the interest rate module of +95%/-20% has been set on a level which is far too high The calibration should be revised. We do not agree that it is correct to generate stresses using the	Please see comment #233

			empirical distribution of the annual percentage change and then apply these values to current volatility levels. This is because this approach ignores any trends in the data, possible mean reversion and whether there are any natural floors or ceilings. Also this approach takes no account of the relative level of implied volatility (i.e. whether high percentage changes tended to happen when volatilities were high or low). The rationale of CEIOPS for using implied volatilities is unclear. Hence, the use of historical volatilities might be equally appropriate. No adjustment is mentioned for the use of overlapping periods in generating the data. It is unreasonable to make use of DAILY data, if the aim is to derive a yearly shock, since this overestimates those periods of high volatilities. Again, volatility is subject to mean-reversion effects. One shock for all maturities is also inappropriate since volatility shocks tend to decrease with increasing maturities. Hence, the calibration tends to get too conservative. In addition it must be emphasised that the volatility shocks cannot be constant over all maturities. After all, volatility shocks at the short end of the curve tend to be higher than at the long end of the curve. Hence, the shock levels are to be set in accordance with this. That is, shock levels must significantly decrease at the medium and the long part of the curve. Moreover, the current approach (multiplicative stress) may produce disproportionately high volatilities when volatilities are anyway high. Our view is that the interest rate volatility stress should not be multiplicative but instead it should be expressed as an additive stress. This is necessary in order to avoid pro-cyclical effects.	
235.	Groupe Consultatif	4.48.	The calibration should be revised. We doubt that daily implied volatilities are suitable for calibration of yearly shock parameters for liabilities with maturities of 30y and longer. Therefore historical	

			interest rates volatilities instead of implied volatilities should also be considered. We believe that the relative implied volatility stresses would be too onerous in stressed market conditions and that consideration should be given to lower stresses which reflect the apparent mean reversion in implied swaption volatility. We understand that the EUR swaption market was subject to a squeeze on a number of hedge funds which were short volatility in December 2008. This resulted in an apparent large spike in implied volatility, which reflects a market imbalance and a liquidity issue rather than an increase in investors' assessment of interest rate volatility/risk based on a liquid price. Consequently, we believe that the analysis is biased by some illiquid data points leading to an extremely conservative stress and one, which by its construction, is pro-cyclical. As a minimum, we would suggest expressing the stress as an absolute change in vol levels rather than a percentage change.	
236.	Just Retirement	4.48.	See comments under 4.28, 4.32, 4.38 and 4.39.	Please refer to the corresponding responses.
237.	KPMG	4.48.	We believe that the relative implied volatility stresses would be too onerous in stressed market conditions and that consideration should be given to lower stresses which reflect the strong mean reversion in implied swaption volatility. A 95% relative stress seems to be quite high, especially in stressed market conditions. We note that the parallel shift in the swaption implied volatility surface could easily produce a volatility surface that was incapable of being calibrated to an ESG model. The combined stresses with interest rate level stress tests could also provide calibration challenges.	Partially agreed. Please see our revised proposals regarding the format of the stress. We have also clarified in the text that the stress is to be applied to all volatilities, of whatever term or tenor. However, to avoid introducing excessive complexity we have selected a single stress

			We note that the term and tenor to which this would be applied are not cited in the blue text. Our interpretation is that the implied volatility surface should receive a parallel shift but it could be interpreted that only the 10x10 implied volatility needs to be shifted. If this is the case is there full flexibility over the stressing of the other implied volatilities? More clarity on the expectations of CEIOPS and the flexibility afforded to firms using the standard formula would be helpful.	("parallel shift"). In cases where this proves difficult in combination with an ESG, the undertaking may wish to consider use of a partial internal model to allow increased complexity in a tailored manner.
238.	Legal & General Group	4.48.	Volatility changes of 95% upward as a relative stress means that in stressed circumstances the capital required is increased further. Usually once a large shock has happened the volatility would be expected to reduce. This is not therefore appropriate.	Noted. Please see the revised proposals.
239.	RKR	4.48.	Interest rate volatility and stress test CEIOPS proposes interest rate volatility stresses of 95% upwards and 20% downwards. The financial crisis has highlighted the riskiness of volatility and we fully support that the capital charge is sensitive to volatility risk. However, the suggested levels of stress are far beyond what was observed under the Danish market for covered bonds during the most volatile period of the financial crises and therefore seriously overestimate the necessary capital charge for volatility risk for these bonds. Danish mortgage bonds can be redeemed by the debtor at par value. In periods of high volatility there is an increasing probability that the market value of the loan will become high enough for debtor to exercise his option. Approximately 75% of the callable bonds have an initial maturity of 30 years. Due to the call option the average life	Noted. Please see the revised proposals for the format of the volatility stress. Where there are specific cases in which the assumptions underlying the standard formula calibration do not suit the undertaking's risk profile, use of a (partial) internal model might be considered to address this shortcoming. As to diversification with other risks, we have introduced a correlation (other than 100%) between interest rate term structure and volatility stresses, which also leads to implied diversification with other market and non-market risks.

			of the bonds is 5-7 years. We have analyzed the volatility risk of Danish covered bonds during the financial crises. We find, that on the worst day of the financial crisis (28. October 2008), the loss in market value of Danish covered bonds with 30 years maturity was approximately 6,6% of which 0,7% regards volatility risk, but calculations using CP70 implies a loss of 5,2% regarding volatililty risk - an extreme overshooting of the volatility risk. We suggest, that interest rate volatility stresses are changed to non-symmetric additive stresses instead of multiplicative stresses of the volatility which might be too high, when volatility is high. We suggest using additive volatility stresses with 3% downwards and 6% upwards stresses using the 10YX10Y swaption for current volatility. The stresses are found using the empirical standard deviation of the 10YX10Y daily swaption black volatility in the time period Oct. – Dec. 2008 (3%). The asymmetric stresses are then calculated using 2 multiplicated with the standard deviation (3%) for the up stress and -1 times the standard deviation (3%) for the down stress. This implies, that if current volatility is 12.4%, the downwards test is 9.4% and the upwards test is 18.4. Furthermore, we suggest that volatility risk is treated as an risk element in the overall markets risk calculation rather than a part of the interest rate risk calculation. This would make it possible to use	

			different correlations between volatility risk and other types of market risks giving a more accurate reflection of risk.	
240.	UNESPA	4.48.	Scenarios for volatility should be excluded. The selection of the 10 year option maturity scenario has no statistical sense. See 4.10 and 4.44. The selection of the 10 year option maturity scenario (95%, -20) for the standard formula, has no statistical sense, considering the argument given (argument: the scenario is representative on average of the duration of the guaranteed liabilities embedded in (re)insurer's balance sheets).	Not agreed. Stakeholders' responses to QIS4 highlighted the importance of volatility risk in undertakings' risk profiles: stakeholders felt this risk was notably absent from the standard formula. We agree, and therefore have included a calibration for interest rate volatility in CP70. We are unsure why it is considered the choice of 10x10 swaption is unsuitable for this calibration, and note that this choice appears not to have generated concern among most stakeholders. We therefore propose to retain this choice, but note that where an undertaking's risk profile differs significantly from this assumption, a (partial) internal model may be more suitable.
241.	ABI	4.49.	See comments to 4.34	Please see response to comment #147
242.	AMICE	4.49.	Currency risk	-
243.	CEA	4.49.	Please see comments to Para 4.34	Please see response to comment

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				#149
244.	ABI	4.50.	The approach of taking the most onerous of the up or down stress for each currency, with no correlation assumption, is likely to be more onerous than the 99.5th percentile. The proposed method does not imply diversification between currency risks, which is in our view not appropriate. We suggest that the CEIOPS' retains the approach as in QIS4 where a combined stress was used. It may be that some simplifications will be needed to express stresses in absolute and not percentage terms.	Noted. This point was addressed in the responses to stakeholders' feedback on CP47 in the second wave of advice. One possibility could be to carry out the conversion from relative to absolute stress as a first step, before re-evaluating the relevant assets, liabilities and investments. In all cases, however, proportionality will be applied to assess suitability of any methods used.
245.	AMICE	4.50.	CEIOPS defines the total capital charge for currency risk as the sum of the capital charges over all foreign currencies. As mentioned in our reply to CP47, this is an onerous change from QIS4 since the capital charge in QIS4 was derived by testing the impact of all foreign currencies moving up or down together (and taking the most onerous result) rather than taking the most onerous result for each individual currency and then aggregating. We are not in favour of this change. We are in favour of recognising diversification benefits for the currency risk. A well-diversified currency portfolio should lead to a lower capital requirement than an undiversified portfolio. Additionally, the grouping of currencies should be allowed.	Noted – please see the responses to stakeholder comments on CP47.
246.	CEA	4.50.	The approach of taking the most onerous of the up or down stress for each currency, with no correlation assumption, is likely to be more onerous than the 99.5th percentile.	Noted – please see the responses to stakeholder comments on CP47. For

			Ceiops states that the capital charges will be calculated for each currency separately as the most onerous of an up or down shock and then the total capital charge will be the sum over all currencies. As discussed in our feedback to CP47, we are concerned that the approach of shocking all currencies one after the other to determine the most adverse outcome (appreciation / depreciation) per currency will imply a different assumed correlation between pairs of currencies dependent on the actual asset and liability holdings and which currency is taken as the domestic currency. This is likely to result in aggregate shock scenarios which are at different quantiles (compared to the true economic situation) from insurer to insurer, which is counter to the principle that all sub-modules are calibrated to the 99.5th percentile. Furthermore we note that a group using the deduction and aggregation method could be stressing the Euro: Sterling rate to 0.8 in one country and simultaneously stressing the same rate to 1.2 in another country. This does not seem reasonable. This is not in line with Solvency II's overriding aim of harmonisation and would be solved in part by grouping foreign currencies, and the use of partial internal models for those insurers with material currency risk. ☐ This approach is conservative as it implies no diversification between currency risks. We suggest that the QIS4 approach under which shocks were performed altogether (using a combined stress) is retained.	treatment of currency risk in groups, please refer to CP60.
247.	CRO Forum	4.50.	The assumption that all currencies move in the same direction is an	Noted – please see the

			over-simplification that overstates the Fx risk. In practice, Fx movements show a significant degree of diversification that is ignored by here. CEOIPS should look into the correlation between currencies as it did between market risk sub-modules.	responses to stakeholder comments on CP47.
248.	FFSA	4.50.	CEIOPS states that the capital charges will be calculated "for each currency C" and the total capital charge will be the sum of the capital charges "over all currencies". FFSA believes that this approach is conservative as it implies non-diversification between the currency risks. FFSA suggests keeping the QIS 4 approach where shocks were performed all together (using a combined stress).	Noted – please see the responses to stakeholder comments on CP47.
249.	GDV	4.50.	The approach of taking the most onerous of the up or down stress for each currency, with no correlation assumption, is likely to be more onerous than the 99.5th percentile. CEIOPS states that the capital charges will be calculated for each currency separately as the most onerous of an up or down shock and then the total capital charge will be the sum over all currencies. As discussed in our feedback to CP47, we are concerned that the approach of shocking all currencies one after the other to determine the most adverse outcome (appreciation / depreciation) per currency will imply a different assumed correlation between pairs of currencies dependent on the actual asset and liability holdings and which currency is taken as the domestic currency. This is likely to result in aggregate shock scenarios which are at different quantiles (compared to the true economic situation) from insurer to insurer, which is counter to the principle that all sub-modules are calibrated to the 99.5th percentile. This approach is conservative as it implies no diversification between currency risks. We suggest that the QIS4 approach under which shocks were performed altogether (using a combined stress) is	Noted – please see the responses to stakeholder comments on CP47.

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			retained.	
250.	Groupe Consultatif	4.50.	Using a maximum of two VAR(99.5%)s will not necessarily result in a VAR(99.5%). The total charge is the sum over all currencies. This then assumes that the correlations are 1 (which of course they are not)	Noted – please see the responses to stakeholder comments on CP47.
251.	Munich Re	4.50.	The assumption that all currencies move in the same direction is not backed by experience. Hence, correlations and diversification should be considered.	Noted – please see the responses to stakeholder comments on CP47.
252.			Confidential comments deleted.	
253.			Confidential comments deleted.	
254.	Unum Limited	4.50.	The approach of taking the most onerous of the up or down stress for each currency, with no correlation assumption, is likely to be more onerous than the 99.5th percentile. The proposed method does not imply diversification between currency risks, which is in our view not appropriate. We suggest that the CEIOPS' retains the approach as in QIS4 where a combined stress was used.	Noted – please see the responses to stakeholder comments on CP47.
255.	CRO Forum	4.51.		-
256.	Groupe Consultatif	4.52.	Whilst this may or may not be typical for a company in the EUR area, it is not at all typical for a company operating outside the EUR	Agreed. It is impossible to attempt to cover every possibility within the standard formula, and as a result we have tried to work with a "typical" European firm. However, this particular paragraph recaps to the assumptions underlying QIS3 rather than those underlying the calibration in CP70.
257.	XL Capital	4.52.	Our underlying currency exposure varies significantly from the	Partially agreed. Please see our

	Ltd		allocations suggested in this clause; we would not be proponents of the currency mix suggested. Additionally, we'd be more in favour of using the Brazilian Real vs the Argentine Peso.	response to comment #256. We have used data on the exchange rate with the Brazilian Real in our analysis of various currency combinations/baskets, including the Emerging Market ("EM") – see paragraphs 4.55 and 4.64.
258.	PWC	4.54.		-
259.	CEA	4.60.	The fact that most of the currency pairs have breached the threshold does not necessarily indicate that correlations break down at the tail. As stated the breaches occurred at different time periods. This lends support to the conclusion that diversification effects between currency pairs may also prevail in the tail. The stress test of individual currency pairs suggested in CP 47 effectively eliminates company specific diversification effects. In light of this it seems excessively prudent if diversification effects between currency pairs are not taken into account when calibrating the stress test factor.	Noted. The question of diversification was covered more fully in CP47 and the responses to stakeholder comments on that paper. However, our results show that, as some pairs have breached the symmetric band while others have not, diversification benefits cannot always be assumed.
260.	PWC	4.60.	We note that the Swiss franc performs similarly to the Lithuanian litas against the Euro and significantly better than other currencies. We thus question whether it should be subject to the same stress as other currencies.	Partially agreed. However, when considering the exchange rate between the Swiss franc and GBP, we can observe a band breach (and the performance is worse than for some other pairs). In order to recognise the differences in behaviour for different specific currency pairs, we have decided that a special

				case should be made only where pegging is in operation: this provides an objective criterion for differentiated treatment.
261.	UNESPA	4.60.	The study is inconsistent with proved theoretical facts. There are several arguments for rejecting the results of the study: Worst case scenario was selected for each type of currency, which would exceed the 99.5th percentile. This risk level is not possible, since all the worst case scenarios for each currency will not take place in the same year. QIS 3 was a study previous to the crisis, in this sense, all the effects are already captured. The inclusion of emerging currencies such as the Argentine peso and Brazilian real, skew the sample completely. If only QIS 3 selected currency portfolios where selected, and emerging currencies were excluded, shock scenario would be around 20%.	Disagree. According to our analysis (see for example the results in 4.64) other assumptions (such as the mix in the currency basket) lead to variations comparable with the difference between the sample worst case and the "true" 99.5th percentile. We welcome the opportunity to extend our data set beyond the data that was available at the time that QIS3 was calibrated. We believe the inclusion of some element of emerging market currency risk is appropriate for a representative generalised currency portfolio, and note also that (referring to 4.60) some developed economy currency pairs may give rise to breaches of the +/- 20% band. Therefore exclusion of emerging market currencies would not necessarily lead to a lower level of currency risk in the portfolio.

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262.	CEA	4.64.	From the analysis performed it is clear that different currency pairs have a different risk profile. Also that the more diversified the portfolio of currencies, the lower the risk. Therefore we would strongly suggest to provide (and perform) shocks per currency pair. This to give the risk incentive to risk management. Also this would not be a huge increase in complexity for smaller companies as they usually do not hold many different currency exposures.	Partially agreed. Providing shocks per currency pair would be the ideal. However, given the vast number of pairs that would need to be analysed in order to capture all possible cases, this is not feasible. If this is of particular concern to some undertakings, then a (partial) internal model approach could provide a more tailored currency stress, with a better fit to the undertaking's risk management programme.
263.	CRO Forum	4.64.	From this analysis it is clear that the more diversified the currency exposure, the lower the risk. Previous paragraphs show that certain currencies are far more volatile than others. Therefore we would strongly suggest either having shocks defined and performed per currency pair, as this would benefit the quality of the shock size derived and give better incentives for risk management, or considerer the correlation within a portfolio of FX movements in the calibration of a single shock scenario. Smaller companies usually do not have a lot of different currency exposures on their books, so this would not lead to extra complexity for them.	Please see response to comment #262 above.
264.	UNESPA	4.64.	Proposed scenarios do not represent insurance companies. Proposed scenarios do not represent insurance companies, in the present, and it is possible that they won't represent them in the future, due to their conservative perspective for business. Every time emerging market currencies are introduced in the study, the shock scenarios increased remarkably, remaining between 25% and 35%, however, by excluding these currencies, the shock	Please see response to comment #261 above.

			scenarios end up being around 20%.	
265.			Confidential comments deleted.	
266.	XL Capital Ltd	4.67.	With a currency mix of mainly GBP, EUR, CHF and USD, a 25% currency stress seems high. Is there any consideration of hedges?	Noted. The 25% currency stress is formulated based on various baskets of currencies, some of which are wider than the four mentioned in this comment. We believe this is appropriate for a representative generalised portfolio. As stated in paragraph 4.50, all of the undertaking's currency positions, including hedging arrangements, should be taken into account when calculating the output of the currency risk sub-module.
267.	Institut des actuaires	4.71.	Institut des Actuaires considers that, for the currencies considered in §4.71, the risk is that countries and central banks could not maintain their commitments, which could result in a significantly higher impact on change rates than those proposed by CEIPOS. Institut des Actuaires considers that, in a prudent view, all currencies should be stressed at a +/- 25% level.	Not agreed. Paragraph 4.74 provides for the risk that such an event could occur (the stress would then return to the standard of 25%).
268.	ACA	4.72.	The treatment of the Baltic countries is not relevant for us.	Noted.
269.	CEA	4.72.	We request that Ceiops re-visits its assumptions for pegged currencies (notably Estonia, Latvia and Lithuania) Danish Krone have been pegged to the Euro for a significant number of years and so we agree that there is sufficient reliable data to allow for a differentiated stress for Denmark. However, for Estonian,	Please refer to comment #267

			Latvian and Lithuanian currencies we question whether it is realistic to assume in a 1-in-200 year event these countries would still be able to maintain this peg. For this reason we challenge those shocks in 4.73 which have changed from QIS4 and would propose to add more realistic shocks reflecting the true nature of a 1-in-200 year event. We also note that there is inconsistency in this treatment as for example with a position in Estonian Kroon against Lithuanian Litas there will be a stress of 25% (other currency pairs). However the same position traded over two currency pairs, EUR/EEK and EUR/LTL will give a stress of 0%.	Agreed. Please see the revised text.
270.	CRO Forum	4.72.	We understand that a number of currencies are pegged to the EUR and that central banks are committed to perform the necessary intervention. Historical crises have demonstrated however that central banks may not be in a position in given stress situations to sustain their currency with interventions on the markets and maintain its value pegged to the reference currency. This has generally led to sudden and strong jumps (mostly depreciation) of the local currency. We would therefore challenge the proposal to consider the FX shocks in 4.73 to reflect the true risk nature of the currencies in a 1-in-200 year's event. CEIOPS should not only consider the position of central banks, but should also look at market information. For example the Lithuanian Gov yield was around 14.5% in Oct 2009 and the proposed calibration exempts Lithuanian Gov bonds from any market risk.	Please refer to comment #267
271.	PWC	4.72.	Given that the Baltic currencies are pegged to the Euro, it seems reasonable that they should be subject to little or no currency stress relative to the Euro. The appropriate caveat is included to cover the risk that the pegging arrangement is abandoned.	Agreed.

