



### ABI response

#### CP20/16 Solvency II: Consolidation of Directors' letters

##### The UK Insurance Industry

The UK insurance industry is the largest in Europe and the third largest in the world. It plays an essential part in the UK's economic strength, managing investments of £1.8 trillion (equivalent to 25% of the UK's total net worth) and paying nearly £12bn annually in taxes to the Government. It employs around 315,000 individuals, of whom more than a third are employed directly by insurers with the remainder in auxiliary services such as broking.

Insurance helps individuals and businesses protect themselves against the everyday risks they face, enabling people to own homes, travel overseas, provide for a financially secure future and run businesses. Insurance underpins a healthy and prosperous society, enabling businesses and individuals to thrive, safe in the knowledge that problems can be handled and risks carefully managed.

##### The ABI

The Association of British Insurers is the leading trade association for insurers and providers of long term savings. Our 250 members include most household names and specialist providers who contribute £12bn in taxes and manage investments of £1.8trillion.

The ABI's role is to:

- Be the voice of the UK insurance industry, leading debate and advocating on behalf of insurers
- Represent the UK insurance industry to government, regulators and policy makers in the UK, EU and internationally, driving effective public policy and regulation
- Advocate high standards of customer service within the industry and provide useful information to the public about insurance
- Promote the benefits of insurance to government, regulators, policy makers and the public

We welcome the opportunity to comment on the PRA's consultation CP20/16 Solvency II: Consolidation of Directors' letters.

## Key messages

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- We welcome the PRA's efforts to consult on existing guidance on various requirements of Solvency II. These include crucial policy positions from the PRA and it is important that the industry has the opportunity to provide its input.
- The consolidation of the guidance into a supervisory statement will facilitate firms' access to such guidance and ensure continuous compliance with Solvency II requirements.
- We have focused our comments on Appendix 1 of the consultation paper, which proposes a supervisory statement for internal model assessment and change, and Appendix 4, which proposes a supervisory statement on reinsurance counterparty credit risk. In particular, we have provided comments on the PRA's guidance on the modelling of the volatility adjustment, longevity risk quantitative indicators (QIs) framework and counterparty credit risk.

### **The Volatility adjustment**

#### ***We continue to reiterate that internal model firms should be able to dynamically model the volatility adjustment***

- The Solvency II legal text and associated EIOPA guidance do not preclude this approach to the volatility adjustment.
- Modelling the volatility adjustment dynamically is reflective of what would happen in reality, should a shock occur. It is therefore economically sound and helps to meet the requirements of the Use Test.
- Dynamic modelling of the volatility adjustment is permitted in other Members States, introducing 'level playing field' concerns: The PRA's approach to the volatility adjustment (a key part of the long-terms guarantees package) risks placing the UK at a competitive disadvantage.

### **The PRA's longevity risk QIs**

- To ensure the QI framework remains robust and relevant, we recommend the PRA institutes periodical reviews (in consultation with stakeholders including industry) of the methodology underlying the QIs to keep this reflective of changes in longevity and longevity risk modelling.
- To encourage transparency and better communication between firms and the PRA, firms require further information on various elements of the PRA's approach to longevity risk, including clarification and validation of data and parameters used in the PRA's models.
- The PRA recognises that there are alternative and acceptable approaches to modelling longevity risk - which we agree with. We believe that increased transparency by the PRA will provide an opportunity for firms to include the PRA's view as part of their validation framework and therefore avoid unintended "herding" of insurance companies toward a single modelling approach/result and also avoid the risk of firms being penalised for adopting different but equally valid modelling approaches.

#### ***Data: Further detail on the data used by the PRA would help facilitate a better dialogue between firms and the PRA***

- We request further information on the data used to calibrate the models, in particular smoothing applied, choice of data periods used and adjustments made (if any).