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272.	XL Capital Ltd	4.72.	We have no specific comment to the Baltic currency treatment since we have little, if any, exposure in these regions.	Noted.
273.			Confidential comments deleted.	
274.	Groupe Consultatif	4.73.	This seems to ignore completely the very real possibility that a currency is forced to drop out of ERM II. The definition also only specifies stress for these currencies against the EUR and not against each other. A strict interpretation of what is written would mean that, for example, Estonian kroon against Lithuanian litas should stress at 25%, not 0%	Please refer to comments #267 and #269
275.	Groupe Consultatif	4.74.	This will give unacceptably high and unfair equity requirement for companies operating in non EUR currency area, as the underlying currency exposure will have completely different characteristics than the portfolio used to calibrate the stress. Another problem is for example: a company operating in SEK having an asset in EUR and liability (of an equal size) in DKK. In this case it appears that a double stress (25%+25%) will apply, whereas the two currencies are highly correlated and the theoretical exposure is minimal – and indeed a EUR company taking the same position would have a stress of just 2.5% rather than 50%. We believe that separate stresses need to be formulated for companies operating in non-EUR currencies(such as GBP, SEK, NOK etc)	Partially agreed. In cases where undertakings can demonstrate an anomaly for a particular currency pair, they could consider use of a partial internal model to address this. However, the vast number of possible currency pairs is too great for CEIOPS to make comprehensive prescriptions.
276.	Lucida plc	4.74.	We believe that insurers should consider the risk that a currency currently pegged to the euro drops out of ERM II and make some allowance for this happening in advance of it actually dropping out (if the risk is deemed to be sufficiently high).	Please refer to comment #267
277.	CEA	4.75.	Please see comments to Para 4.50.	Please see response to comment on para 4.50

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278.	CRO Forum	4.75.	See 4.64	Please see comment #263
279.	FFSA	4.75.	CEIOPS does not state that the total capital charge is the sum of all capital charges calculated for each currency in this paragraph, although this was done in paragraph 4.50. FFSA suggests the way aggregation is performed should be provided in the summary, like it was done for currency risk in summary paragraph 4.107.	Noted. The material in paragraph 4.50 is not repeated in the blue box because paragraph 4.50 represents only a reiteration of the material already finalised in CP47.
280.	GDV	4.75.	The approach of taking the most onerous of the up or down stress for each currency, with no correlation assumption, is likely to be more onerous than the 99.5th percentile. CEIOPS states that the capital charges will be calculated for each currency separately as the most onerous of an up or down shock and then the total capital charge will be the sum over all currencies. As discussed in our feedback to CP47, we are concerned that the approach of shocking all currencies one after the other to determine the most adverse outcome (appreciation / depreciation) per currency will imply a different assumed correlation between pairs of currencies dependent on the actual asset and liability holdings and which currency is taken as the domestic currency. This is likely to result in aggregate shock scenarios which are at different quantiles (compared to the true economic situation) from insurer to insurer, which is counter to the principle that all sub-modules are calibrated to the 99.5th percentile. This approach is conservative as it implies no diversification between currency risks. We suggest that the QIS4 approach under which shocks were performed altogether (using a combined stress) is	Noted. Please see responses to the stakeholder comments on this topic in CP47.

			retained.	
281.	UNESPA	4.75.	Based on 99,5 % confidence level principle and the holding horizon (unlimited under going concern approach) of assets backing surplus, namely assets backing own funds in excess of technical provisions and SCR, a drastically reduced calibration for them should be applied. Assets backing surplus should have a drastically reduced shock in the SCR calculation in the market risk module because: ☐ An entity with low risk and with a broad level of capital would have higher SCR, than an entity with exactly the same risk and less capital, which is an inconsistency, since the solvency ratio will be focused on assets backing surplus, and not in the assets that cover insurance liabilities, misaligning solvency ratio ultimate objective established under the Directive. ☐ One of the functions of assets backing surplus is to cover asset losses that back liabilities, due to market risk, in order to cover the losses, assets backing surplus are mark to market and in capacity to cover the solvency ratio. If the solvency ratio is not achieved, there will be an increased in capital requirements. In this since, what is really relevant is the market value of these assets backing surplus, and not the potential loss that they may have in a year horizon, and at a given confidence level. ☐ Depending on the level of assets backing surplus, they could induce a higher result than the 99.5 percentile solvency requirement established in the Directive. ☐ Depending on the insurance and reinsurance undertakings assets backing surplus characteristics (only those assets different from cash), the SCR could substantially be increased, being this a clear disincentive to having excesses on capital, since the more	Not agreed. The calibrations of the market risk modules are based on the risks inherent in the assets, liabilities and investments. As a result, we consider the calibrations should be the same whatever the purpose for which a particular investment is held (whether or not it is considered to be held to back the SCR, for example)

			assets backing surplus held by an entity with the same assets backing liabilities than other, the greater market risk SCR the entity will have. In order to have a better perspective of the real issues related to the calculation of SCR for assets backing surplus, we will illustrate some examples: ☐ An entity with no insurance liabilities, and paid up capital, could be more risky, than an entity with insurance liabilities, undercapitalized. ☐ Assume, a newly formed entity that has not sold any insurance policy (0 commitments, and no capital required to ensure risks at a 99.5th percentile). However, capital has been spent on: 70% in property, 10% in debt and equity financial instruments, and 20% in treasury. The propose SCR definition would impose a capital charge of e.g. 30%, and considering that the expected one year return on assets will be 10%, the entity could not distribute the 100% of its financial earnings, in the form of dividends to its shareholders, showing an unrealistic solvency position. Concluding, if the same treatment is defined to assets backing surplus and assets that back liabilities in the SCR calculation, a false impression of the real entity risk profile will be induced. Therefore, and considering the fact that the Solvency II is focus on a total economic balance sheet approach, we think that the assets backing surplus should be included in the SCR calculation, but with a drastically reduced scenario shock. The study is inconsistent with proved theoretical facts. The study is inconsistent with proved theoretical facts, and it has no sense to increase the shocks in the scenarios, since the analysis made and the selected samples are not consistent with insurance companies currency portfolios, the shocks will induce a calibration	

			above 99.5th percentile. See point 4.60.	
282.	AMICE	4.76.	According to this paragraph the Estonian Kroon and Latvian Lat bare less risk than the UK Pound and Swedish Krona, probably as the Kroon and the Lat are formally bound to the Euro. This does not however reflect the actual risks. It is a well known fact that the Estonian and Latvian economies are contracting and loans and guaranties from, among others Sweden, have been keeping the two currencies from devaluation.	Please see response to comment #267
283.	CEA	4.76.	Please see comments to Para 4.72. Furthermore, the approach of stressing individual currencies in the more onerous direction will result in a different currency capital charge for a group depending on the method of calculation and aggregation. We request clarifications as to how the currency risk is to be considered with respect to insurance groups. Presumably the most onerous shock tends to differ between different insurance group members. We suggest that it would be appropriate to add the upward and the downward shocks of the insurance group members and decide upon the most onerous shock given the sum of upward shocks and downward shocks, rather than adding up the most onerous shocks and the resulting capital requirements of individual insurance group members, since this may depend on inconsistent currency shocks.	Please see response to comment #269. CP70 does not consider the aggregation mechanism for groups; this was considered in CP60.
284.			Confidential comments deleted.	
285.	CRO Forum	4.76.	See 4.72	Please see response to comment #270
286.	GDV	4.76.	The approach of stressing individual currencies in the more onerous	Please see response to comment

			direction will result in a different currency capital charge for a group depending on the method of calculation and aggregation. We request clarifications as to how the currency risk is to be considered with respect to insurance groups. Presumably the most onerous shock tends to differ between different insurance group members. We suggest that it would be appropriate to add the upward and the downward shocks of the insurance group members and decide upon the most onerous shock given the sum of upward shocks and downward shocks, rather than adding up the most onerous shocks and the resulting capital requirements of individual insurance group members, since this may depend on inconsistent currency shocks.	#269. CP70 does not consider the aggregation mechanism for groups; this was considered in CP60.
287.	Groupe Consultatif	4.76.	The approach of stressing individual currencies in the more onerous direction will result in a different currency capital charge for a group depending on the method of calculation and aggregation. We request clarifications as to how the currency risk is to be considered with respect to insurance groups. Presumably the most onerous shock tends to differ between different insurance group members. We suggest that it would be appropriate to add the upward and the downward shocks of the insurance group members and decide upon the most onerous shock given the sum of upward shocks and downward shocks, rather than adding up the most onerous shocks and the resulting capital requirements of individual insurance group members, since this may depend on inconsistent currency shocks.	Please see response to comment #269. CP70 does not consider the aggregation mechanism for groups; this was considered in CP60.
288.	Just Retirement	4.76.	The CP47 methodology is to take the worst of the impacts of up and down movements of a foreign currency against the local currency, summed over all foreign currencies. It is clearly impossible for all currencies to appreciate (or, indeed, to depreciate) against each other at the same time. The lack of diversification inherent in the CP47 methodology should be recognised in the calibration of the up/down movements by reducing the stress factors appropriately.	Noted. Please see our responses to comments from stakeholders on CP47. We agree that it is impossible for all currencies to appreciate or depreciate together. However, the figures presented for individual currency pairs in paragraph 4.60 demonstrate the

				appropriateness of the proposed +/-25% stress for currencies.
289.	KPMG	4.76.	We agree with the suggested approach, but believe that the hard coding of +/-25% stress tests which leads to implicit +/-100% correlations between currency pairs will be unduly onerous for undertakings with multi-currency exposure. This combined with the use of the more onerous of the up and down stress on the yield curve could lead to an extra degree of prudence beyond that required for a 99.5% test For example suppose that the interest rate down stress is the more onerous stress test applying in two currencies. A 100% tail correlation is implicitly assumed between the interest rates in the two currencies. However the economic reality of this assumption is that there would be a low volatility in the exchange rate between the two currencies, which should lead to a low foreign exchange stress test. However under these proposals a high stress test would be required.	Partially agreed. With regard to hard-coding of the +/-25% stress test, the figures presented for individual currency pairs in paragraph 4.60 demonstrate the appropriateness of the proposed +/-25% stress for currencies (note there are some currency pairs, including between G7 members (significantly) in excess of the +/-25% level). It is possible that in practice there would be some offsetting effect between interest rates and exchange rates. However, this is partly addressed by the correlations between the sub-modules; any more detailed approach would be overly complex in the context of the standard formula but could instead be tackled via a (partial) internal model. We are unconvinced of the

			We believe that it is likely that any multi-currency exposure will be overstated by the standard formula stress. We believe that the current approach proposed could be modified to allow for a more risk sensitive and economic approach within the confines of a standard formula. For example, a pragmatic approach might be to have stress tests: - between G7 countries - between non-G7 countries and - between G7 and non-G7 countries, using moderate correlations which could vary by the currency category. This would need to be updated annually or on a change in the foreign exchange policy of the countries concerned.	argument to separate (for example) G7 and non-G7 countries. This is partly because even among the two groups there will be currency pairs that behave quite differently (see the results in paragraph 4.60), but also because this could introduce a level of complexity that is too great for the standard formula approach. Considering the specific proposal to separate out G7 countries, this could generate some difficulties when considering the countries whose currency is the Euro, some of which are G7 members and some of which are not.
290.	Munich Re	4.76.	The approach of stressing individual currencies in the more onerous direction will result in a different currency capital charge for a group depending on the method of calculation and aggregation. We request clarifications as to how the currency risk is to be considered with respect to insurance groups. Presumably the most onerous shock tends to differ between different insurance group members. We suggest that it would be appropriate to add the upward and the downward shocks of the insurance group members and decide upon the most onerous shock given the sum of upward shocks and downward shocks, rather than adding up the most onerous shocks and the resulting capital requirements of individual insurance group members, since this may depend on inconsistent currency shocks.	Please see response to comment #269. CP70 does not consider the aggregation mechanism for groups; this was considered in CP60.
291.	UNESPA	4.76.	QIS 4 treatment should apply, avoiding CP47 proposed treatment,	Not agreed. Please see the

			and excluding hedge positions in the calculation. The calculation should be base on QIS 4 treatment, regarding the stress scenarios and currency groups, avoiding the calculations methodology proposed in CP 47 (currency by currency), since this proposal is not considering correlation, and therefore results will substantial increase capital requirements. On the other hand, hedge positions should be excluded from the standard formula.	responses to the stakeholder feedback on CP47.
292.	AFS	4.77.	We think that the +/-25% stress tests which leads to implicit +/-100% correlations between currency pairs may be unduly onerous for smaller undertakings with multi-currency exposure and is potentially another area of prudence in the overall market risk calibration. A pragmatic approach might be to have stress tests between G7 countries – between non-G7 countries and between G7 and non-G7 countries and use more moderate correlations which could vary by the currency category. This would need to be updated annually or on a change in the foreign exchange policy.	Please see response to comment #289
293.	Groupe Consultatif	4.77.	We think that the +/-25% stress tests which leads to implicit +/-100% correlations between currency pairs may be unduly onerous for smaller undertakings with multi-currency exposure and is potentially another area of prudence in the overall market risk calibration leading to a calibration beyond the Article 101 target of 99.5% over 1 year. A pragmatic approach might be to have some currency categories such as G7 and non-G7 and use more moderate correlations which could vary by the currency category. This would need to be updated annually or on a change in the foreign exchange policy.	Please see response to comment #289
294.	AMICE	4.78.	Property risk	

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295.	CEA	4.78.	Details of the formula are missing.	Agreed. See revised text.
296.	Deloitte	4.78.	For consistency with the equity and interest stress tests, we believe there should also be a stress test to property implied volatility, to be applied simultaneously with the other volatility stress tests and aggregated using an enlarged market risk correlation matrix.	Not agreed. Adding a volatility stress would consider too much complexity to the standard formula. Further, available data would be too scarce for calibrating the volatility shock.
297.	Groupe Consultatif	4.78.	The formula appears to be missing	Agreed. See revised text.
298.	KPMG	4.78.	This section has missing text, including the formula.	Agreed. See revised text.
299.	PWC	4.78.	An equation appears to be missing from this paragraph.	Agreed. See revised text.
300.	AMICE	4.82.	We would like to question the new parameters suggested for property risk: The calibration is only done based on UK data which could be inconsistent for other European markets. We therefore suggest staying with the QIS 4 parameters if not additional studies are provided. At least taking into account Country-specific volatilities and therefore national stress parameters should be allowed.	Please see response to comment #301 Not agreed. Instead insurance undertakings might consider using a (partial) internal model.
301.	FFSA	4.82.	CEIOPS uses only UK data which provided a longer history along with a breakdown by sector. IPD UK provides the most comprehensive historical data but restricting the scope to this data does not allow a relevant European view. Indeed, IPD provides data for major European markets and notably France, who is the second most important European market in terms of market size. UK market has been historically significantly more volatile than other European markets, one of the reasons being	Not agreed. CEIOPS believes that the development over the last years justifies higher stresses than those originally calibrated for QIS3. Though time series are available for other markets as well, these tend to be too short for a meaningful VaR calculation.

			the relative over-weighting of the financial sector. This is particularly true for the city. Broadly, the recent crisis did not indicate material impact on property markets except in few markets. Therefore, FFSA recommends keeping QIS 4 stresses.	
302.	GROUPAMA	4.82.	We would like to question the new parameters suggested for property risk. The calibration is only done based on UK data, which could be inconsistent for the European market. We suggest, without any study on other markets, to stay with the QIS 4 parameters. At least, to take into account national market particular volatilities, national stress parameters should be allowed.	Please see response to comment #301 Not agreed. Instead insurance undertakings might consider using a (partial) internal model.
303.	Groupe Consultatif	4.82.	The shock is calibrated according to the IPD database in Great Britain one of the most dynamic property markets. The resulting shock size is by far overstating the risk in Germany, Austria, Switzerland and may other European countries	Please see response to comment #301
304.			Confidential comments deleted.	
305.	CEA	4.83.	There are long time series for other markets available as well. For the German market, for example, it is called "Bodenrichtwerte".	Not agreed. "Bodenrichtwerte" are not considered as an appropriate data source for the calibration as they only provide information on undeveloped real estate.
306.	GDV	4.83.	There are long time series for other markets available as well. For the German market, for example, it is called "Bodenrichtwerte".	Please see response to comment #305
307.	Groupe Consultatif	4.83.	For the German markets there exist time series for land (Bodenrichtwerte) and local overviews on purchase prices for real estate, reported by local regulatory authorities (Gutachterausschuss).	Please see response to comment #305

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308.	Munich Re	4.83.	For the German markets there exist time series for land (Bodenrichtwerte) and local overviews on purchase prices for real estate, reported by local regulatory authorities (Gutachterausschüsse).	Please see response to comment #305
309.	AFA	4.84.	We are concerned that UK data may not reflect the distribution of prices for the whole of the EU. We also think that it is highly doubtful that 22 years' worth of data suffice to estimate a 1 in 200 years' event. Even to draw reliable conclusions about a 1 in 200 months' event would be extremely hard using the empirical distribution of only 259 observations.	Please see response to comment #301. CEIOPS would appreciate receiving longer-term time series from the industry.
310.	CEA	4.84.	This assumption is fully unacceptable for all countries aside the UK. It is commonly known that volatility in the UK is by far the highest. This can be seen in the IPD-indices or all other indices, which are available (see also comment to Para 4.83).	Please see response to comment #301
311.			Confidential comments deleted.	
312.	GDV	4.84.	This assumption is fully unacceptable for all countries aside the UK. It is commonly known that volatility in the UK is by far the highest. This can be seen in the IPD-indices or all other indices, which are available..	Please see response to comment #301
313.	Groupe Consultatif	4.84.	This assumption is not acceptable for all countries aside from UK. Volatility in the UK property market is by far the biggest, compared to property markets in the other European countries.	Please see response to comment #301
314.	Munich Re	4.84.	This assumption is not acceptable for all countries aside from UK. Volatility in the UK property market is by far the highest, compared to property markets in the other European countries – especially Germany.	Please see response to comment #301
315.	UNESPA	4.84.	The index is not representative.	Please see response to comment