#### ***Calibration at the 50<sup>th</sup> percentile – Model families used: Validation of the PRA's models should be undertaken to evidence stability of the proposed QIs***

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- We believe that looking at variations between the current best estimate projections of four extrapolative models is not appropriate to quantify event risk. This approach may lead to unreasonable instability in the QI, in particular due to high sensitivity of the output of the stochastic models used to both the data and parameters used. We request evidence on the stability and robustness of the QIs to provide assurance of their stability against changes in data.

***QI calibration at the 99.5th percentile – Cohort improvement factors: Results of the PRA’s analysis should be adjusted for other factors described to give a more accurate impact of the introduction of cohorts had on company reserves***

- We are concerned that considering the impact of introducing the cohorts without making any allowance for the impacts of additional factors (such as the removal of the implicit margins that would have been used by firms at the time to allow for improvements in future mortality) will overstate the immediate impact of the introduction of the cohorts in 2001.

***The QI distribution – Negative future improvements in longevity: We propose the PRA include in their modelling the possibility of negative improvements to reflect recent studies and maintain consistency with other SCR calculations***

- The restriction on the path of future improvements (i.e. they cannot be negative) is not reflective of studies which show that negative improvements have been observed in the UK in the last five years.

**Solvency II: reinsurance – counterparty credit risk**

***Focusing on the number of counterparties is not risk-based***

- It is important to clarify that exposure to concentration of counterparty default risk depends on a number of factors, including the use of intra-group reinsurance or external reinsurance, the level of credit quality and how diversified the counterparty(ies) is (are).
- For instance, counterparty credit risk is much lower for highly rated globally diversified reinsurers than it is for lower rated reinsurers. The higher the number of counterparties, the more marginal the reduction in loss given default will be for highly rated reinsurers. We note that this would only be material for reinsurers rated BBB or below.
- Additional measures covering counterparty default beyond SCR components are not always needed and would in any case, also need to be considered where multiple counterparties are involved.

***Choosing a risk mitigation form should remain a commercial decision***

- We suggest that the PRA removes any examples of risk mitigation (e.g. funds withheld, collateral agreements) in its final supervisory statement as the decision to choose a particular mitigation form should be a purely commercial one for firms to make.

***Use of reinsurance should not render the standard formula inappropriate***

- Provided reinsurance arrangements result in an effective transfer of risk, they should not result in a significant deviation from the assumptions underpinning the standard formula. A number of other tools can be used to mitigate risks of complex transactions such as the ORSA and system of governance requirements.