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			The UK IPD is not representative of the European property market. Additionally, there are big differences in price developments across countries in the European property market.	#301
316.	CEA	4.85.	There is a yearly analysis available for the derivation of appraised values and sales transactions for different countries in Europe offered by the RICS-Institution.	Noted. However CEIOPS understands from RICS data that this draws basically on various national sources. Thus a common methodology for these indices is not given which significantly impairs deriving a common European property stress.
317.	GDV	4.85.	There is a yearly analysis available for the derivation of appraised values and sales transactions for different countries in Europe offered by the RICS-Institution.	Please see response to comment #316
318.	UNESPA	4.85.	Appraised market values vs actual sales transactions prices. The appraised market values are not a good approximation to estimate prices fluctuations because they tend to be "backward looking", actual sales transactions prices, would be a more popper approximation.	Agreed. However, for European markets no long time series with transaction prices exist.
319.	Groupe Consultatif	4.86.	A "true" volatility of property values does not exist. Historical volatilities of time series of property returns depend on the characteristics of local markets.	Agreed. The paragraph elaborates on the problems of de-smoothing property indices. One of these problems is the problem of deriving the "true" volatility (in each market).
320.	Munich Re	4.86.	A "true" volatility of property values does not exist. Historical volatilities of time series of property returns depend on the characteristics of local markets.	Please see response to comment #319

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321.	CEA	4.89.	Given the different investor mentality in different real estate markets, an investor in another market is not expected to receive the return volatility which can be observed in the UK market. There is reliable research available, for example for the German property market in which all transaction values have to be reported. Ceiops will be easily in the position to find out that e.g. for the German residential market the volatility of prices is low and by far not comparable to UK values. In addition, there is no need to de-smooth as these are (at least for the residential market) real values.	Please see response to comments #301 and #305
322.	GDV	4.89.	UK data does not appear relevant for all EU markets Given the different investor mentality in different real estate markets, an investor in another market is not expected to receive the return volatility which can be observed in the UK market. There is reliable research available, for example for the German property market in which all transaction values have to be reported. CEIOPS will be easily in the position to find out that e.g. for the German residential market the volatility of prices is low and by far not comparable to UK values.	Please see response to comments #301 and #305
323.	Groupe Consultatif	4.89.	Risk and return of the UK IPD index are not appropriate for other European real estate markets, hence data from other countries (e.g. Germany) should be evaluated.	Please see response to comment #301
324.	Munich Re	4.89.	Risk and return of the UK IPD index are not appropriate for other European real estate markets, hence data from other countries (e.g. Germany) should be evaluated.	Please see response to comment #301
325.	AFA	4.92.	Creating rolling one-year windows produces 248 (=259-11) observations, that naturally become serially dependent, even if the monthly observations themselves were independent (which they are not). The empirical 0.5 percentile of this sample lies between the minimum observation (the empirical 1/249 ≈ 0.4 percentile) and the second smallest observation (the empirical 2/249 ≈ 0.8 percentile),	Not agreed. We have needed to strike a balance between having enough data within the analysis to produce meaningful results and incurring the risk of autocorrelation effects. In this

			and since it is closer to the former it is almost entirely given by this minimum value (as illustrated in the table). This may be the "best" point estimate, but due to the paucity of data, the dependence, and the fact that the estimate is based on the tail observations, one would expect any confidence interval to be quite large.	case we consider the risks arising from possible autocorrelation to be outweighed by the advantage of having a rich data set. Moreover, if annualised daily data is used, this could introduce unreasonable distortions due to short-lived spikes in volatility.
326.	CEA	4.92.	UK data does not appear relevant for all EU markets As a minimum, the calibration of property risk would be more appropriately based on a "basket" of various other European markets. Please also see comments to Para 4.98.	Please see response to comment #301
327.	GDV	4.92.	UK data does not appear relevant for all EU markets As a minimum, the calibration of property risk would be more appropriately based on a "basket" of various other European markets. Please also see comments to Para 4.98.	Please see response to comment #301
328.			Confidential comments deleted.	
329.	IUA	4.93.	Is it reasonable to extrapolate observations based in the City of London, to all property investments located within cities, as implied by this paragraph? A more robust analysis might be appropriate before such extensions can be made.	Agreed. No specific category for city offices is proposed any longer.
330.	CEA	4.96.	The text states that the analysis of property incorporates an element of conservatism. Capital requirements should be set on realistic assumptions and not based on extra conservatism. Typically, rental yield is not reinvested in the property pool. From insurers' point of view income distribution is one of the attractions of the property investments and this is not taken into account in the calibration.	Partially agreed. However, CEIOPS observes that using price indices instead of total return indices would result in higher shocks. Assumptions about alternative uses of rental yields cannot be modelled in a

				general manner.
331.	CRO Forum	4.96.	The text states that the analysis of property incorporates an element of conservatism. Capital requirements should be set on realistic assumptions and not based on extra conservatism. Typically, rental yield is not reinvested in the property pool. From insurers' point of view income distribution is one of the attractions of the property investments and this is not taken into account in the calibration.	Please see response to comment #330
332.	GDV	4.96.	The text states that the analysis of property incorporates an element of conservatism. Capital requirements should be set on realistic assumptions and not based on extra conservatism. Typically, rental yield is not reinvested in the property pool. From insurers' point of view income distribution is one of the attractions of the property investments and this is not taken into account in the calibration.	Please see response to comment #330
333.	IUA	4.96.	We would question whether it is reasonable to assume that all rental yields earned from a property portfolio are reinvested back in the same pool.	Please see response to comment #330
334.	CEA	4.97.	We cannot share the idea of a rental income coming to zero for a diversified portfolio. Even in case of severe downturn, leases remains in place and in full force. In all countries, commercial properties provide for minimum lease lengths (varying widely from a market to the other but covering in any case several years) which should not lead to a significant correction of rental income in the short term.	Please see response to comment #330
335.	GDV	4.97.	We cannot share the idea of a rental income coming to zero for a diversified portfolio. Even in case of severe downturn, leases remains in place and in full force. In all countries, commercial properties provide for minimum lease lengths (varying widely from a market to the other but covering in any case several years) which should not lead to a significant correction of rental income in the short term.	Please see response to comment #330
336.	ABI	4.98.	It does not appear relevant to have 3 different categories for property risk in the standard model, as they are not significatnly	Agreed. CEIOPS proposes to use only one stress for different

			different to each other. In our view, one standard stress would me more appropriate, as this degree of granularity does not seem to be necessary for the standard formula. We would propose an overall property stress of 25%	categories of property.
337.	AFA	4.98.	We disagree: the estimates are based on few observations (cf. our comment to § 4.92) from a comparatively small geographical area which may not show the same distribution of returns as ones from the EU as a whole. We think a single property stress of 25% is reasonable. (Also §§ 4.103-4.107.)	Agree to a uniform stress of 25%. Regarding the geographical basis for calibration please see response to comment #301.
338.	AMICE	4.98.	CEIOPS recommends splitting between commercial, retail and other types of property if possible. We agree with the CEA that there is no need of introducing more granularity in the calculation.	Please see response to comment #336
339.	CEA	4.98.	It is unacceptable to use UK data for other property markets with empirically evident lower volatility – this highlights the fact that a country-based segmentation is needed The calculation of the property risk module is based only on the Investment Property Databank (IPD) of the UK, one of the most dynamic property market in Europe. Therefore it represents only the UK property market which in fact does not appear to be representative of the whole European property market. There are many countries in Europe, where the actual crisis had a minimal impact on the local property market. Therefore, it seems that the main driver of property prices is country and so a calibration based on one country's data applied to rest of the market is unacceptable. For example, for the Austrian market, real world capital market scenarios (taken from Scor) give a maximum property shock of 8.6%. This is significantly less than the 25%/30% shock currently proposed for property risk in this CP. Therefore the proposed split by sector (city offices, retail, warehouse and other) does not seem the most appropriate segmentation.	Please see response to comment #301

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
			Instead a differentiation between different property markets is necessary. Furthermore, introducing unwarranted granularity by property sector seems burdensome and unnecessary as the resulting stresses for the sectors are similar. ☐ We recommend that country specific stresses are introduced into this module, rather than the granularity by property sector proposed by Ceiops. Furthermore, the proposed summing of the resulting capital charges without allowing for correlation is inappropriate.	Not agreed. Country-specific shocks would add too much complexity in the standard formula.
340.	CRO Forum	4.98.	Given the materiality of the risk and the high similarity between the classes of property, we would suggest CEIOPS to consider not making a more granular split. The added complexity does not outweigh the benefits in our view. We would suggest a shock of 25% for the category as a whole. In case CEIOPS maintains a differentiated shock to classes of real estate then it should also consider a diversification benefit in order to stimulate diversification.	Agreed. CEIOPS proposes to use only one stress for different categories of property.
341.			Confidential comments deleted.	
342.	Deloitte	4.98.	We consider the distinction between city and non-city property to be arbitrary and artificial. A single stress test of 25% for all property would be better.	Agreed. CEIOPS proposes to use only one stress for different categories of property.
343.	GDV	4.98.	It is unacceptable to use UK data for other property markets with empirically evident lower volatility – this highlights the fact that a country-based segmentation is needed The calculation of the property risk module is based only on the Investment Property Databank (IPD) of the UK, one of the most dynamic property market in Europe. Therefore it represents only the UK property market which in fact does not appear to be representative of the whole European property market. There are	Please see response to comment #339

			many countries in Europe, where the actual crisis had a minimal impact on the local property market. Therefore, it seems that the main driver of property prices is country and so a calibration based on one country's data applied to rest of the market is unacceptable. Therefore the proposed split by sector (city offices, retail, warehouse and other) does not seem the most appropriate segmentation. Instead a differentiation between different property markets is necessary. Furthermore, introducing unwarranted granularity by property sector seems burdensome and unnecessary as the resulting stresses for the sctors are similar. We recommend that country specific stresses are introduced into this module, rather than the granularity by property sector proposed by CEIOPS.	
344.	Groupe Consultatif	4.98.	Stress levels are true for the UK real estate market, but not acceptable for other markets aside from UK. A segmentation of real estate in three different sectors with partially identical stress factors seems not adequate for a standard model nor really material for most insurance companies. Moreover, the stress factor seems to be too high for continental markets. For the calibration country specific market situations should be taken into account.	Please see response to comment #301
345.	Institut des actuaires	4.98.	Institut des Actuaires encourages CEIPOS to determine a list of areas within Europe to be submitted to 30% property stress factor.	Not agreed. But as CEIOPS proposes to use only one stress for different categories of property, such a list will not be needed.
346.	Just Retirement	4.98.	In the context of the standard formula, and given the relatively small differences in the proposed stresses, it seems simpler just to use a 25% stress for all types of property. For example there are likely to be many instances where the properties do not correspond easily to	Agreed. CEIOPS proposes to use only one stress for different categories of property.

			one of the categories given.	
347.	Munich Re	4.98.	Stress levels are true for the UK real estate market, but not acceptable for other markets aside from UK. Moreover, a separate sector for residential properties should be used. The calibration of this sector should be based on data from residential properties (e.g. Halifax House Price Index, IPD UK Residential Investment Index, IPD Germany All Property Index / sub-segment "Residential")	Please see response to comment #301
348.			Confidential comments deleted.	
349.			Confidential comments deleted.	
350.	UNESPA	4.98.	The study sample is not representative. There must be no increase in the shocks scenarios since the study is based on a sample that is not representative. Adding granularity adds complexity to the formula.	Please see response to comment #301 Agreed. CEIOPS proposes to use only one stress for different categories of property.
351.	Unum Limited	4.98.	It does not appear relevant to have 3 different categories for property risk in the standard model, as the resulting stress for all 3 categories is similar anyway. This degree of granularity does not seem necessary.	Agreed. CEIOPS proposes to use only one stress for different categories of property.
352.	CEA	4.101.	We request clarification of this paragraph. It is not clear what technical loss Ceiops is describing.	Please see response to comment #354
353.			Confidential comments deleted.	
354.	CRO Forum	4.101.	The text suggests that the yield of assets is linked to valuation of liabilities. This is not in line with the principles of market consistent valuation. This text is potentially confusing and we suggest removing it.	Agreed. In order to avoid confusion the paragraph is removed.

			It would be better to explain that the shock should be relative to the risk free rate, since this is what the asset is projected to earn in a market consistent model.	
355.	FFSA	4.101.	FFSA would like to get clarification on this paragraph.	Please see response to comment #354
356.	CEA	4.102.	It should be clarified that "property" covers infra-structure assets In our view, there is a need for a clarification of the term "property" in relation to certain infra-structure investments. We discuss this issue below: (i) Main characteristics of infra-structure assets There is no precise legal definition of the term "infra-structure". In our experience, the term normally covers investments in physical installations serving a public need which have certain functional characteristics, including low risks and returns that are long term, stable and predictable. Examples of infra-structure investments include direct and indirect exposure to power production, power distribution (e.g. electricity grids), gas pipes, toll-roads, telecom networks and water- and sewage systems. Infra-structure can either be held directly or indirectly. Direct exposure to infra-structure includes e.g. direct ownership in the physical pipelines for transportation of natural gas. Such investments are currently allowed under directive 2002/83/EC article 23(1) C (l) ("tangible fixed assets"), provided the asset can be "valued on the basis of prudent amortisation". Indirect exposure to infrastructure can be obtained through a number of financial instruments, for example through shares in an investment company invested in infra structure, or bonds issued by an infra-structure owner/operator.	Agreed. However the exact definition of "property" is still to be developed within the scope of Level 3 guidance.

			(ii) Economic rationale for investing in infra-structure in certain jurisdictions The need to invest in infra-structure is based on specific market conditions in some EEA-countries: ☐ In some EEA-countries, insurance undertakings carries defined benefit pension liabilities on its balance sheets. Mark-to-market accounting of assets and liabilities poses particular challenges for such undertakings, especially in respect of the composition of their assets. ☐ The market for long-term assets denominated in the same currency as the liabilities (e.g. government bonds), is limited in some EEA-countries. The need for investments in assets holding the same basic economic characteristics as government bonds are especially important in these cases. One can probably expect an increased interest on the "demand side" for infra-structure investments. The state of public finances in a number of EEA-countries may require national governments to find partners in funding public infra-structure, and investments of insurance undertakings might provide an important contribution in that respect. (iii) Classification of infra-structure investments In our view, direct investments in infra-structure would normally qualify as investments in "land, buildings and immovable-property rights" as defined in Ceiops' Advice on Article 109 – Structure and Design of Market Risk Module (former CP47) Para 4.102. A common characteristic of infra-structure investments as mentioned above, is that they relate to immovable assets, such as e.g. factory/power	

			plants, water-fall rights in respect of production of hydroelectric power, masts for distribution of electric power, pipes for water and sewage distribution, and related ownership rights/rights to use the land to which these installations are attached. More importantly, all these investments are bearers of the same underlying economic characteristics as regular property (low risks, long-term and predictable returns). In that respect, it is worth noting that a number of large institutional investors are invested in infrastructure as a supplement to investments in regular property. For example, the Norwegian Government Pension Fund, one of the world's largest pension funds, recently decided to start investing in infrastructure in addition to investing in real estate. Based on available empiric studies in the area, the decision was explained as follows in a report to the Norwegian Parliament: Investments in infrastructure, such as electricity and water supplies, toll roads, airports and telecommunications, have traditionally constituted a very limited market. However, increasing private participation and the growing need for private funding have made these kinds of investments interesting for long-term financial investors. The market for this type of investments is expected to grow in the years to come. The return on and the risk associated with infrastructure investments will vary widely among the different projects, but it is normal to assume that the return and risk of developed projects will resemble the return and risk associated with investments in real estate. As is the case for real estate, investments in infrastructure will also contribute to diversifying the risk in the Government Pension Fund and to reaping gains over time by investing in less liquid assets. In making the assessment of whether a particular investment should	

			be deemed property or not, we will therefore argue that focus should be on underlying economic characteristics, rather than merely focusing on the classification of the relevant investment under national property law. The suggested approach would better reflect the economic realities of the investment, and it would avoid problems that would arise under a more formalistic approach due to of the many different interpretations of the terms "property" and "real estate" in different member states/EEA-states. As for indirect investments, the capital charge would depend on the legal form of the financial instrument in question. We assume that holding of shares in infra-structure companies and interests in collective infra-structure investment vehicles will be treated as holding of shares/interests in ordinary real estate companies/collective investment vehicles, see further in Ceiops' Advice on Article 109 – Structure and Design of Market Risk Module (former CP47) Para. 4.102-103. This would imply that investments in leveraged infra-structure companies would be treated as equity, and not real estate. We would underline that leverage is an important element of both infra-structure investments and other property investments, and that we generally find Ceiops' advice as too restrictive in this respect. Our point in this context however, is that the issue of leverage should be dealt with in the same way whether or not the underlying investment is "traditional" real estate or if it also includes infra-structure. Bonds and other loans related to infra structure issuers/lenders would be classified according to the regular classification rules applicable to those investments, and therefore be subject to the regular rules on interest rate risk and spread risk.	
357.	CRO Forum	4.102.	The proposed shocks do not take in account the difference between dividend paying properties, quality of tenants and duration of tenancy agreements.	Not agreed. Adding these features would include too much complexity in the standard formula.

			In addition many properties are not held for trading or investments purposes (e.g. own use). This makes 1y VaR not an appropriate risk measure here.	Not agreed. The Framework Directive foresees a VaR calculation based on a 1 year horizon.
358.	UNESPA	4.102.	Based on 99,5 % confidence level principle and the holding horizon (unlimited under going concern approach) of assets backing surplus, namely assets backing own funds in excess of technical provisions and SCR, a drastically reduced calibration for them should be applied. 10. Assets backing surplus should have a drastically reduced shock in the SCR calculation in the market risk module because: ☐ An entity with low risk and with a broad level of capital would have higher SCR, than an entity with exactly the same risk and less capital, which is an inconsistency, since the solvency ratio will be focused on assets backing surplus, and not in the assets that cover insurance liabilities, misaligning solvency ratio ultimate objective established under the Directive. ☐ One of the functions of assets backing surplus is to cover asset losses that back liabilities, due to market risk, in order to cover the losses, assets backing surplus are mark to market and in capacity to cover the solvency ratio. If the solvency ratio is not achieved, there will be an increased in capital requirements. In this since, what is really relevant is the market value of these assets backing surplus, and not the potential loss that they may have in a year horizon, and at a given confidence level. ☐ Depending on the level of assets backing surplus, they could induce a higher result than the 99.5 percentile solvency requirement established in the Directive. ☐ Depending on the insurance and reinsurance undertakings assets backing surplus characteristics (only those assets different	Not agreed. It is contrary to the risk-based approach set out in the Level 1 text. Under a risk-based approach, it is the risk inherent in the assets, liabilities and financial instruments that is important, and so the same risk charge should apply regardless of what asset or liability is being considered, and whether or not the particular asset is considered to be surplus or "backing liabilities".

			from cash), the SCR could substantially be increased, being this a clear disincentive to having excesses on capital, since the more assets backing surplus held by an entity with the same assets backing liabilities than other, the greater market risk SCR the entity will have. In order to have a better perspective of the real issues related to the calculation of SCR for assets backing surplus, we will illustrate some examples: ☐ An entity with no insurance liabilities, and paid up capital, could be more risky, than an entity with insurance liabilities, undercapitalized. ☐ Assume, a newly formed entity that has not sold any insurance policy (0 commitments, and no capital required to ensure risks at a 99.5th percentile). However, capital has been spent on: 70% in property, 10% in debt and equity financial instruments, and 20% in treasury. The propose SCR definition would impose a capital charge of e.g. 30%, and considering that the expected one year return on assets will be 10%, the entity could not distribute the 100% of its financial earnings, in the form of dividends to its shareholders, showing an unrealistic solvency position. 11. Concluding, if the same treatment is defined to assets backing surplus and assets that back liabilities in the SCR calculation, a false impression of the real entity risk profile will be induced. Therefore, and considering the fact that the Solvency II is focus on a total economic balance sheet approach, we think that the assets backing surplus should be included in the SCR calculation, but with a drastically reduced scenario shock. The shock exceeds 99.5th percentile and there is no country classification.	