## Detailed comments

Section	Reference	Comments
Appendix 1 Section 5. <i>Volatility adjustment in the modelling of market risk and credit risk stresses</i>	5.2	<ul style="list-style-type: none"> <li>• Consistent with previous ABI feedback, we strongly disagree with the PRA’s proposal that there should be no change to the level of the VA when calculating the SCR (i.e. that the VA cannot be modelled dynamically).</li> <li>• We believe that the Solvency II legal texts agreed by the Trialogue parties make sufficiently clear that firms can dynamically model the VA when calculating their SCR.</li> <li>• In addition to legal arguments, we believe there are also strong economic arguments to support the inclusion of the dynamically modelled volatility adjustment in the SCR: <ul style="list-style-type: none"> <li>○ Companies which use internal models should reflect changes to the Volatility Adjustment in calculating their SCR as required by the SII Directive. <ul style="list-style-type: none"> <li>▪ Not enabling the replication of the basic Own Funds in the internal model capital requirement would damage the ability to reflect appropriately risks and fail the requirements of the Use Test.</li> </ul> </li> <li>○ Article 77d(6) in Omnibus II does not require or justify exclusion of dynamic VA from internal models <ul style="list-style-type: none"> <li>▪ The objective of the co-legislators was undoubtedly to clarify that there would not be any additional capital charge in the SCR calculation resulting from the use of the VA.</li> </ul> </li> <li>○ The VA was intended to be predictable, therefore it can be modelled dynamically and its respective implementation in internal models is in line with Solvency II guidance. <ul style="list-style-type: none"> <li>▪ Unlike the previously proposed counter-cyclical premium, the volatility adjustment is not subject to withdrawal or change at the discretion of EIOPA but was intended to adjust in response to market conditions in a predictable, replicable and formulaic way.</li> <li>▪ Its impact on the calculation of the insurer's liabilities in both good and stressed conditions can be predicted.</li> <li>▪ The respective VA application in Internal Models dampens undue volatility of the solvency ratio stemming from credit spread movements as intended by legislators.</li> <li>▪ Furthermore, Internal Models were built into the Solvency II Directive in order to encourage a better assessment and management of risk compared to the Standard Formula.</li> <li>▪ This notion of the uniqueness of an Internal Model is highlighted in the Delegated Acts, Recital (82) stating that “...internal models may vary significantly in their methodology, the information, assumptions and data used for the internal model and in their validation processes.” Following from this, any standardized approach employed in the Standard Formula cannot be used as a definitive guidance for the appropriate approach within a specific Internal Model.</li> </ul> </li> <li>○ Reflecting changes to the VA in the SCR is fully compatible with good risk management and does not provide any inadequate investment incentives.</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>○ Dynamic modelling of the volatility adjustment is permitted in other Members States, introducing 'level playing field' concerns: The PRA's approach to the volatility adjustment – a key part of the long-terms guarantees package – is therefore unnecessarily placing the UK at a competitive disadvantage.</li> </ul>
Appendix 1 – Section 12. Technical overview of the PRA's longevity risk QIs	General comments	<ul style="list-style-type: none"> <li>● We note that the PRA is silent on the process for review of the QIs and recommend that the PRA institute periodical reviews of the methodology underlying the QI to keep this reflective of the changes in data, modelling and the industry's understanding of emerging risks. This will ensure that the PRA QIs remain robust and relevant for use in practice.</li> <li>● Consistent with validation approaches employed by firms we recommend that the PRA seek independent validation for the models used and judgements applied used in the QI framework.</li> </ul>
	12.5 – 12.6	<p><b>Determining the sub-components of longevity risk for which a QI is appropriate</b></p> <ul style="list-style-type: none"> <li>● Firms will typically use standard mortality tables that match the portfolio of lives they are modelling; firms will further adjust these tables to reflect their mortality experience. Given the significant differences in individual firms' exposures, the result is a wide variety in both the tables used and adjustments made to these. We support the PRA's decision not to develop QIs for current mortality rates and base mis-estimation risk in valuation and capital assumptions respectively given heterogeneity in firms' exposures.</li> <li>● We agree that the allowance for future improvements in mortality could be expected to be less heterogeneous across firms and hence more suitable for a QI in valuation and/or capital assumptions. However, we wish to highlight recent industry developments which might mean that the argument for the application of QIs for mortality improvements is not necessarily "future proofed": <ul style="list-style-type: none"> <li>○ In recent years, firms have begun to develop their thinking on quantifying basis risk within their modelling of future mortality improvements e.g. allowing for socioeconomic factors;</li> <li>○ As the markets recognition of impaired life annuities rises, firms are increasingly looking into incorporating various modelling techniques to differentiate mortality by the underlying causes of death;</li> <li>○ The release of CMI2016 in March 2017, proposes to increase flexibility for how firms choose to model future mortality improvements e.g. by introducing the option for users to express the pattern of convergence in terms of the slope of mortality improvements and making use of a simplified age period cohort model in order to make the methodology (and hence its variation) more accessible to users.</li> </ul> </li> <li>● There is an argument that it will be some time before firms make full use of the new model's increased capabilities. However, the risk of the proposed QIs acting as a hindrance for firms to increase the sophistication of their modelling and the risk of proposed QI not being sufficiently robust, still exists. Therefore, we suggest the PRA consider the use of qualitative analysis in conjunction with the proposed QIs and include an explanatory element for firms to provide justifications for deviances from the QI result.</li> <li>● We note the PRA's exclusion of the more granular longevity related risks e.g. proportion married from the longevity QI and agree that exclusion of this risk will not have a material impact on the final result.</li> </ul>