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
			In CP 47 many insurance companies commented that the 20% shock, was exceeding 99.5th percentile. Accordingly, an increase to 25% in the shock scenarios would result in a disproportionate burden for undertakings, and particularly for companies in countries where the decrease in property prices has been weaker.	
359.	AFS	4.103.	Given the limited evidence supported the proposed property stress we would question the value of applying different stresses for different property classes. In particular we would question if there is long enough data to recommend a -30% stress test.	Agreed. Only one shock will be applied to different property classes.
360.			Confidential comments deleted.	
361.	CEA	4.103.	See comments to Para 4.98.	Please see response to comment #339
362.			Confidential comments deleted.	
363.	GDV	4.103.	20. The proposed split by sector (city offices, retail, warehouse and other) does not seem the most appropriate segmentation. Instead a differentiation between different property markets is necessary. Furthermore, introducing unwarranted granularity by property sector seems burdensome and unnecessary as the resulting stresses for the sectors are similar. We recommend that country specific stresses are introduced into this module, rather than the granularity by property sector proposed by CEIOPS.	Agreed. Only one shock will be applied to different property classes. Not agreed. Country-specific shocks would add too much complexity to the standard formula.
364.	Groupe Consultatif	4.103.	Stress levels are true for the UK real estate market, but not acceptable for other markets aside from UK. Given the limited evidence supporting the proposed property stress we would question the value of applying different stresses for different property classes. In particular we would question if there is	Please see response to comment #301 Agreed. Only one shock will be applied to different property classes.

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
			long enough data to recommend a -30% stress test.	
365.	Just Retirement	4.103.	See comment under 4.98.	Please see response to comment #346
366.	KPMG	4.103.	The evidence suggested for the property stress has been less rigorously derived than the other stresses. We feel that further work may be needed to assess whether there is sufficient evidence to have a different stress test for different property classes and whether there is sufficient data to recommend a -30% stress test.	Not agreed. Any perceived shortcomings in the calibration might be induced by lacking data history. However, the methodology for calibrating this sub-module embodies the same degree of rigour as other market risk sub-modules. Agreed. Only one shock will be applied to different property classes.
367.	Munich Re	4.103.	Stress levels are true for the UK real estate market, but not acceptable for other markets aside from UK.	Please see response to comment #301
368.	PWC	4.103.	Clarification should be provided as to the circumstances in which firms are required to break down the property stress by sector. If there is no requirement to do this, firms are unlikely to categorise their property due to the extra effort required and the higher capital charge which will result if they identify any City Offices, Retail and Warehouse properties. We would thus question the relevance of prescribing a higher stress to certain classes of property.	Agreed. Only one shock will be applied to different property classes.
369.	CEA	4.104.	See comments to Para 4.98.	Please see response to comment #339
370.	CRO Forum	4.104.	It is unclear why CEIOPS has identified City offices, retail and warehouse properties to have a 30% charge. This charge is	Agreed. No higher shock will be applied to city offices, retail and

			considerable higher than the QIS4 charge of 20%.	warehouse properties.
371.	GDV	4.104.	See comments to Para 4.103	Please see response to comment #363
372.	Groupe Consultatif	4.104.	Stress levels are true for the UK real estate market, but not acceptable for other markets aside from UK.	Please see response to comment #301
373.	Legal & General Group	4.104.	Splitting out city offices from other offices seems to add unnecessary complications, especially as different insurers would define the boundaries differently. It would be simpler to apply the same stress to all properties.	Agreed. Only one shock will be applied to different property classes.
374.	Munich Re	4.104.	Stress levels are true for the UK real estate market, but not acceptable for other markets aside from UK.	Please see response to comment #301
375.	UNESPA	4.104.	Applying the defined categories is not an easy process The categories defined are not applicable to different countries, since these categories are based on the properties in the UK, therefore the property classification to each category would clear be a complex process, and could lead to mistakes.	Agreed. Only one shock will be applied to different property classes.
376.	Unum Limited	4.104.	See 4.98	Please see response to comment #351
377.	ABI	4.105.	This classification adds further complexity to the standard formula, as it will be difficult to compare prime locations in different cities and countries. The next downturn may produce different results than the current one and we therefore believe that a straight stress of 25% should be applied to all properties.	Agreed. Only one shock will be applied to different property classes.
378.	AFS	4.105.	As per above the definition between City offices and other offices seems a little subjective and potentially spuriously accurate.	Agreed. Only one shock will be applied to different property classes.
379.	Groupe Consultatif	4.105.	As per above the definition between City offices and other offices seems a little subjective and potentially spuriously accurate.	Agreed. Only one shock will be applied to different property

				classes.
380.	UNESPA	4.105.	It makes no sense from a practical point of view to speak of downtown areas.. The city's downtown areas in many countries are not well defined.	Agreed. Only one shock will be applied to different property classes.
381.	Unum Limited	4.105.	This classification adds further complexity to the standard formula, as it will be difficult to compare prime locations in different cities and countries. The next downturn may produce different results than the current one and we therefore believe that a straight stress of 25% should be applied to all properties	Agreed. Only one shock will be applied to different property classes.
382.	UNESPA	4.106.	The proposed classification would make no sense from a practical point of view, and would add additional complexity in the supervision process. The IPD UK classification can not be extrapolated to the standard formula, therefore it makes no sense from a practical point of view, and also, this classification will add complexity to the supervision process, since the classification process is not clear.	Agreed. Only one shock will be applied to different property classes.
383.	AFS	4.107.	We notice that there is an implicit 100% correlation between the different property classes and if separate stresses are kept we recommend that consideration to whether a lower correlation may be justifiable.	Not agreed. However, the revised proposal uses less granularity and a uniform stress for different categories of real estate.
384.	CEA	4.107.	Summing capital charges with no allowance for correlation is overly prudent Please see also comments to Para 4.82.	Please see response to comment #383
385.	FFSA	4.107.	CEIOPS identifies three property sectors, as stated in 4.98, and shocks are performed separately on each sector and then aggregated using a simple sum. FFSA is against the segmentation made between sectors, but would like to underline that this aggregation implies no mitigating which is	Please see response to comment #383

			not supported. In any case, such an approach would be a burdensome for companies.	
386.	Groupe Consultatif	4.107.	We notice that there is an implicit 100% correlation between the different property classes and if separate stresses are kept we recommend that consideration as to whether a lower correlation may be justifiable.	Please see response to comment #383
387.	KPMG	4.107.	Because all the stresses to real estate need to be applied at the same time we infer that there is an implicit 100% correlation between the different property classes. We recommend that this is justified as we believe a lower correlation may be justifiable	Please see response to comment #383
388.	Legal & General Group	4.107.	By assuming they are 100% correlated the stress is extended beyond the 1 in 200 year level. We do agree they are correlated, but 75% may be more reasonable.	Please see response to comment #383
389.	ABI	4.108.	The liquidity premium would need to be removed from the consideration of spread risk Spread risk should not include the change of the liquidity spread if the insurance company is not exposed to liquidity risk i.e. if the insurer expects to hold the asset until maturity. In those cases only the change of the credit default spread should taken into account.	Agreed. See revised calibration based on the change of credit default spreads.
390.	AMICE	4.108.	Spread risk	-
391.	CEA	4.108.	The liquidity premium would need to be removed from the consideration of spread risk Spread risk should not include the change of the liquidity spread if the insurance company is not exposed to liquidity risk i.e. if the insurer expects to hold the asset until maturity. In those cases only the change of the credit default spread should taken into account.	Agreed. See revised calibration based on the change of credit default spreads.
392.	Groupe Consultatif	4.108.	Spread risk should not include the change of the liquidity spread if the insurance company is not exposed to liquidity risk. In those cases only the change of the credit default spread should taken into	Agreed. See revised calibration based on the change of credit default spreads.

			account.	
393.	ABI	4.109.	The scope of this module should exclude all borrowings by OECD/EEA governments We believe that borrowings issued by OECD or EEA national governments in currencies other than the currency of the government should not be included in this sub-module. The module currently excludes those issues only in the currency of the government. However, the foreign currency exposures should already be covered by the corresponding currency risk sub-module and so any inclusion of government borrowings in other currencies will result in double-counting.	Not agreed – but please refer to our responses to stakeholder comments on CP47.
394.	CEA	4.109.	The scope of this module should exclude all borrowings by OECD/EEA governments To re-iterate our comments to CP47 on the scope of the spread-risk module, we believe that borrowings issued by OECD or EEA national governments in currencies other than the currency of the government should not be included in this sub-module. The module currently excludes those issues only in the currency of the government. However, the foreign currency exposures should already be covered by the corresponding currency risk sub-module and so any inclusion of government borrowings in other currencies will result in double-counting.	Please see response to comment #393
395.	CRO Forum	4.109.	Spread risk on mortgages is not as severe as the spread risk on liquid corporate bonds, being it covered, senior or subordinated bonds. It seems therefore over conservative to treat them with the same methodology and parameters that are based on corporate bond data. From our calculations the capital charge will result into a percentage of around 30% which is not in line with the property risk module (please refer to the table in 4.98). We are of the opinion that mortgage loans should receive a lower percentage than a direct investment in property.	Partially agreed. The revised proposal includes a specific treatment for mortgage loans.

			Also, excluding national governments of EEA and OECD from spread risk seems to give wrong incentives. This would stimulate a build-up of exposure to these governments. Also, there is no distinction anymore between the creditworthiness/spread volatility between these governments. For example: German Government risk is treated similar as Polish or Greek government risk. It is not clear whether local governments, such as cities and municipalities of EEA/OECD countries should be excluded from the calculations as well. We also consider the list of OECD countries to be outdated, last updated in 2000, as it does not reflect the changes in the "market presence" of some of the Asian economies. As the list stands Slovak Republic's bonds attracts lower capital charges than economies like Hong Kong or Singapore. Where we consider OECD as a good starting point we would recommend that CEIOPS revisit the list of countries and consider other economies that have developed since the last revision on the OECD members list in December 2000. CEIOPS should also give due consideration to some of the fast developing countries such as India, China and Brazil that could be considered as economic "power-houses" in the near future.	Please see response to comment #393
396.	Unum Limited	4.109.	The scope of this module should exclude all borrowings by OECD/EEA governments We believe that borrowings issued by OECD or EEA national governments in currencies other than the currency of the government should not be included in this sub-module. The module currently excludes those issues only in the currency of the government. However, the foreign currency exposures should already be covered by the corresponding currency risk sub-module and so any inclusion of government borrowings in other currencies will result in double-counting.	Please see response to comment #393

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397.	CRO Forum	4.110.	Methodology questions/issues: o 4.110: Did CEIOPS used perfect correlation between the credit qualities (4.110 may be interpreted to mean that perfect correlations were used) o The structured asset factors assign default probabilities based on the rating of the underlying collateral. Most ABS and CMBS collateral is unrated. How would we apply the methodology to situations where the underlying collateral is unrated? The severity of spread changes differs per asset class, and also per issuer type. Taking the maximum level everywhere leads to very conservative results.	Former §4.154 states that capital charges for different classes of instruments are added up without allowing for any correlation effects, See revised proposal. Noted.
398.			Confidential comments deleted.	
399.	CEA	4.111.	Level and volatility risk are fundamentally different risks and therefore cannot be combined into one shock.	Agreed. See revised text.
400.	CRO Forum	4.111.	"The sensitivity of the underlying portfolio to changes in the level of volatility of credit spreads is also indirectly considered in this sub-module." We note that spread level changes and spread volatility changes are fundamentally different and that these can therefore not be combined in one level shock.	Agreed. See revised text.
401.			Confidential comments deleted.	
402.	CRO Forum	4.114.	Many of the European companies have US subsidiaries. These US companies tend to have a higher percentage of high yield bonds. Therefore, it makes sense to break out the high yield category by rating. If many of these companies will have their internal model approved, the need for this breakout will become less.	Noted. The paragraph is added mainly for information on the outcome of QIS4 and does not affect the calibration.
403.	XL Capital Ltd	4.114.	Our investment policy allows for only 3% of assets to be invested below investment grade, so the assumption of the average is significantly different to our holdings and would implicate a higher	Noted. The paragraph is added mainly for information on the outcome of QIS4 and does not

			charge.	affect the calibration.
404.	RSA Insurance Group	4.117.	A Product list of what is considered structured credit would be advantageous, as capital charge seems potentially high	Noted. More precise definitions of structured credit products will be provided as Level 3 guidance. CP47 basically mirrors the definition of structured credit products included in the CRD (2006/48/EC).
405.	CRO Forum	4.119.	Is the end date of the data series July 2009? The European data includes daily total returns for 11 years. There is some data available back to the 1930s on spreads that could have been included. It is difficult to extrapolate 1-in-200 year events from 11 years of data Spread changes during the previous year were not only based on deterioration of credit quality, but also to a great extent on the drying up of liquidity in the bond market. This should be considered in the calibration of spread risk capital charges.	Yes. Partially agreed. However the granularity envisaged (incl. maturities) would not be reflected in these time series. Further, data reaching back to the 1930s might be subject to inaccuracies (structural changes, missing information on liquidity…) Agreed. See revised calibration based on the change of credit default spreads.
406.	ABI	4.120.	The methodology does not seem appropriate It does not seem appropriate to examine the historical distribution of annual spread changes as a way of calibrating the VaR, since this approach ignores any trends in the data (including possible mean reversion) and whether there are any natural floors or ceilings.	Not agreed. The VaR is based on year-on-year prices which take YoY trends into account. A price drop need not happen at favourable moment and mean-reversion need not happen as quickly as suggested.
407.	CEA	4.120.	The methodology does not seem appropriate	Please see response to comment #406

			It does not seem appropriate simply to examine the historical distribution of annual spread changes as a way of calibrating the VaR, since this approach ignores any trends in the data (including possible mean reversion) and whether there are any natural floors or ceilings.	
408.	Groupe Consultatif	4.120.	Consideration of daily data points but yearly shocks is auto-correlated. Therefore the extreme scenarios are overstated. The adjustments in the corporate bond indices for movements in the risk free rate should depend on the risk free rate determined for Solvency II (see comments on 4.23). When interest rate risk is calibrated using the maximum of swap and government rates and spread risk is adjusted along the government curve, there is a systematic double counting of spread risk if government rates are below swap rates.	Not agreed. Unfortunately, any VaR-estimate that tries to measure a 200 year events based on only few years of data will have exactly the same problem.
409.	Just Retirement	4.120.	We consider that using overlapping daily series of spread data is an inappropriate methodology for deriving 1-year stress tests. It would be preferable to annualise daily movements allowing for mean-reversion and other longer-duration smoothing effects.	Not agreed. With regard to autocorrelation: we have needed to strike a balance between having enough data within the analysis to produce meaningful results and incurring the risk of autocorrelation effects. In this case we consider the risks arising from possible autocorrelation to be outweighed by the advantage of having a rich data set. Moreover, if annualised daily

				data is used, this could introduce unreasonable distortions due to short-lived spikes in volatility. Further, VaRs based on overlapping returns tend to be generally lower than those based on annualized returns.
410.	Munich Re	4.120.	The adjustments in the corporate bond indices for movements in the risk free rate should depend on the risk free rate determined for Solvency II (see comments on 4.23). When interest rate risk is calibrated using the maximum of swap and government rates and spread risk is adjusted along the government curve, there is a systematic double counting of spread risk if government rates are below swap rates (because increase or decrease of swap rates relative to government are charged in interest rate risk as well as spread risk).	Partially agreed. See the revised text which calibrates spread risk based on CDS spreads without taking into account government bond rates.
411.	UNESPA	4.120.	There are inconsistencies in the data processing. To calibrate the shock scenarios, volatility in the returns should be used and not the returns themselves.	Noted. Please see revised text. However, the Cornish-Fisher VaR applied before uses average returns, volatility, skewness and kurtosis as inputs.
412.	CRO Forum	4.121.	There is no table showing the total returns that lead to the ultimate corporate factors. This would be helpful. Spread changes during the previous year were not only based on deterioration of credit quality, but also to a great extent on the drying up of liquidity in the structured credit market.	Agreed, the revised text (based on the change of credit default spreads) includes information on the actual spread shock.
413.	CRO Forum	4.122.	What is exactly meant with model-based approach? There is a more recent report from S&P with slightly different default rates for certain maturities and rating.	Noted. Please see revised text which applies figures in line with S&P's final methodology (September 2009).

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			Different types of collateral pools have different default rates. No distinction is made between the different collateral types, such as credit cards, mortgages, corporate loans, etc.	Not agreed. If default rates for assets differ, than the ratings would usually differ as well. So different inputs would be used for calculating the spread risk capital charge.
414.	CRO Forum	4.123.	We agree that a look-through approach is a better way to assess the risks in the structured credit products. The text states that rating of structured assets is not taken into account while the default rates in S&P's report (and section 4.122) are for AAA CDO scenario default rates. 2. We agree with the remark that external bond ratings do not necessarily represent the underlying risks in the collateral pool correctly. A look through approach seems more accurate for modelling risks. 3. However, by applying equal default rates (or G-Factors) to different collateral types the same error is introduced as using external bond ratings as a base for the calculations. (See also item 4.122) The credit enhancement of the bonds, and the expected default and recovery rates in the pool are usually tuned to each other, and should be treated consistently with each other. This is not reflected in the new proposal. The ratings of the underlying assets in the pool are not standard available. This will give an additional burden for data gathering and processing.	Noted, see revised text. Noted. Noted. However, taking into account both the underlying assets and structure of the product individually into account would add too much complexity in the standard formula. Noted.
415.			Confidential comments deleted.	
416.	CEA	4.124.	The methodology is inconsistent with other methods used We request clarification as to why a parametric approach (using the Cornish fisher expansion) was used to determine the VaR for spread	Noted. The Cornish Fisher expansion is no longer used in the revised proposal.

			risk whereas this approach was not used for the other market risks.	
417.	Institut des actuaires	4.124.	1-The calibration of spread risk shocks proposed by CEIOPS had changed from a duration based shock to a bucket based shock. This can lead to a very high cost for short term bonds: an AA 3 month cash managing mutual fund will have to simulate a draw down of 4.5%!!! The result obtained are very penalising, specially for good ratings and short term exposures.. As we consider that the spread duration used in QIS4 can be replaced by the maturity of the bond, avoiding un-useful complication, **Institut des Actuaires recommends a maturity factor**, used as a spread variation, with a **floor on short maturities**, as in QIS4, and a **"recovery" floor for longer ones.** As to avoid an over-weight of the recent crisis in calibration, Institut des Actuaires recommends using empirical quantile lower than 99.5% on available data, and some looking throw the index composition specially on best ratings, in order to avoid excessive concentration on one name in the calibration process. 2-CEIOPS calibration was made on Merryl Lynch Indices, by comparing the returns of similar govies indices to sub-indices, covering both maturity buckets and rating classes. This approach can lead to inconsistency, essentially on short term indices, with potentially significant differences in sensibility between both indices. 3-Another problem of the methodology used by CEIOPS is the representativeness of the indices. Analysing results, one can find that the worst results were obtained on period ending on the first days of March 2009. If one looks to the composition of AAA 1-3 indices at this time, we see an enormous over-weighting of General Electric Capital: 91% of the US basket is composed of GE issues, 23% of the Euro-Basket is	Partially agreed. See the revised text which introduces a duration-based approach instead of maturity buckets (incl. caps and floors). Partially agreed. See revised text. Agreed. See revised text.