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**Modelling time horizon**

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- Based on firms’ experience on the likelihood of data risks and event risks happening in the same year, firms have found that the PRA’s view of the linkages between data and events risks, and therefore the speed at which one could influence the other (given that this is a 1-year VaR calibration), was stronger than firms’ views. This was mainly due to the modelling time horizon adopted by the PRA and the speed at which assumption changes are effected by firms. These are explained in more detail below:
  - **Time horizon:** A single year of data is not sufficient evidence for firms to effect a model or assumption change. Due to the long term nature of longevity risk, firms are more likely to wait out any short term changes in data or the emergence of new information in order to establish and understand the characteristics of the data change i.e. to verify whether new information is evidence of emerging trends, random fluctuation or a data error. This approach ensures that assumptions are not unnecessarily volatile year on year and that only true changes to data are allowed for in modelling. A one year modelling horizon for longevity may introduce unnecessary volatility to the PRA’s QI.
  - **Speed of changing assumptions/models:** The judgement made by the PRA that all event risk will result in a model change is in our view, not necessarily always true. It is more likely that firms will explore reparametrising existing models in the short term which is likely to have less severe impacts relative to a complete model change. In the event that a company needs to change its model/assumptions due to new data/information, it is more plausible that firms will effect this through small changes made to assumptions/models over successive years rather than in a single year as firms will require time to develop their understanding of the new information and how it will be modelled. The PRA has assumed in its judgement that new information will always go unchallenged i.e. that all new information will always result in a model change in the same year that the new information is observed. However, we bring the PRA’s attention to the standard industry practice not to update CMI models as soon as a new versions are released; this is done to ensure there is an understanding of the meaning of new information before allowing for this in future modelling.
- It is important that the PRA consider the divergence of their approach to market practice when applying QIs to assess firms’ capital assessment of longevity risk.

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**Data used to model future improvement risk**

- We note that the PRA has used ONS data to model improvement risk and we agree that this is a reasonable approach and is consistent with industry practice; firms typically use ONS population data to calibrate the CMI models they use.
  - However, in the interest of transparency, we request further information on the data that has been used to calibrate the models used by the PRA. This transparency will enable firms to give due consideration to the PRA’s view as part of their validation and thus reduce the onus on the PRA to make these justifications.
  - The PRA mentions “specific choices of data periods”, again in the interests of transparency, we would request the PRA provide further details of the particular data periods used and validation of the judgement used in selecting these dates.
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- Further information is required on any smoothing that was applied to the data before being calibrated to the stochastic model families and whether the data used was adjusted to remove extreme data points.
  - More information is required about how the additional year of data has been incorporated into the model for example;
    - Is the model moved forward in time for each year of new data?
    - How many years back does the model go in replacing the data?
    - How has the model been refitted to back out mortality improvements inherent in the assumptions from previous iterations of the model?
  - We agree with the PRA that there is no statistically robust method for calibrating event risk. However, we request further evidence that data used by the PRA in its modelling, is reflective of real world shock scenarios.
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12.12(a)