			GEC.. So the AAA 1-3 bucket is quasi only calibrated to the accident of this issuer. Or what happened to this issuer on the first days of march 2009? For example the highest weighted issue, the 5.875% bond, due 02/15/2012, lost 10.6% per cent in price and his yield to maturity jumped from about 4%.. Should the weight of GE be "normal", the calibration of AAA short term bonds should be much lower…. Furthermore, looking to other bonds in the indices at that date shows that 100% of AAA 1-3 US indices and 95% of euro one were financials.. This problem of representativeness is the same in other maturity buckets. 4- But the main problem of the methodology used by CEIOPS is the over-weight of the recent credit crisis in the calibration. Of course, we agree with the idea that this crisis had clearly showed that QIS4 calibration of credit risk was under estimated. But calibrating a 0.5% stress on 10 years data is calibrating only on the worst points of the worst crisis. It's true there is a lack of data. But every one knows the recent crisis is the worst we lived. So adding longer real historical data **would not modify the worst periods**, but only the level of quantile they represent. In our opinion this remark allows to take a **quantile lower than 99.5%** in the calibration on the last years. Of course, calibration has to be made on 2008/2009 crisis, but taking the worst sub period in the worst year isn't representative of the 99.5% scenario. Taking a lower quantile in this worst year isn't a change to the 99.5% principle, but only an empirical methodology to compensate the over weight of last year data. For example, on euro AAA 1-3, the empirical 99.5% Var is 2.5%, but	Not agreed. Filling up the last 200 years with more favourable spread data would lack any scientific basis.

			one could take the empirical 99% Var and find 2.06%, simply supposing the addition of 10 years of historical data. 5- Final re-calibration found for AAA 1-3 : By correcting the first days of mars 2009 on US data, and taking the empirical 99% Var, one will find 3.3% for this country. CEIOPS propose to use a 75/25 repartition between euro and us bonds. Noting that insurers are usually essentially in Euro bonds, and noting that some us issuers are present in euro indices (GE for example), we propose to stay to an euro calibration, At the end, for this bucket of rating and maturity, we obtain a **2.06% charge for AAA 1-3 bonds.** As the bucket is 1-3, we translate that in a shock on spreads depending on the maturity m by : **Capital charge = 1.03%*m** Hence, the cost of capital found on AA 1-3 would be consistent (after the move to 99% quantile). Same analysis of representiveness should be made on other couples bucket/rating. For **Euro** 98-2009 data and for the 99% quantile, we found the following results **on spreads.** AAA AA A BBB 1-3 1,03 1,45 5,22 2,71 3-5 1,15 1,44 3,44 2,93 5-7 1,19 1,42 3,33 2,90 7-10 0,86 1,00 3,00 2,80 mean 1,06 1,33 3,75 2,83	Partially agreed. The revised proposal is nearly completely based on EUR issues.

			As CEIOPS noted it, during this crisis, A were most affected than BBB. This phenomenon is another proof of the problem of representativeness of Merryl Lynch indices during this period, with big differences in the industry composition of indices. To correct this effect, we propose to use as a starting point BBB results (most diversified index) and to put A coefficient as the mean between AA and BBB, obtaining: AAA AA A BBB 1-3 1.03% 1.45 % 2.08% 2.71% 3-5 1.15% 1.44% 2.18% 2.93% 5-7 1.19% 1.42% 2.16% 2.80% 7-10 0.86% 1.00% 1.40% 2.80% **Mean 1.06% 1.33% 2.08% 2.83%** 6- During the crisis a new phenomenon appeared on credit markets, what financial markets call "negative basis": it was possible, at the same date, to buy a bond, and to cover the default risk with a CDS, obtaining a theorically risk free composite…but with a residual spread over the risk free rate. This spread is known as the "liquidity premium" and it appeared at a moment when a lot of market participants were short liquidity and weren't able to hold their positions, nor even to buy new positions. One can measure it by comparing Itraxx index (CDS index built by Barclays) and a corporate bond spread index, for example iboxx Index (Barclays). By only calibrating the cost of capital on bonds, CEIOPS measured both the shocks on spread risk and on liquidity premium, over-calibrating strongly the cost of capital on spread risk. As Liquidity is rarely a risk for Insurers (on the contrary of banks, for example), and is already measured by the massive lapse risk, this	Agreed. See revised proposal which uses CDS spreads instead of bond spreads.

			effect should be removed from the calibration of spread risk. This methodology was applied on a composite of Merril Lynch 5-7 years indices, corresponding to the composition of Itraxx: each variation of indices was corrected by the variation of Liquidity Premium. Then, the different centiles were calculated on the corrected data. We found that eliminating the liquidity Premium **should reduce by approximatively 40% the cost of capital on spread risk.** Using all these effect, we can propose the following calibration for spread risk: **AAA AA A BBB** **0.63% 0.80% 1.25% 1.70%**	
418.	CEA	4.125.	The maturity buckets need to be refined. For example a double requirement for maturity 3 appears to be a mistake.	Agreed. Instead of maturity buckets, the new proposal includes a discrete function which avoids unintended "jumps".
419.	Groupe Consultatif	4.125.	The maturity buckets need to be refined. For example a double requirement for maturity 3 instead of 2.9 seems not adequate.	Please refer to comment #418
420.	Institut des actuaires	4.125.		-
421.			Confidential comments deleted.	
422.	Institut des actuaires	4.128.	In our opinion, when CEIPOS decided to modify his results up on AA 1-3 in order to be consistent with AAA one, it would have rather to modify down AAA bucket, as the US calibration presents a problem of representativeness of the index in Mars 2009.	Noted. See revised proposal which is based on more representative samples.

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423.	KPMG	4.128.	Although this considers financial and non-financial spreads separately, this does not appear to be used in arriving at the calibrations.	Noted. Tables 10 and 11 have been added as additional background information only.
424.	Institut des actuaires	4.130.	Institut des Actuaires disagrees with the proposal to take into account a mix 75% / 25% for EUR issuers and USD issuers for the calibration of the stress coefficients. Institut des Actuaires proposes to take into account only EUR issuers bonds, which is more representative for investments structure of European insurers.	Agreed. The new proposal relies nearly completely on CDS spreads of EUR issuers.
425.	Legal & General Group	4.131.	It is not clear what evidence has been used to support this assumption.	Noted. However, the updated proposal no longer uses combinations of EUR and USD issues.
426.			Confidential comments deleted.	
427.	CEA	4.133.	We request details on how the "risk weight new" column of Table 13 has been derived.	Noted. See the revised proposal which uses a discrete function instead of maturity buckets. Thus no adjustments are necessary.
428.			Confidential comments deleted.	
429.	FFSA	4.133.	FFSA would appreciate details on how the "risk weight new" column of Table 13 has been derived.	Please refer to comment #427
430.	Institut des actuaires	4.133.	Institut des Actuaires agrees with the proposal of CEIOPS to adjust some coefficients of some buckets to avoid the bias due to heterogeneous composition of index, especially regarding the split financial/non financial components. However, Institut des Actuaires considers that the best approach to perform such an adjustment would be to take as a starting point BBB	Please refer to comment #427

			coefficients (index most diversified) and to multiply these values, for A rating buckets, by [99.5% quantile for spread for A bonds rated / 99.5% quantile for spread for BBB bonds].	
431.	CEA	4.135.	We strongly suggest opening the standard model to internal ratings, especially for unrated securities.	Noted. However, the use of internal models is out of the scope of this CP.
432.	CRO Forum	4.135.	We strongly suggest opening the standard formula to company internal ratings, especially for unrated securities. Basel II is based on book value while Solvency 2 is based on MV. It is not clear if the unrated issues should be based on BV or MV. If MV is used, it is possible that unrated issues would be penalised relative to Basel II. MV reflects adverse market movements that have occurred while BV does not. BBB rating is also a conservative assumption in some cases. Not mentioned here is how defaulted loans need to be treated. Mortgage portfolios, for example, might be exposed to defaulted loans	Noted. However, the use of internal ratings is out of the scope of this CP and will clarified later. Noted. The capital charge for unrated issues should be calculated based on market value. Noted. For the treatment of mortgage loans please refer to the updated proposal.
433.	ABI	4.136.	The proposed stresses for the spread risk module are too high For example the stress for a 10 year BB-rated bond is 52% which is higher than the standard equity stress, which seems counterintuitive. Also the size of the stresses takes no account of the level of current spreads and so when spreads are high the resulting post-stress spreads could be far larger than could plausibly occur. A more granular treatment of unrated issues would be appropriate CEIOPS proposes to treat unrated issues of credit institutions which are under the scope of the capital requirements directive	Noted. Noted. If an issue is AA rated,

			(2006/48/EC) in a similar manner to BBB-rated issues. However, we consider that this could be very onerous in certain cases, for example if the underlying issue would be rated AA. As stated in our response to Para 4.137 we believe that a more granular treatment would be more appropriate.	then obviously this rating should be used.
434.	CEA	4.136.	The proposed stresses for the spread risk module are far too strong For example the stress for a 10 year BB-rated bond is 52% which is higher than the standard equity stress, which seems counterintuitive. Also the size of the stresses takes no account of the level of current spreads and so when spreads are high the resulting post-stress spreads could be far larger than could plausibly occur. Furthermore, we do not understand the rationale behind the setting of the "BB or lower" column. We would appreciate details on the way this breakdown has been performed. A more granular treatment of unrated issues would be appropriate Ceiops proposes to treat unrated issues of credit institutions which are under the scope of the capital requirements directive (2006/48/EC) in a similar manner to BBB-rated issues. However, we consider that this could be very onerous in certain cases, for example if the underlying issue would be rated AA. As stated in our response to Para 4.137 we believe that a more granular treatment would be more appropriate.	Noted. Noted. See the revised proposal which includes one more rating class in the speculative grade. Noted. If an issue is AA rated, then obviously this rating should be used.
435.			Confidential comments deleted.	
436.	CRO Forum	4.136.	It is not clear from the text what is meant with maturity: legal maturity, or expected maturity. Due to prepayments, these two maturities differ considerably for retail mortgages and structured credits. Also not clear is whether call dates should be incorporated in	Agreed. In order to avoid any confusion, CEIOPS proposes to use the duration instead of the maturity.

			the estimation of maturity. Also not clear is how perpetual subordinated debt should be treated. The proposed F and G functions take into account maturity. These tables result in unnecessary complexity and implement costs compared to the format of QIS4 where a single F and G factor per rating was multiplied by the duration. The proposed method is also very crude in a sense that e.g. a 1 month bond and a clear to 3 year bond get the same market value shock. The cleanest and most simple method would be to simply shock the credit spread for each rating (this method of QIS4 is very close to shocking the spread). Alternatively a text that these that a spread based shock equivalent to the tables for F and G functions could be applied or even better to give the parameters of such an equivalent method. Furthermore, the size of the shocks increased significantly versus QIS4. An enormous part of the spread risk is based on illiquidity premium increases. Applying such shock on the assets side while not recognising illiquidity on the liability side is not market consistent and simply will not make it economically for insurance companies to issue products for clients with credit spread exposure. The increased shocks for corporate bonds also increase the inconsistency with government bonds for which these shock do not apply. Market movements during the credit crises have also shown big spread movements in e.g. Italian and Greece government bonds. Further specification of the F and G tables should be provided as it is very unclear how these tables were calibrated and back testing of this methodology is not possible.	Agreed, instead of maturity buckets, a function of duration is proposed. Please refer to CEIOPS' final advice on the scope of the market risk module (former CP 47) regarding the exclusion of government bonds. Noted. Please see revised proposal of the F function and refer to the quoted S&P document regarding the G function.
437.	FFSA	4.136.	CEIOPS proposes to treat unrated issues of credit institutions which	Noted. The actual use of credit

			are under the scope of the capital requirements directive (2006/48/EC) as BBB-rated issues. FFSA considers that the treatment as BBB-rated issues of all unrated issues of credit institutions is not relevant for issuers that are rated above AA. Furthermore, FFSA does not understand the rationale for the "BB or lower" column. FFSA would appreciate details on the way this breakdown has been performed.	ratings is out of scope of this CP and will be clarified later.
438.	Just Retirement	4.136.	We would have had some sympathy with a moderate strengthening of the credit stresses in relation to QIS4, but the proposed credit stresses are in our view far too strong relative to equilibrium conditions particularly at the higher ratings (AAA/AA/A). Even more strongly are the proposed stresses manifestly inappropriate in adverse conditions such as those in the credit crisis, as they would lead to inconceivably high absolute spread levels. One way of addressing this would be through the introduction of a "spread SCR adjustment mechanism" in parallel with the symmetric equity SCR adjustment mechanism, which reduced the stress downwards as spreads increased, and vice versa. We believe that a significant proportion of the observed increase in spreads in the credit crisis was driven by illiquidity (see for example the breakdown of corporate bond spreads in the Bank of England financial stability and inflation reports). For lines of business where it has been proposed that an illiquidity premium should be recognised, consideration should be given to increasing the illiquidity premium in the context of the spread SCR. It is also unclear from the paper how the ratings for individual holdings should be defined – for example, whether they should correspond to the rating from a specific ratings agency, the average of all available ratings, the lowest of all available ratings etc.	Noted. Not agreed. Such an adjustment mechanism is not foreseen in the Framework Directive. Partially agreed. See revised proposal which uses CDS spreads instead of bond spreads. Noted. The actual use of credit ratings is out of scope of this CP and will be clarified later.

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439.	Legal & General Group	4.136.	The spread risk proposal is very crude and not very granular. It does not deal appropriately with the" wide spread" scenario and can result in bonds having a greater stress than equities.	Partially agreed. See the revised proposal which brings in line the maximum stress under the spread risk sub-module and the equity stress.
440.			Confidential comments deleted.	
441.	Unum Limited	4.136.	The proposed stresses for the spread risk module are too high For example the stress for a 10 year BB-rated bond is 52% which is higher than the standard equity stress, which seems counterintuitive. Also the size of the stresses takes no account of the level of current spreads and so when spreads are high the resulting post-stress spreads could be far larger than could plausibly occur.	Partially agreed. See the revised proposal which brings in line the maximum stress under the spread risk sub-module and the equity stress.
442.	XL Capital Ltd	4.136.	Rating/maturity calibration table reflects standard credit charges that are @ 2x higher than comparable rating charges in the S&P for AA or A insurers.	Noted.
443.	ABI	4.137.	The treatment of, for example, unrated commercial mortgages could lead to an excessive capital charge. A possible option would be to use internal ratings or to differentiate the treatment of mortgages.	Partially agreed. See the revised text on the treatment of mortgage bonds.
444.	ACA	4.137.	We have no strong opinion on this.	Noted.
445.			Confidential comments deleted.	
446.	CEA	4.137.	A proposal not to differentiate unrated positions could be extremely onerous in certain circumstances We believe that separately calibrated stresses should apply for the different categories of unrated assets (e.g. residential mortgages, covered bonds) in order to capture their different risk characteristics. In particular, unrated loans backed by mortgages should not be	Partially agreed. See the revised text on the treatment of mortgage bonds.

			treated equally to all other unrated instruments Mortgages are a special investment class. Any loans granted are normally backed by the mortgage and pose therefore a lower credit risk. However, these loans are always unrated as an individual policyholder does not have credit rating. The risk of non repayment should therefore be linked to the ratio of the loan as compared to the mortgage. One possible way of dealing with this could be via allocating a rating such as: **Loan / Mortgage Rating** < 50% AAA 50% - 75% AA 75%-100% A 100%-125% BBB >125% BB Government issued loans (or those issued by similar bodies) should be excluded from the scope of the spread risk module Any loans backed by mortgages guaranteed by governmental bodies or similar bodies such as for example loans to the public sector and loans with municipal guarantees, should be excluded from the scope of this module as there is no residual spread risk for the holder of these loans. In particular, for unrated loans to local and regional governments, loans on residential mortgages and unrated covered bonds the corresponding safeguard mechanisms are very high and the investments include collateral arrangements. Should these types of exposures not be excluded from the calculation of spread risk, they should at least be differentiated from other unrated positions by being attributed a rating. Based on observed default ratios, we would recommend attributing an AA rating to lending activity towards public sector (local authorities) and to other	

			entities with a municipal guarantee. Otherwise the risk associated with these exposures will be considerably overestimated, and the capital requirement will be higher than what would reflect an adequate level of protection for policyholders and beneficiaries. Bonds issued by unrated financial institutions should be given the relevant country rating Credit risk for insurance companies for which a large part of the balance sheet consists of unrated bonds issued by savings banks, will be overestimated in the spread risk calculation. For example, this is especially the case for Norwegian life insurers, as it is less common for Norwegian savings banks and municipalities to be rated than in other European countries. As a consequence, investing in such unrated bonds will be less attractive to the insurance companies, which again could lead to an increase in the savings banks costs of raising capital. We suggest on a general basis to relate the risk weighting of unrated financial institutions to the relevant country rating.	
447.			Confidential comments deleted.	
448.	CRO Forum	4.137.	Our view is that should be a differentiation between different types of unrated positions because for rated loans to local and regional government are usually rated AAA while the proposed rating for unrated issues is BBB. If the aim is to have a level playing field with Basel II in relation to unrated issues than solvency 2 should also adopt similar differentiation and avoid using conservative assumptions for all unrated issues. Mortgages are a substantial part of our portfolio. We feel a need to treat mortgages not with the same parameter settings as corporate bonds, as the risks of these exposure classes are not similar. They should therefore be differentiated, or alternatively the use of internal	Agreed. See the revised text on the treatment of mortgage bonds.

			ratings should be allowed for. Mortgages are a special investment class in its own. As mortgages are backed by collateral they have a lower credit risk. These loans are by definition not rated as individual clients do not have a credit rating. The risk of a mortgage loan is linked to the size of the loan to the underlying collateral. Furthermore, any loans backed by mortgages guaranteed by government bodies or similar bodies should be excluded from the scope of this module as there is no residual spread risk for the holder of these loans. For a number of asset categories it is unclear whether the F or G table should be used. We sugegest it be clarified what should be done for Securities lending, Repo's and Credit Linked Notes	Agreed. This is in line with CEIOPS advice on the structure of the market risk module (former CP 47). Precise definitions of the instruments to be included will be provided as part of Level 3 guidance.
449.			Confidential comments deleted.	
450.	FFSA	4.137.	CEIOPS would like to hear stakeholders' views on whether the treatment of other unrated positions (for example unrated loans to local and regional governments, loans on residential mortgages and unrated covered bonds) should be differentiated as it is possible under Basel II. For the treatment of other unrated positions, FFSA proposes to take into account the rating of the issuer.	Noted. The actual use of credit ratings is out of scope of this CP and will be clarified later.
451.	GDV	4.137.	A proposal not to differentiate unrated positions could be extremely onerous in certain circumstances We believe that separately calibrated stresses should apply for the different categories of unrated assets (e.g. residential mortgages, covered bonds) in order to capture their different risk characteristics.	Please see our response to comment #446.