**Construction of the QI for future improvements**

***Steps 1 – 3: QI calibration at the 50<sup>th</sup> percentile – Model families used***

- In the interest of transparency and to facilitate a thorough review of the models used by the PRA to derive the valuation assumptions, firms require further justification for the choice of the stochastic models used and the exclusion of CMI models which are used by the majority of industry in modelling longevity risk. Evidence could include the results of goodness of fit tests applied to the chosen models.
  - Industry would find more information about the choice parameters used for these models helpful e.g. the knot spacing and penalties applied for the p-spline models and how these parameters were derived. The inclusion of a model from the p-spline model family causes some concern since these have the potential to be particularly volatile and are not widely used in determining best estimate projections (being primarily a method of smoothing rather than forecasting).
  - The calibration choices for each model will be of significance, since the variation in the best estimate projections produced within some model families can be very different depending on the choice of inputs used. Analysis has shown that differences in the best estimate within model families can be as at least as large as the variation between model families. We are concerned that the approach may lead to unreasonable instability in the QI, if one or more of the models respond in an unusual manner to new data.
  - To avoid volatility in the QIs, when making a choice for models to use, a balance needs to be made between the size of the QIs and their sensitivity to changes in data.
  - We therefore request further evidence from the PRA to show that the QIs are not excessively volatile. In particular, we request evidence of stability of results observed from each of the four model families used. Similar to the validations required for firms' internal models, we suggest the PRA perform back-testing for consecutive historic years on its four models to show stability of results using historic data. We agree with the PRA that using a Cause of Death (CoD) model would involve too high a level of subjectivity for a QI, however the PRA has stated that it has used judgement and CoD analysis in determining the shape of mortality improvements over time. There is some apparent mixed messaging here and further clarity is required around the use or (lack thereof) of CoD modelling in the QIs.
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- The PRA has stated that in its modelling it has set the tapering of mortality improvements to start at the highest age modelling. We require further clarity on the approach used and in particular how the tapering approach diverges from the CMI model approach used by most firms. This will help firms to explain legitimate reasons for divergence between their results and the PRA QIs. Further information is also requested around how the assumptions firms are currently making were used and the relevant judgements the PRA made in deciding an appropriate reasonable range for the best estimate assumptions including clarity over how the results from these models were prioritised and tested for stability.
  - The PRA has justified its use of the log normal distribution to calibrate longevity risk by stating that longevity risk only tends to become particularly onerous in the most extreme events. Further clarification is required for this, as by definition of the 1 in 200 year extreme event, all risks become onerous.
  - We believe that the use of a lognormal to calibrate longevity risk may over quantify longevity risk owing to the fat tails at the extremes and the exclusion of the possibility of negative improvement rates.
  - Further information is requested into the parameters used and how they were derived to fit the log normal distribution as these will be key in determining the severity of data events at the extremes.
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12.12 (b-c) ***Steps 1 – 3: QI calibration at the 50<sup>th</sup> percentile – Cause of death modelling***

- We note that the PRA expects firms to justify how their model compares to potential real world shock events (e.g. immediate cure for cancer) and that firms develop an understanding of how the underlying causes of death affect firms' longevity risk in order to appropriately reflect such "events" in their calibration.
    - The PRA's approach in employing stochastic models which largely extrapolate features observed in historic data to determine a best estimate is therefore open to question. Extrapolative models do not necessarily reflect factors influencing future trends in mortality as some of these factors may not have been reflected in that historic data.
    - Stochastic approaches do not allow for a firms' understanding of how underlying causes of death affect firms' longevity risk. While a stochastic modelling approach is suitable for capital assumptions, we note that it may not be appropriate for best estimate calibrations.
  - We suggest the PRA employ an additional layer of qualitative analysis in their implementation of the QIs to allow for instances where a firms results may be significantly different from the PRA's QI due to differences in the methodology used to derive the valuation and capital assumptions.
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***Steps 4 – 7: QI calibration at the 99.5th percentile – Cohort improvement factors***

- We agree with the PRA’s approach to validate the strength of the calibration by looking at the impact of historical events, including the introduction of the cohort improvement factors.
- With respect to the cohort factors we note the fact that impacts to mortality improvements would be unusually large as there was a significant “catch- up” element in the observed impacts.
  - For example from the introduction of the first mortality table (A55) to the introduction of mortality improvements in 2001, there were significant changes in the quantity and quality of data collected analysed and technological advances which significantly increased modelling capabilities.
  - In validating the 99.5<sup>th</sup> percentile, we suggest that the PRA consider the impacts on mortality improvements, had cohort effects been measured before 1992 for example?
- It is also worth noting that prior to the availability of the cohort improvement factors, firms would have made adjustments to other factors such as discount rates to reflect the anticipated impact of mortality improvements. This would have been phased over a number of years. We acknowledge that this method of allowing for mortality improvements might not be applicable under Solvency II, however when looking at historic data we believe it is important to make due consideration for the way in which risks would have been allowed for at the time.
- By only considering the impact of introducing the cohort improvement factors, without allowance for the removal of these implicit allowances, it is possible that the immediate impact of the change will be overstated.