			In particular, unrated loans backed by mortgages should not be treated equally to all other unrated instruments Mortgages are a special investment class. Any loans granted are normally backed by the mortgage and pose therefore a lower credit risk. However, these loans are always unrated as an individual policyholder does not have credit rating. The risk of non repayment should therefore be linked to the ratio of the loan as compared to the mortgage. One possible way of dealing with this could be via allocating a rating such as: **Loan / Mortgage Rating** < 60% AAA 60% - 80% AA 80%-100% A 100%-125% BBB >125% BB Government issued loans (or those issued by similar bodies) should be excluded from the scope of the spread risk module Any loans backed by mortgages guaranteed by governmental bodies or similar bodies such as for example loans to the public sector and loans with municipal guarantees, should be excluded from the scope of this module as there is no residual spread risk for the holder of these loans. In particular, for unrated loans to local and regional governments, loans on residential mortgages and unrated covered bonds the corresponding safeguard mechanisms are very high and the investments include collateral arrangements. Should these types of exposures not be excluded from the calculation of spread risk, they should at least be differentiated from other unrated positions by being attributed a rating. Based on observed	

			default ratios, we would recommend attributing an AA rating to lending activity towards public sector (local authorities) and to other entities with a municipal guarantee. Otherwise the risk associated with these exposures will be considerably overestimated, and the capital requirement will be higher than what would reflect an adequate level of protection for policyholders and beneficiaries.	
452.	Groupe Consultatif	4.137.	Yes, special consideration should be given to non-traded residential mortgage loans taking into account the degree of collaterals in place. We believe that unrated, but secure assets (such as mortgages with low loan to value ratios and covered bonds) should not be treated in same way as unrated corporate bonds.	Agreed. See the revised text on the treatment of mortgage bonds.
453.	Just Retirement	4.137.	Although we understand the attraction of credit ratings as convenient proxies for credit riskiness (and the absence of any other suitable proxies), we believe that there should at least be some acknowledgement that ratings are not necessarily always a good indicator of the underlying riskiness of an instrument, or of the market's view of that riskiness. Conversely the absence of a credit rating does not necessarily indicate a greater risk. Some assets such as residential mortgages relate to individuals and hence inherently have no credit rating. For such assets, it would be preferable to derive a proxy credit rating from the loan-to-value (for example with LTV below 50% being classified as AAA reflecting the very high security afforded by the mortgage in relation to the loan). In general, it seems counterintuitive to treat local and regional government loans as being highly risky, although we accept that experience across member states might vary. Sovereign debt ratings might be used as a proxy.	Agreed. Alternative approaches would however introduce additional complexity to the standard formula. Agreed. See the revised text on the treatment of mortgage bonds.
454.	Legal & General	4.137.	Unrated assets cover many very different types of assets and we propose that where such assets represent more than 5% of the total	Partially agreed. Insurance undertakings might consider

	Group		assets a firm should be able to propose an appropriate stress based on evidence.	using a (partial) internal model.
455.			Confidential comments deleted.	
456.	UNESPA	4.137.	Granularity treatment for the non rated assets. There should be more granularity in the treatment of non rated assets, in order to address the different casuistic. The possibility to apply issuer or collateral average rating could be evaluated.	Partially agreed. See the revised text on the treatment of mortgage bonds.
457.	Unum Limited	4.137.	We believe that separately calibrated stresses should apply for the different categories of unrated assets (e.g. residential mortgages, covered bonds) in order to capture their different risk characteristics. Alternatively the rating of the issuer could be taken into account. Government issued loans (or those issued by similar bodies) should be excluded from the scope of the spread risk module	Agreed. See the revised text on the treatment of mortgage bonds.
458.	XL Capital Ltd	4.137.	We agree that unrated loans to local and regional governments, loans on residential mortgages and unrated covered bonds should be differentiated from the assumption that all unrated bonds should be considered BBB.	Partially agreed. See the revised text on the treatment of mortgage bonds.
459.			Confidential comments deleted.	
460.	CRO Forum	4.138.	In this section, G factors are default rates are applied to market value of the assets. It is not clear from S&P's report if the default rates are relative to the market values or book values. There is potential double-counting when the level of spread (and market value) reflects an increased chance of default. Usually default rates (also under Basel II) are applied to book value and not market value in order to avoid gaps or double-counting of the default risk.	Noted. CEIOPS proposes to apply the stress to market values.
461.			Confidential comments deleted.	
462.			Confidential comments deleted.	

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
463.	Lucida plc	4.139.	It is not clear how the recovery rates have been calibrated. There is some evidence for much higher recoveries than those indicated. The result of using such low recovery rates on structured credit with low ratings is that the capital charge becomes even more onerous.	Not agreed. Refer, for example, to Moody's "Corporate Default and Recovery Rates, 1920-2008", page 7, for average corporate debt recovery rates.
464.			Confidential comments deleted.	
465.	CRO Forum	4.140.	This capping and flooring introduces possibilities for model arbitrage, as the capital of several tranches of the same underlying pool will exceed the capital as if it was one tranche. The floor discourages investing in the top tranche of the capital structure. It rather encourages investing in subordinated tranches.	Noted. The floor has been introduced to cover any risks of the structured credit product due to intransparency and legal risks. The empirical evidence is outlined in Annex B.II.
466.	XL Capital Ltd	4.140.	We would disagree with the floor application in this clause: not every structured credit bond is subject to a loss and to assume all will take at least 10% loss is unjust; the time series used is too short and is more than likely biased by recent events in the credit crisis. We will separately evaluate all underlying loss and recovery rates for structured credit holdings and reflect in holding values. In CP 63 reference is made to surveillance and transparency of underlying collateral. Some credit should be given to solid fundamentals rather than assume all similarly structured credit will perform under the same loss and recovery levels.	Noted. The floor has been introduced to cover any risks of the structured credit product due to intransparency and legal risks. The empirical evidence is outlined in Annex B.II.
467.	CEA	4.141.	Credit linked notes would be more appropriately treated in structured credit Ceiops proposes that credit derivatives encompass credit linked notes. We suggest that credit linked notes (CLN) cannot be categorized in credit derivatives but in structured credit.	Not agreed. The definition of structured credit products follows the definition in the CRD (2006/48/EC).
468.			Confidential comments deleted.	

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
469.	FFSA	4.141.	CEIOPS proposes that credit derivatives encompass credit linked notes. FFSA suggests that credit linked notes (CLN) cannot be categorized in credit derivatives but in structured credit.	Not agreed. The definition of structured credit products follows the definition in the CRD (2006/48/EC).
470.	ABI	4.142.	The proposed stresses for the spread risk module appear to be highly conservative We believe that proposed stresses on credit derivatives are too strong and are inconsistent with the stresses for corporate bonds. For example, holding cash plus a credit default swap on a bond might incur a far larger capital charge compared to holding the corporate bond directly – which is counterintuitive. As an example the stress factor for a 5 year AAA bond is 7.9% which equates to a rise in spreads of 173 bps. This is significantly different from the CDS stress of +600% (which would translate into an equivalent rise in spreads of 900 bps if starting from 150 bps). Also in QIS4 guidance was given that credit derivatives which hedged out risks on corporate bonds were revalued under the corporate bond stress rather than separately under the credit derivative stress. We believe that it would be helpful to clarify this in the level 2 advice.	Noted. See revised calibration of the spread risk for corporate bonds. Increases of 600% in CDS spreads for various rating categories have been observed during the financial crisis.
471.	CEA	4.142.	The proposed stresses for the spread risk module seem far too strong The CEA believes that proposed stresses on credit derivatives are too strong and are inconsistent with the stresses for corporate bonds. For example, holding cash plus a credit default swap on a bond might incur a far larger capital charge compared to holding the corporate bond directly – which is counterintuitive. As an example the stress factor for a 5 year AAA bond is 7.9% which equates to a rise in spreads of 173 bps. This is significantly different from the CDS stress of +600% (which would translate into an equivalent rise in spreads of 900 bps if starting from 150 bps).	Please refer to comment #470

			Also in QIS4 guidance was given that credit derivatives which hedged out risks on corporate bonds were revalued under the corporate bond stress rather than separately under the credit derivative stress. We believe that it would be helpful to clarify this in the level 2 advice.	
472.			Confidential comments deleted.	
473.	GDV	4.142.	The proposed stresses for the spread risk module seem far too strong The GDV believes that proposed stresses on credit derivatives are too strong and are inconsistent with the stresses for corporate bonds. For example, holding cash plus a credit default swap on a bond might incur a far larger capital charge compared to holding the corporate bond directly – which is counterintuitive. As an example the stress factor for a 5 year AAA bond is 7.9% which equates to a rise in spreads of 173 bps. This is significantly different from the CDS stress of +600% (which would translate into an equivalent rise in spreads of 900 bps if starting from 150 bps). Also in QIS4 guidance was given that credit derivatives which hedged out risks on corporate bonds were revalued under the corporate bond stress rather than separately under the credit derivative stress. We believe that it would be helpful to clarify this in the level 2 advice.	Please refer to comment #470
474.	Legal & General Group	4.142.	Spread test is too onerous. See above	Noted.
475.			Confidential comments deleted.	
476.	Unum Limited	4.142.	The proposed stresses for the spread risk module appear to be highly conservative We believe that proposed stresses on credit derivatives are too strong and are inconsistent with the stresses for corporate bonds. For example, holding cash plus a credit default swap on a bond might	Noted. See revised calibration of the spread risk for corporate bonds. Increases of 600% in CDS spreads for various rating categories have been observed

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
			incur a far larger capital charge compared to holding the corporate bond directly – which is counterintuitive. Also in QIS4 guidance was given that credit derivatives which hedged out risks on corporate bonds were revalued under the corporate bond stress rather than separately under the credit derivative stress. We believe that it would be helpful to clarify this in the level 2 advice.	during the financial crisis. Further please note that CDS used for hedging corporate bond exposures would be netted out before calculating the capital charges.
477.	ABI	4.143.	The sample calculations show very high charges even for 'AAA'-rated bonds. We believe the proposed stresses are too high.	Noted. Please see updated proposal.
478.	CRO Forum	4.143.	The example seems to be incorrect. A maturity of five years should deliver a F-factor of 7.9%	Agreed. See revised proposal which does no longer applies maturity buckets, but uses duration instead.
479.	Groupe Consultatif	4.143.	Maturity 5Y yields a capital charge of 7,9% (see table 14). Or is spread stress a function of duration rather than maturity? This important question requires clarification. This example seems not to be right and underestimates the effects of the new parameter. The new parameter with maturity 5 and AAA-rating is set to 7.9 and therefore the new capital charge will be 7.9% which is more than 7 times as much as with the old parameters. This increase seems not to be sensible for AAA-investments. Maturity 5Y yields a capital charge of 7,9% (see table 14). Or is spread stress a function of duration rather than maturity?	Please refer to comment #478
480.	Munich Re	4.143.	Maturity 5Y yields a capital charge of 7,9% (see table 14). Or is spread stress a function of duration rather than maturity?	Please refer to comment #478
481.			Confidential comments deleted.	
482.			Confidential comments deleted.	
483.			Confidential comments deleted.	
484.			Confidential comments deleted.	

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
485.			Confidential comments deleted.	
486.			Confidential comments deleted.	
487.	ABI	4.150.	We are concerned that this module should not double-count risk, should properly reflect the nature of the assets and policyholder liabilities and the extent to which the insurer is, or is not, already exposed to spread risk.	Agreed.
488.	CEA	4.150.	The effects of illiquidity premium should be considered in calibration of the spread risk shock.	Agreed. The revised proposal is based on CDS spreads instead of bond Spreads.
489.	CRO Forum	4.150.	CEIOPS has recently recognised the existence of an illiquidity premium for certain insurance products, as detailed in their final advice on risk free interest rate (former CP40), and is currently looking for a mandate from the Commission to further investigate technical solutions. There are important links with the capital requirements that need to be developed to ensure internal consistency of the Pillar 1 framework. CEIOPS has already identified one aspect in the final advice, which we understand to be aiming to identify the mismatch between assets and liabilities - although this point would require clarification from CEIOPS. In addition to that, CEIOPS needs to consider the spread risk module in this CP. We believe that this module should reflect the recognition of the LQP to avoid double counting of risks. CEIOPS will also need to consider the appropriate correlation between these two capital charges.	Agreed. The revised proposal is based on CDS spreads instead of bond Spreads.
490.			Confidential comments deleted.	
491.	GDV	4.150.	The liquidity premium would need to be removed from the consideration of spread risk Spread risk should not include the change of the liquidity spread if the insurance company is not exposed to liquidity risk i.e. if the	Agreed. The revised proposal is based on CDS spreads instead of bond Spreads.

			insurer expects to hold the asset until maturity. In those cases only the change of the credit default spread should taken into account.	
492.	UNESPA	4.150.	Based on 99,5 % confidence level principle and the holding horizon (unlimited under going concern approach) of assets backing surplus, namely assets backing own funds in excess of technical provisions and SCR, a drastically reduced calibration for them should be applied. Assets backing surplus should have a drastically reduced shock in the SCR calculation in the market risk module because: ☐ An entity with low risk and with a broad level of capital would have higher SCR, than an entity with exactly the same risk and less capital, which is an inconsistency, since the solvency ratio will be focused on assets backing surplus, and not in the assets that cover insurance liabilities, misaligning solvency ratio ultimate objective established under the Directive. ☐ One of the functions of assets backing surplus is to cover asset losses that back liabilities, due to market risk, in order to cover the losses, assets backing surplus are mark to market and in capacity to cover the solvency ratio. If the solvency ratio is not achieved, there will be an increased in capital requirements. In this since, what is really relevant is the market value of these assets backing surplus, and not the potential loss that they may have in a year horizon, and at a given confidence level. ☐ Depending on the level of assets backing surplus, they could induce a higher result than the 99.5 percentile solvency requirement established in the Directive. ☐ Depending on the insurance and reinsurance undertakings assets backing surplus characteristics (only those assets different from cash), the SCR could substantially be increased, being this a clear disincentive to having excesses on capital, since the more assets backing surplus held by an entity with the same assets	Not agreed. It is contrary to the risk-based approach set out in the Level 1 text. Under a risk-based approach, it is the risk inherent in the assets, liabilities and financial instruments that is important, and so the same risk charge should apply regardless of what asset or liability is being considered, and whether or not the particular asset is considered to be surplus or "backing liabilities".

			backing liabilities than other, the greater market risk SCR the entity will have. In order to have a better perspective of the real issues related to the calculation of SCR for assets backing surplus, we will illustrate some examples: ☐ An entity with no insurance liabilities, and paid up capital, could be more risky, than an entity with insurance liabilities, undercapitalized. ☐ Assume, a newly formed entity that has not sold any insurance policy (0 commitments, and no capital required to ensure risks at a 99.5th percentile). However, capital has been spent on: 70% in property, 10% in debt and equity financial instruments, and 20% in treasury. The propose SCR definition would impose a capital charge of e.g. 30%, and considering that the expected one year return on assets will be 10%, the entity could not distribute the 100% of its financial earnings, in the form of dividends to its shareholders, showing an unrealistic solvency position. Concluding, if the same treatment is defined to assets backing surplus and assets that back liabilities in the SCR calculation, a false impression of the real entity risk profile will be induced. Therefore, and considering the fact that the Solvency II is focus on a total economic balance sheet approach, we think that the assets backing surplus should be included in the SCR calculation, but with a drastically reduced scenario shock.	
493.	CRO Forum	4.151.	We appreciate the proposal being put forward by CEIOPS on the methodology for ABS tranches. However, we feel that the approach proposed by CEIOPS is impractical and introduces undue complexity in the standard formula calculation. It is unclear from the advice whether CEIOPS uses legal / contractual maturity or remaining maturity. We would expect the latter to be used. Furthermore we would also propose that when any call or	Partially agreed. If a look-through is not possible, the stress for "equity, other" should be applied. Agreed. Remaining maturity is used. See revised text.

			option to surrender is included in the instrument that this possibility is considered to be the maturity	
494.	Lucida plc	4.151.	To avoid there being different approaches adopted by different owners of the same asset, we would welcome CEIOPS recommending a standard approach to be adopted where more than one rating is available for the same instrument.	Agree. However the use of ratings is out of the scope of this CP and will be dealt with further.
495.	PWC	4.151.	We note that some instruments subject to spread risk may not be sufficiently liquid to have a well defined market value. We suggest that guidance is included on how to address this situation.	Noted. Further Level 3 guidance on this issue can be expected.
496.	CEA	4.152.	Please see comments to Para 4.137.	Please refer to comment #446
497.	GDV	4.152.	Please see comments to Para 4.137.	Please refer to comment #451
498.	AFS	4.154.	The capital requirement for corporate bonds and Credit Default Swaps are calculated separately therefore, the standard formula assumes a 100% positive correlation between these items. However, credit derivatives may be perfectly negatively correlated with the corporate bonds. Consideration should be given to allowing the netting the credit derivatives against the corporate bonds prior to the stress tests. If this approach was taken the counterparty default risk would need to be picking up in the Default Module.	Agreed. Netting credit default swaps against bonds is possible before calculating the capital charges.
499.	Groupe Consultatif	4.154.	We note that the capital requirement for bonds and CDS would be summed and that netting is not part of the standard formula. The formula assumes a +100% correlation whereas in reality credit derivatives may be perfectly negatively correlated. It would make sense to allow netting the credit derivatives against the corporate bonds prior to the stress test and pick up the counterparty default ion the Default Module.	Please refer to comment #498
500.	KPMG	4.154.	We note that the capital requirement for bonds and CDS would be summed and that netting is not part of the standard formula. The formula assumes a +100% correlation, but in reality credit derivatives could be perfectly negatively correlated. We believe that	Please refer to comment #498

			in certain situations it may be appropriate to allow netting of the credit derivatives against the corporate bonds prior to the stress test being performed, with the counterparty default risk being included in the counterparty default module.	
501.	ACA	4.155.	We agree on the new approach which takes in account the maturity for the capital charge for the spread risk, but the new calibration seems excessive compared to QIS4 calibration (up by a factor of 3.5 for a typical bond holding).	Not agreed. The majority of stakeholders suggests that the duration approach is more risk sensitive than the maturity bucket approach.
502.	CEA	4.155.	Spread risk is calculated on the basis of maturity and not duration (which was the case in QIS4). This is a departure from a risk based method as duration gives a better indication of the exposure to spread risk than maturity. As an example fixed rate mortgage bonds which can be redeemed by the debtor at par value may have very low option adjusted duration although the maturity of the bonds are 30 years.	Agreed. Instead of maturity buckets, CEIOPS proposes a function of the duration.
503.	CRO Forum	4.155.	At 49%, a 7+ year BB bond requires more capital than global equities as defined in CP69 (45%). We do not consider this to be sensible. The capital charge formula takes into account the impact of credit risk exposure on liabilities. However, the assumption is that higher credit spreads by definition increases the risk of liabilities as the liability component was a minimum of zero. However, for insurance contracts in which asset spread risk is partially passed on to policyholder this implies that such offset cannot be taken into account which results in unnecessary conservatism. Moreover, the advice proposes that an additional spread risk of ((Liabul) is applied to corporate bonds held in non EAA or OECD countries. We consider the list of OECD countries to be outdated, last updated	Agree. See revised proposal which brings in line the maximum stress within spread risk and equity risk. Not agreed. The OECD member

			in 2000, as it does not reflect the changes in the "market presence" of some of the Asian economies. As the list stands Slovak Republic's bonds attracts lower capital charges than economies like Hong Kong or Singapore. Where we consider OECD as a good starting point we would recommend that CEIOPS revisit the list of countries and consider other economies that have developed since the last revision on the OECD members list in December 2000. CEIOPS should also give due consideration to some of the fast developing countries such as India, China and Brazil that could be considered as economic "power-houses" in the near future.	list is used as a proxy for advanced economies. However, CEIOPS does not intend to adjust this list for single countries.
504.	DIA Danish Insurance Association	4.155.	4.155: Spread risk is calculated on the basis of maturity and not duration as in QIS4. This is a departure from a risk based method as duration gives a better indication of the exposure to spread risk. As an example fixed rate mortgage bonds which can be redeemed by the debtor at par value may have very low option adjusted duration although the maturity of the bonds are 30 years.	Please refer to comment #502
505.	GDV	4.155.	Spread risk is calculated on the basis of maturity and not duration (which was the case in QIS4). This is a departure from a risk based method as duration gives a better indication of the exposure to spread risk than maturity. As an example fixed rate mortgage bonds which can be redeemed by the debtor at par value may have very low option adjusted duration although the maturity of the bonds are 30 years.	Please refer to comment #502
506.	GROUPAMA	4.155.	Groupama questions the new methodology and the new parameters suggested by CEIOPS: the approach suggested based on buckets of rating and maturity. This will unfairly penalise short duration which would be treated like bonds with a duration of 3 years. This simplification has no economical sense, we strongly recommend keeping the QIS 4 methodology, i.e. use factors defined by rating and then apply the duration of each bonds, line by line.	Please refer to comment #502
507.	Groupe	4.155.	The new calculation and the new stress factors lead to enormous	Noted. But see revised proposal.

	Consultatif		spread risk. For example the asset impact for AAA rated bonds with an average modified duration of 5 is with the new parameterisation 7 times as high as it was in QIS 4.	
508.	RBS Insurance	4.155.	The credit spreads set out in the table seem very high compared with those used for the QIS4 exercise (refer 4.116).	Noted. But see revised proposal.
509.	RKR	4.155.	The capital charge for spread risk is determined using rating and maturity. The suggested capital charges in CP70 reflects stress levels far beyond what could be observed in the Danish market for mortgage bonds during the financial crisis. For floating-rate bonds CP70 reflects losses of 3,4%-7,9%, where as the actual loss for Danish floating-rate bonds was 0,7% -3,9%, i.e. 50% of the loss in CP70. For Danish mortgage bonds with 30 years maturity CP70 reflects loss of market value of 11,5%, but the actual loss during the worst period of the financial crisis was approximately 8,3% regarding spread risk, i.e. 70% of the loss in CP70.For callables with shorter maturities (10-20 years) the losses were significantly smaller, but using CP70 the capital charge would be unchanged 11,5% despite of the lower spread risk. Furthermore, the use of maturity instead of duration is a departure from the risk based method in QIS4.	Not agreed. Introducing specific treatments for different mortgage bonds whose characteristics differ significantly across Member States would add too much complexity in the standard formula. The use of (partial) internal models might be an alternative.

			As an example fixed rate annuity mortgage bonds which can be redeemed by the debtor at par value may have a very low option adjusted duration and average life although the maturity of the bonds are 30 years. This is due to the quarterly repayment and the debtors option to redeem. The average life of Danish mortgage bonds with initial maturity of 30 years are 5-7 years. The risk from the call option is already included in the capital charge for interest rate- and volatility risk. Approximately 75% of the Danish callable mortgage bonds have an initial maturity of 30 years For such bonds, the use of maturity rather than duration to determine the capital charge would seriously overestimate the spread risk with significant differences between individual bonds. We suggest that CP70 should state the spread to be used for stressing testing rather than the actual capital charges. Then the institutions could use prepayment models for calculating the loss of market value and the capital charges. Alternatively, we suggest the use of spread risk/ OAS risk/ weighted average life (WAL) instead of maturity or modified duration. Using credit assessments from rating agencies in determining the capital charge introduces rating sensitivity. The problem is that the issuer is not always able to control the quality of the rating. This will e.g. be the case if government debt is downgraded or if rating agencies change their methodologies.	Not agreed. Insurance undertakings are however free to apply a (partial) internal model.

			Furthermore, the rating criteria are pro-cyclical: In upturns, issuers are more likely to retain higher credit qualities and vice versa. With the rating criteria, a sudden downgrade of a covered bond will urge investors to move out of their holdings in these bonds. This would create an undesirable instability in the housing finance system and so have an adverse effect on financial stability. To us it is of decisive importance that the statutory regulation supports stability in the property finance systems.	
510.	ABI	4.156.	The proposed stresses for the spread risk module are too high. The new stresses may arise from excessive reliance upon data from the current financial crisis, but it is important not to misinterpret the data in terms of risks going forward in future years. The current proposals for the spread module provide strong incentives to invest at the higher end of the maturity buckets. For example, the stress for 'BBB'-rated bonds is only 1.1% higher than for 'A'-rated bonds. This could provide wrong incentives to good risk management and we therefore believe that CEIOPS should return to QIS4 type levels.	Noted. Agreed. The new proposal introduces a duration-based approach instead of maturity buckets.
511.	AFS	4.156.	We question the strength of increase in some of the stress tests which for short duration very high quality credit are very significant. For example 1.5 year, AA rated bonds have their capital charge increased by 1600%.	Partially agreed. See revised calibration.
512.	AMICE	4.156.	AMICE members question the new methodology and the new parameters suggested by CEIOPS : - We reject the new approach that classifies the assets on buckets per rating and maturity. This will unfairly penalise short-duration assets which would be treated as 3-year duration bonds. This simplification has no economical sense, and therefore we strongly recommend keeping the QIS 4 approach, i.e. grouping by rating and duration of the bond.	Agreed. See revised text.

			- Secondly, we question the new calibration suggested by CEIOPS. Indeed, CEIOPS uses historical data for high-yield corporate bonds whose volatility includes both the default probability and the liquidity situation. Therefore the volatility of the illiquidity premium is included when calculating the 99.5% Value-at-Risk. Additionally, Article 105 of the Directive deals with the credit spread risk over the risk-free rate used for calculating the best estimate of technical provisions. Since the risk-free rate could include an illiquidity premium, the volatility of this premium should not be taken into account into the credit risk module. We suggest CEIOPS to re-assess the parameters using data excluding the illiquidity premium, or at least stay with the parameters of QIS 4.	Agreed. See revised calibration which is based on CDS spreads instead of bond spreads.
513.	ARC	4.156.	Spread Risk: The capital charge applied to bonds have increased significantly since QIS4. The reasons for this are not fully explained. For AAA rated bonds the 'F' factor is now 3.4% for 0-2.9 year duration, whereas under QIS4 this was 0.25%. It is also unclear whether these charges apply to EEA government bonds.	Noted. See revised calibration which uses a more risk-sensitive approach by using the duration instead of maturity buckets. See CP47: The charges do not apply to bonds issued by EEA governments in their own currency.
514.			Confidential comments deleted.	
515.	CEA	4.156.	The proposed stresses for the spread risk module seem far too strong The CEA believes that the proposed stresses are too strong. We would like to stress that the data observed during the financial crisis was caused mainly by the abnormal favorable rating assigned by rating agencies. For example the stress for a 10 year BB- rated bond is 52% which is	Noted.

			higher than the standard equity stress, which seems counterintuitive. Also the size of the stresses takes no account of the level of current spreads and so when spreads are high the resulting post-stress spreads could be far larger than could plausibly occur. For example: ☐ For a bond rated AA with a modified duration of 5, the capital charge was 1.25% in QIS4 against 10.3% in CP70, an increase of over 800%. ☐ For a bond rated AAA with a modified duration of 5, the capital charge was 1.25% in QIS4 against 7.9% in CP70, an increase of over 600%.	Agreed. See revised text which introduces a maximum capital charge in line with the equity stress.
			The approach used in QIS4 (to multiply by duration, rather than bucketing durations) was a lot more risk sensitive and so much more appropriate Spread risk is calculated on the basis of maturity and not duration (as in QIS4) which represents a departure from a risk based methodology as duration gives a better indication of the exposure to spread risk. As an example fixed rate mortgage bonds which can be redeemed by the debtor at par value may have very low option adjusted duration although the maturity of the bonds are 30 years. Furthermore, the proposed buckets which group several years are not consistent mainly for small maturities, it could lead to arbitrage and this approach is not in line with the asset management of insurance business. This would lead to a high capital charge for any short-term deposits. We recommend using the duration approach as it was stated in QIS4.	Agreed. See revised text which re-introduces the duration approach.

<table>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>516.</td><td>CRO Forum</td><td>4.156.</td><td>F factors are not internally consistent with G especially for AAA, AAA and A ratings.

For structured assets, the calibration look at the underlying assets, therefore if we assume:

Attach = 0 and Detach = 1 then capital charges for bonds and structured assets should be similar (or lower for bonds). However, the proposed calibration shows a significant higher capital charge for bonds than the equivalent structured assets.

We would urge CEIOPS to include a similar approach as with the Counterparty default risk module with respect to use the Solvency ration for regulated (re-)insurance entities e.g.

<table><tr><td>OF/SCR</td><td>Probability of default</td></tr><tr><td>> 200%</td><td>0.025%</td></tr><tr><td>> 175%</td><td>0.050%</td></tr><tr><td>> 150%</td><td>0.1%</td></tr><tr><td>> 125%</td><td>0.2%</td></tr><tr><td>> 100%</td><td>0.5%</td></tr><tr><td>> 90%</td><td>1%</td></tr><tr><td>> 80%</td><td>2%</td></tr><tr><td>≤ 80%</td><td>10%</td></tr></table></td><td>Not agreed. The F and G factors are not necessarily comparable: While rates F factors were calibrated based on market spread data, G factors are mainly composed of stressed default for asset portfolios.

Not agreed. The assumed probabilities of default are not directly translatable into spread moves.</td></tr>
<tr><td>517.</td><td>Deloitte</td><td>4.156.</td><td>We would welcome greater clarity as to how these stresses have been derived from the underlying analysis. The analysis is apparently</td><td>Noted. See revised proposal.</td></tr>
</table>

			based on market value moves in credit instruments, some of which is due to moves in risk free yield curves rather than credit effects. It is important that the stress test is specified appropriately to avoid double counting interest rate effects. The specification of market value stresses (rather than spread stresses) produces undesirable discontinuities at bucket boundaries.	
518.	FFSA	4.156.	CEIOPS proposes a new level of table of stress factors detailed by maturity and rating of the bond. FFSA considers that this approach is not in line with the insurance business as we recommend using the duration approach as it was stated in QIS4. In particular, the proposed buckets which group several years are not consistent mainly for small maturities. This would lead to a high capital charge for any short-term deposits. Furthermore, FFSA believes that the stresses are way too high.For example, for a bond rated AA with a modified duration of 5, the capital charge was 1.25% in QIS4 against 10.3% in CP70, an increase of 800% **Alternative technical proposal :** 1-The calibration of spread risk shocks proposed by CEIOPS had changed from a duration based shock to a bucket based shock. This can lead to a very high cost for short term bonds: an AA 3 month cash managing mutual fund will have to simulate a draw down of 4.5%!!! The result obtained are very penalising, specially for good ratings and short term exposures.. As we consider that the spread duration used in QIS4 can be replaced by the maturity of the bond, avoiding un-useful complication, we recommend a maturity factor, used as a spread	Agreed. See revised text which introduces a duration-based approach. … See our response to comment #417

			variation, with a floor on short maturities, as in QIS4, and a "recovery" floor for longer ones. As to avoid an over-weight of the recent crisis in calibration, we recommend using empirical quantile lower than 99.5% on available data, and some looking throw the index composition specially on best ratings, in order to avoid excessive concentration on one name in the calibration process. 2-CEIOPS calibration was made on Merryl Lynch Indices, by comparing the returns of similar govies indices to sub-indices, covering both maturity buckets and rating classes. This approach can lead to inconsistency, essentially on short term indices, with potentially significant differences in sensibility between both indices. 3-Another problem of the methodology used by CEIOPS is the representativeness of the indices. Analysing results, one can find that the worst results were obtained on period ending on the first days of March 2009. If one looks to the composition of AAA 1-3 indices at this time, we see an enormous over-weighting of General Electric: 91% of the US basket is composed of GE issues, 23% of the Euro-Basket is GE capital. So the AAA 1-3 bucket is quasi only calibrated to the accident of this issuer. Or what happened to this issuer on the first days of march 2009? For example the highest weighted issue, the 5.875% bond, due 02/15/2012, lost 10.6% per cent in price and his yield to maturity	

			jumped from about 4%.. Should the weight of GE be "normal", the calibration of AAA short term bonds should be much lower…. Furthermore, looking to other bonds in the indices at that date shows that 100% of AAA 1-3 US indices and 95% of euro one were financials.. This problem of representativeness is the same in other maturity buckets. In our opinion, when CEIPOS decided to modify his results up on AA 1-3 in order to be consistent with AAA one, it would have rather to modify down AAA bucket. 4- But the main problem of the methodology used by CEIOPS is the over-weight of the recent credit crisis in the calibration. Of course, we agree with the idea that this crisis had clearly showed that the calibration of credit risk has to be updated. But calibrating a 0.5% stress on 10 years data is calibrating only on the worst points of the worst crisis. It's true there is a lack of data. But every one knows the recent crisis is the worst we lived. So adding longer real historical data would not modify the worst periods, but only the level of quantile they represent. In our opinion this remark allows to take a quantile lower than 99.5% in the calibration on the last years. Of course, calibration has to be made on 2008/2009 crisis, but taking the worst sub period in the worst year isn't representative of the 99.5% scenario.	

			Taking a lower quantile in this worst year isn't a change to the 99.5% principle, but only an empirical methodology to compensate the over weight of last year data. For example, on euro AAA 1-3, the empirical 99.5% Var is 2.5%, but one could take the empirical 99% Var and find 2.06%, simply supposing the addition of 10 years of historical data 5- Final re-calibration proposed for AAA 1-3 : By correcting the first days of mars 2009 on US data, and taking the empirical 99% Var, one will find 3.3% for this country. CEIOPS propose to use a 75/25 repartition between euro and us bonds. Noting that insurers are usually essentially in Euro bonds, and noting that some us issuers are present in euro indices (GE for example), we propose to stay to an euro calibration, At the end, for this bucket of rating and maturity, we obtain a 2. 06% charge for AAA 1-3 bonds. As the bucket is 1-3, we translate that in a shock depending on the maturity m by : Capital charge = 1.03%*m. Hence, the cost of capital found on AA 1-3 would be consistent (after the move to 99% quantile). For **Euro** 98-2009 data and for the 99% quantile, we found the following results **on spreads.** AAA AA A BBB 1-3 1.03% 1.45 % 5.22% 2.71% 3-5 1.15% 1.44% 3.44% 2.93%	

			5-7 1.19% 1.42% 3.33% 2.80% 7-10 0.86% 1.00% 3.00% 2.80% **Mean 1.06% 1.33% 3.75% 2.83%** As CEIOPS noted it, during this crisis, A were most affected than BBB. This phenomenon is another proof of the problem of representativeness of Merryl Lynch indices during this period, with big differences in the industry composition of indices. To correct this effect, we propose to use as a starting point BBB results (most diversified index) and to put A coefficient as the mean between AA and BBB, obtaining: AAA AA A BBB 1-3 1.03% 1.45 % 2.08% 2.71% 3-5 1.15% 1.44% 2.18% 2.93% 5-7 1.19% 1.42% 2.16% 2.80% 7-10 0.86% 1.00% 1.40% 2.80% **Mean 1.06% 1.33% 2.08% 2.83%** 6- During the crisis a new phenomenon appeared on credit markets, what financial markets call "negative basis": it was possible, at the same date, to buy a bond, and to cover the default risk with a CDS, obtaining a theorically risk free composite…but with a residual spread over the risk free rate. This spread is known as the "liquidity premium" and it appeared at a moment when a lot of market participants were short liquidity and weren't able to hold their positions, nor even to buy new positions. One can measure it by comparing Itraxx index (CDS index built by Barclays) and a corporate bond spread index, for example iboxx	

			Index (Barclays). By only calibrating the cost of capital on bonds, CEIOPS measured both the shocks on spread risk and on liquidity premium, over-calibrating strongly the cost of capital on spread risk. As Liquidity is rarely a risk for Insurers (on the contrary of banks, for example), and is already measured by the massive lapse risk, this effect should be removed from the calibration of spread risk. This methodology was applied on a composite of Merril Lynch 5-7 years indices, corresponding to the composition of Itraxx: each variation of indices was corrected by the variation of Liquidity Premium. Then, the different centiles were calculated on the corrected data. We found that eliminating the liquidity Premium **should reduce by approximatively 40% the cost of capital on spread risk.** Using all these effect, we can propose the following calibration for spread risk: **AAA AA A BBB** **0.63% 0.80% 1.25% 1.70%** **Additionnal technical proposal : calibrate the spread module based on spread risk only (excluding liquidity risk) (SEE additional document provided)**	

			 CalibrationCreditSpreadRisk_excludingIlliqu	
519.	GDV	4.156.	The proposed stresses for the spread risk module seem far too strong The GDV believes that the proposed stresses are too strong. We would like to stress that the data observed during the financial crisis was caused mainly by the abnormal favorable rating assigned by rating agencies. For example the stress for a 10 year BB- rated bond is 52% which is higher than the standard equity stress, which seems counterintuitive. Also the size of the stresses takes no account of the level of current spreads and so when spreads are high the resulting post-stress spreads could be far larger than could plausibly occur. For example: - For a bond rated AA with a modified duration of 5, the capital charge was 1.25% in QIS4 against 10.3% in CP70, an increase of over 800%. - For a bond rated AAA with a modified duration of 5, the capital charge was 1.25% in QIS4 against 7.9% in CP70, an increase of over 600%. 21. The approach used in QIS4 (to multiply by duration, rather than bucketing durations) was a lot more risk sensitive and so much more appropriate 22. Spread risk is calculated on the basis of maturity and not duration (as in QIS4) which represents a departure from a risk based	See our response to comment #515

			methodology as duration gives a better indication of the exposure to spread risk. As an example fixed rate mortgage bonds which can be redeemed by the debtor at par value may have very low option adjusted duration although the maturity of the bonds are 30 years. Furthermore, the proposed buckets which group several years are not consistent mainly for small maturities, it could lead to arbitrage and this approach is not in line with the asset management of insurance business. This would lead to a high capital charge for any short-term deposits. We recommend using the duration approach as it was stated in QIS4.	
520.	GROUPAMA	4.156.	Following the definition of the Directive, the calibration of this risk module should be done excluding the variation of the illiquidity premium and the illiquidity premium should be directly included in the risk free rate, not in the credit spread risk over the risk free rate. The calibration suggested by CEIOPS, including the illiquidity premium volatility is not consistent with the Level 1 text if the illiquidity premium is included in the risk free rate, and lead to a strong over-calibration of the spread risk module. Please find attached a study that shows, for a A-rated average portfolio, the suggested calibration is (approx) 40% higher due to the integration of the illiquidity premium. The conclusion of this study is that new parameters of the spread risk module suggested by CEIOPS are over-calibrated and that they should be re-assessed using credit spreads volatility only(or at least, should not be changed compared to QIS 4).	Partially agreed. The updated proposal is based on CDS spreads instead of bond spreads.