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***Steps 4 – 7: QI calibration at the 99.5th percentile – Best estimate assumption***

- We note that the PRA uses an overall ratio of “stressed future improvements”/ “no improvements” as its key metric of comparison. We request further clarity on how this approach measures the strength of a firm’s capital allowances for longevity risk. In particular, we note the “no improvements” does not provide a ‘like for like’ comparison with the “stressed future improvements”.
- We believe that this approach introduces added layers of complexity into business decisions relating to the setting of the best estimate (e.g. choice of CMI model) assumptions.

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***Steps 8: The QI distribution – Negative future improvements in longevity***

- The use of a lognormal distribution not only increases the impact of data events at the extremes; it explicitly restricts the likelihood of data errors occurring that lower mortality improvements which introduces inconsistencies in the calibration of longevity risk and other risks in the SCR calculation. Whilst it is accepted that there is a greater likelihood that mortality will become lighter in the future, there must be a chance that it will also become worse. In addition, there is no justification for this approach as negative improvements rates have been observed in the UK in the last five years.
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We also bring to the PRA's attention of similar phenomena in the USA where mortality improvements have been decreasing due to increasing prevalence of obesity. In addition to this, recent studies on antibiotic resistance highlight this phenomenon as an imminent threat to future mortality improvement.

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Appendix 4 – 3.2  
Solvency II:  
reinsurance –  
counterparty  
credit risk

***Focusing on the number of counterparties is not risk-based***

- We note the PRA's view that firms can be exposed to a significant concentration of counterparty default risk when a firm reinsures to a single or only a few counterparties.
- We believe it is important to clarify that exposure to concentration of counterparty default risk depends on a number of factors, including the use of intra-group reinsurance or external reinsurance, the level of credit quality and how diversified the counterparty(ies) is (are).
- For instance, counterparty credit risk is much lower for highly rated globally diversified reinsurers than it is for lower rated reinsurers. The higher the number of counterparties, the more marginal the reduction in loss given default will be for highly rated reinsurers. We note that this would only be material for reinsurers rated BBB or below.
- Additional measures covering counterparty default beyond SCR components are not always needed and would in any case, also need to be considered where multiple counterparties are involved.
- We would suggest amending the wording of paragraph 3.2 to the following wording: *“Where a firm reinsurers to a single or only a few counterparties (or connected counterparties), firms should consider the risk of concentration taking into account the probability of default of the counterparties and the loss given default”*. Similarly, we would suggest amending the sentence *“where material risks are ceded... risk concentrations”* to widen its application to instances where this is not limited to a few counterparties and to clarify that *“additional measures”* are not always required by replacing *“what additional measures”* by *“whether additional measures”*.
- We note that Appendix 2 on longevity risk transfers includes similar assumptions on exposure to counterparty default risk being dependent on the number of counterparties and would suggest that this section is amended to reflect the comments above

***Choosing a risk mitigation form should remain a commercial decision***

- We would suggest amending the wording of paragraph 3.3 to remove *“including but not limited to funds withheld and collateral arrangements”*. We suggest that the PRA removes any examples of risk mitigation in its final supervisory statement.
- The inclusion of these examples could imply that these are the risk mitigation arrangements that are preferred by supervisors. The choice and form of risk mitigation (if any) should remain a commercial decision for the firm which then must be justified to the supervisor.

***Use of reinsurance should not render the standard formula inappropriate***

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- In line with Solvency II requirements and good corporate governance practices, we recognise the importance for firms' boards to continue ensuring that a firm's solvency capital requirement (SCR) remains reflective of a firm's risk profile.
  - We note the PRA's expectation for firms to manage and mitigate reinsurance counterparty default risk under Solvency II. We suggest that provided reinsurance arrangements result in an effective transfer of risk, they should not result in a significant deviation from the assumptions underpinning the standard formula. A number of other tools can be used to mitigate risks of complex transactions such as the ORSA and system of governance requirements.
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