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
			 CalibrationCreditSpreadRisk_excludingIlliqu	
521.	Groupe Consultatif	4.156.	In markets with high spread levels the determined stresses overestimate spread risk and lead to procyclical effects. Hence an adjustment mechanism with stresses depending on the spread level should be applied. We welcome the move to a table of charges based on rating and duration which is much better than the capping approach of QIS-4. However we question the strength of increase in some of the stress tests which for short duration very high quality credit are very significant. For example 1.5 year, AA rated bonds have their capital charge increased by 1600%.	Not agreed. Introducing an adjustment mechanism based on spread levels would not be in line with the Level 1 Directive. Not agreed. The majority of stakeholders suggests that the re-introduction of the duration-based approach is more risk-sensitive.
522.	Institut des actuaires	4.156.	Institut des Actuaires considers that the proposed coefficients over-weight the 2008 financial crisis by calibrating the formula on a too small period including the worst crisis for credit risks. Calibrating on the 10 years period but with a specific allowance for the VaR (for example 99% instead of 99.5%) would result in the same conslusion as calibrating on a longer period with a 99.5% VaR and would be more consistent with the spirit of the directive. Institut des Actuaires encourages CEIOPS to calibrate on a longer period or to calibrate on the last 10 years period but with a 99% VaR.	Not agreed. No longer time series are available. Using lower confidence levels or filling up time series with favourable data lacks a scientific basis.
523.	IUA	4.156.	We note that the capital factors now includes an adjustment for the maturity of the bond, but not withstanding this the capital loading even for a 10+ year AAA bond has increased by a surprising amount over QIS 4 levels.	Noted.

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
524.	Just Retirement	4.156.	See comment under 4.136	Please see our response to comment #438
525.	KPMG	4.156.	We welcome the move to a table of charges based on rating and duration which we believe to be superior to the capping approach applied in QIS4. However we note that the absolute levels of increase in some of the stress tests appear very high, especially for short duration very high quality credit (for example 1.5 year, AA rated bonds will be subject to a capital charge that is 1600% higher than that tested in QIS4).	Not agreed. The majority of stakeholders suggests that the re-introduction of the duration-based approach is more risk-sensitive.
526.	Legal & General Group	4.156.	The factors proposed seem extremely cautious and sufficient data is not provided to demonstrate why they can be considered a 1 in 200 year event. While we agree with the implicit intention to better understand, manage and reduce spread risk, it is important that consideration is given to the potential impact that such onerous requirements will have on the pricing and availability of products that are typically backed by these assets. In addition, there is a potential market impact of breaking the bonds into maturity/tenure buckets in this way since there is now a discontinuity in the capital held for very similar assets. This is because under the proposed calculations, instruments that are at the higher end of each maturity/tenure bucket will be more attractive in terms of capital compared to similar assets at the bottom of the next category. Also relevant to 4.158	Partially agreed. See the revised proposal which uses a duration approach instead of maturity buckets.
527.	Lucida plc	4.156.	The proposed stresses for the spread risk module are too high. They make no allowance for current market levels and are likely to discourage the purchase of corporate bonds, thereby adversely impacting insurers that are holding corporate bonds and making it more difficult for companies to issue corporate bonds. A large part of spread widening is also likely to be as a result of	Not agreed. Taking into account the current spread levels would not be in line with the Level 1 Directive.

			liquidity so ignoring this completely for insurers with illiquid liabilities does not seem appropriate.	Agreed. The updated calibration is based on CDS spreads instead of bond spreads.
528.	Munich Re	4.156.	In markets with high spread levels (e.g. after a credit crunch) the determined stresses overestimate spread risk and lead to procyclical effects. Hence an adjustment mechanism with stresses depending on the spread level should be applied.	Not agreed. Introducing an adjustment mechanism based on spread levels would not be in line with the Level 1 Directive.
529.			Confidential comments deleted.	
530.	UNESPA	4.156.	Excessive burden in the proposed shocks and bucket definition penalizes the short terms. The scenarios should address the different moments of credit spreads, since it has no sense to apply such high shock scenarios when there are no credit restrictions in the markets, therefore the formula should have a correction factor. The buckets penalize shorter maturities, and therefore, they should have a year classification.	Agreed, see revised proposal which applies a function of duration.
531.	Unum Limited	4.156.	The proposed stresses for the spread risk module are too high For example the stress for a 10 year BB-rated bond is 52% which is higher than the standard equity stress, which seems counterintuitive. Also the size of the stresses takes no account of the level of current spreads and so when spreads are high the resulting post-stress spreads could be far larger than could plausibly occur.	See our response to comment #515.
532.	ABI	4.157.	The approach appears unduly burdensome and impractical The proposed calculation for spread risk of structured credit products is a completely new approach: CEIOPS requires insurers to gather data as to the ratings, tenures and tranches held within securitised	Please refer to comment #534

			asset pools. This data is unlikely available for existing investments. We prefer the approach that was used under QIS4.	
533.			Confidential comments deleted.	
534.	CEA	4.157.	The approach appears unduly burdensome and impractical The proposed calculation for spread risk of structured credit products is a completely new approach: Ceiops requires insurers to gather data as to the ratings, tenures and tranches held within securitised asset pools. This data is not available for existing investments. We favour the mechanism that was used under QIS4. As an aside, there is a typo: the formula is for structured credit products, not bonds.	Partially agreed. If a look-through is not possible, the stress for "equity, other" should be applied. Agreed. Please see revised text.
535.			Confidential comments deleted.	
536.	CRO Forum	4.157.	There is a typo in the equation. There are missing brackets. The equation should read: $Mkt_{sp}^{struct} = \sum_i MV_i \frac{G(ratingdist_i, tenure_i) \bullet 1 - [R(ratingdist_i)] - attach_i}{\det ach_i - attach_i}$ There is also a typo in the opening sentence that refers to bonds rather than structured assets. Overall we believe the approach set out here will be impractical since it will often not be possible to analyse the underlying asset pool in the way suggested in the paper. A simpler approach is needed that is straightforward to implement in practice.	Agreed. See revised text. Agreed. See revised text. Partially agreed. If a look-through is not possible, the stress for "equity, other" should be applied.
537.			Confidential comments deleted.	

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
538.	FFSA	4.157.	CEIOPS proposes a new approach to calculate the capital charge for structured credit products, which requires a lookthrough approach to evaluate the rating of the securitized asset pool, its tenure and the tranches held by the company. FFSA believes that this approach would be difficult to implement as it requires very detailed information on the structured products, and a simplified calculations methodology might then prove difficult to build on the same basis. FFSA favors the use of the QIS 4 calculation mechanism.	Please refer to comment #534
539.	GDV	4.157.	The approach appears unduly burdensome and impractical The proposed calculation for spread risk of structured credit products is a completely new approach: CEIOPS requires insurers to gather data as to the ratings, tenures and tranches held within securitised asset pools. This data is not available for existing investments. We favour the mechanism that was used under QIS4. As an aside, there is a typo: the formula is for structured credit products, not bonds.	Please refer to comment #534
540.	Groupe Consultatif	4.157.	…capital charge for the spread risk of structured credit products… (correction) The changes of the parameters and the calculation of the spread risk for structured products also lead to a significantly higher risk capital. The proposed calculation for spread risk of structured credit products is a completely new approach: rating distribution and average tenure of the asset pool and attachement/detattchement point of the tranche now will determine capital charge. This data is not available	Agreed. See revised text. Partially agreed. If a look-through is not possible, the stress for "equity, other" should apply.

			for existing investments – if such a look through approach would be implemented, it should only apply to new issues that are covered by CP 63-09-Repackaged Loans Investments. Having said this, we welcome the look-through approach to structured credit and the inclusion of attachment and detachment points which better reflect the nature of these assets.	
541.	KPMG	4.157.	We welcome the look-through approach to structured credit and the inclusion of attachment and detachment points which we believe better reflects the nature of these assets. We note this approach still relies on ratings of the underlying and for many structured credit instruments these rating will not exist.	Noted. Please see the revised proposal which includes specific factors for unrated assets.
542.	Lucida plc	4.157.	Derivation of the rating class and tenure of the credit risk exposure within a securitised asset pool is likely to prove excessively onerous especially as such investments are each only likely to form a relatively small proportion of total assets.	Partially agreed. If a look-through is not possible, the stress for "equity, other" should apply.
543.	Munich Re	4.157.	…capital charge for the spread risk of structured credit products…	Agreed. See revised text.
544.	CEA	4.158.	Please see comments to Para 4.157.	Please refer to comment #534
545.	CRO Forum	4.158.	Why aren't the F factors and the G*(1-R) factors equivalent for short bonds? This calibration is based on S&P's new stress tests to achieve AAA CDO rating. However, the application of S&P model by CEIOPS is far wider than the intended scope of S&P and therefore not appropriate. This is not taken into account. Also it is not clear if book value rather market value is more appropriate to use with this calibration. Moreover, the advice fails to address what would be considered as a reliable source for ratings where rating agencies does not provide a rating for securitised assets and their tranches. It is our interpretation that the market value is to be used with this calibration.	Not agreed. The F and G factors are not necessarily comparable: While rates F factors were calibrated based on market spread data, G factors are mainly composed of stressed default for asset portfolios. Agreed. See revised proposal which includes factors for unrated assets.

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
546.	FFSA	4.158.	CEIOPS proposes a new level of table of stress factors detailed by maturity and rating of the bond. FFSA considers that this approach is not in line with the insurance business as we recommend using the duration approach as it was stated in QIS4. In particular, the proposed buckets which group several years are not consistent mainly for small maturities. This would lead to a high capital charge for any short-term deposits	Not agreed. While for corporate bonds, sufficient data was available to re-introduce the duration-based approach, such an approach cannot be used for structured credit given non-availability of data. Short-term deposits would be covered by the new duration approach for corporate bonds.
547.	GDV	4.158.	Please see comments to Para 4.157.	Please refer to comment #539
548.	Groupe Consultatif	4.158.	In markets with high spread levels the determined stresses overestimate spread risk and lead to procyclical effects. Hence an adjustment mechanism with stresses depending on the spread level should be applied. We welcome the duration and rating approach to the G factors which is better than the cap approach.	Not agreed. The proposed adjustment mechanism based on current spread levels is not in line with the Level 1 Directive. Noted.
549.	KPMG	4.158.	We welcome the duration and rating approach to the G factors which we believe is superior to the cap approach used in QIS4.	Noted.
550.	Legal & General Group	4.158.	See comment for 4.156	Please refer to comment #526
551.	Lucida plc	4.158.	The proposed stresses for the spread risk module are too high. They make no allowance for current market levels and are likely to discourage the purchase of structured credit, thereby adversely impacting insurers that are holding structured credit. A large part of spread widening is also likely to be as a result of liquidity so ignoring this completely for insurers with illiquid liabilities does not seem appropriate.	Please see our response to comment #527

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
552.	Munich Re	4.158.	In markets with high spread levels (e.g. after a credit crunch) the determined stresses overestimate spread risk and lead to procyclical effects. Hence an adjustment mechanism with stresses depending on the spread level should be applied.	Not agreed. The Directive does not foresee spread levels to be included in the calculations.
553.	UNESPA	4.158.	Se 4.156.	Please refer to comment #530
554.	CEA	4.160.	The 10% floor is too severe The 10% floor strongly penalizes issues with short residual length. This floor implies a strong increase of the credit cost for better than A-rated issues, which appears too severe.	Not agreed. The floor has been introduced based on the calibration outlined in Annex B.II. It is meant to cover any risks resulting from intransparency or legal risk.
555.			Confidential comments deleted.	
556.	FFSA	4.160.	CEIOPS proposes to floor the capital charge to 10% of the market value of the structured product. FFSA would like details on the rationale for the 10% floor; if the losses in asset pool have been properly calculated (i.e. if the recovery rate and the default rate are relevant for a @99.5% confidence level for the losses of the portfolio), it is logical to observe a 0 capital charge for the tranches that are beyond the losses occurred in the pool. In addition, the 10% floor strongly penalizes issues with short residual length. This floor implies a strong increase of the credit cost for better than A-rated issues, which appears too severe for FFSA.	Please see our response to comment #554
557.	GDV	4.160.	The 10% floor is too severe The 10% floor strongly penalizes issues with short residual length. This floor implies a strong increase of the credit cost for better than A-rated issues, which appears too severe.	Please see our response to comment #554
558.	AFS	4.161.	The text does not indicate if all the credit derivatives are stressed at	§4.110 states that it is assumed

			the same time or if each is stressed each way and the worst case used for each credit derivative. We believe the former is more appropriate.	that spreads move in the same direction, so all credit derivatives should be stressed at the same time and the worst outcome should be used.
559.	CEA	4.161.	The proposed stresses on credit derivatives are too strong and are inconsistent with the stresses for corporate bonds For example, holding cash plus a credit default swap on a bond might incur a far larger capital charge compared to holding the corporate bond directly – which is counter-intuitive.	Noted. See revised calibration of the spread risk for corporate bonds. Increases of 600% in CDS spreads for various rating categories have been observed during the financial crisis.
560.	CRO Forum	4.161.	This paragraph is not clear and requires clarification.	Noted. However, a hint which exact formulation creates confusion might be helpful.
561.	GDV	4.161.	The proposed stresses on credit derivatives are too strong and are inconsistent with the stresses for corporate bonds For example, holding cash plus a credit default swap on a bond might incur a far larger capital charge compared to holding the corporate bond directly – which is counter-intuitive.	Please see our response to comment #559
562.	Groupe Consultatif	4.161.	The widening of the spread is assumed to be the widening relative to government bonds. The choice of the most onerous stress test will lead to a hard-coding of +/-100% stress test between the credit derivatives. The blue text does not indicate if all the credit derivatives are stressed at the same time or if each is stressed each way and the worst case used for each credit derivative. We believe the former is more appropriate.	Please see our response to comment #558.
563.	KPMG	4.161.	We seek clarification of our understanding that the widening of the spread is to be taken as the widening relative to government bonds.	Please see our response to comment #562

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
			The choice of the most onerous stress test will lead to a hard-coding of +/-100% stress test between the credit derivatives. The blue text does not indicate if the most onerous stress is determined on each credit derivative position separately or across the portfolio of credit derivatives. We believe the former is more appropriate.	
564.	Legal & General Group	4.161.	The 600% widening of credit spreads may reflect the recent experience but this was from a very low spread base. It is unreasonable to assume a further 600% when spreads are already wide. This would require a firm to raise capital potentially in a market where spreads are wide, rather than to encourage a prudent building up of capital when spreads are narrow, and holding that capital when spreads are wide.	Noted. However, taking into account current spread levels would contradict the Level 1 Directive.
565.	UNESPA	4.161.	Unjustified increase in the upward shock and exclusion of hedging derivatives. Stress established for credit derivatives has grown substantially over the stress applied in QIS 4, without a consistent justification for the increase. The hedging derivatives should have another type of treatment and should be excluded from the module.	Noted. See revised calibration of the spread risk for corporate bonds. Increases of 600% in CDS spreads for various rating categories have been observed during the financial crisis. Further please note that CDS used for hedging corporate bond exposures would be netted out before calculating the capital charges.
566.	CEA	Annex	We request feedback as to why the blended shock is consistently higher than the individual shocks? We think that it is inappropriate that Ceiops derives stress levels from five different references by taking systematically the highest stress rate that has been observed with respect to either of these interest rate term structures. This leads to inappropriate results, as	Please refer to the revisions made in the final advice and the response to similar comments earlier in this feedback document

			the interest rate stress (upwards) decreases over time from 94% at the shortest maturity to 37% at the longest maturity, while there occurs an increase instead of a decrease at the 15 yr term. Similarly, it seems to be unreasonable that the level of the downward stress test for longer maturities starts to increase from year 23 onwards.	
567.	CRO Forum	Annex	Why is the "blended" up shock consistently higher than the individually computed up shocks for the 4 data sets?	Please see our response to comment #566
568.	Equitable Life Assurance Society	Annex	The data used to derive interest rate stresses implies that the interest rate "up" stress should be much smaller for GBP than for EUR, upon which the proposed stresses seem to have been based. It would seem appropriate that stresses should vary by currency to reflect the underlying volatilities.	Please see comment #105
569.	GDV	Annex	We request feedback as to why the blended shock is consistently higher than the individual shocks? We think that it is inappropriate that CEIOPS derives stress levels from five different references by taking systematically the highest stress rate that has been observed with respect to either of these interest rate term structures. This leads to inappropriate results, as the interest rate stress (upwards) decreases over time from 94% at the shortest maturity to 37% at the longest maturity, while there occurs an increase instead of a decrease at the 15 yr term. Similarly, it seems to be unreasonable that the level of the downward stress test for longer maturities starts to increase from year 23 onwards.	Please see our response to comment #566
570.	Groupe Consultatif	Annex	There are no deep and liquid market data available for maturities higher than 20 years. Therefore we think that the deviations of shock parameters for these maturities are not reliable. The extreme shock of 49% (25y and longer) derived from one data point in UK market seems not fit for EUR market. We propose that the shock factors are not higher than 33% because this shock would still be based on reliable market data.	Please refer to the revisions made in the final advice and the response to similar comments earlier in this feedback document

Summary of Comments on Consultation Paper 70 - CEIOPS-CP-70/09 CEIOPS-SEC-172-09 CP No. 70 - L2 Advice on Calibration of the market risk module				
571.	Just Retirement	Annex	See comments under 4.16 and 4.23	Please refer to the responses already provided under 4.16 and 4.23
572.			Confidential comments deleted.	