Comments Template on the Consultation Paper on the methodology to derive the UFR and its implementation	**Deadline 18 July 2016 23:59 CET**
Name of Company:	Insurance and Reinsurance Stakeholder Group	
Disclosure of comments:	Please indicate if your comments should be treated as confidential:	Public

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The numbering of the paragraphs refers to on the Consultation Paper on the methodology to derive the UFR and its implementation.

Reference	Comment
General Comment	The IRSG recognises the need for EIOPA to clarify and define an appropriate methodology for determining how and when the UFR could be updated in the future, and that with the current low interest rates, questions are being asked about this important Solvency II parameter. However there is considerable misunderstanding about the purpose and role of the UFR. It is defined by SII as a long-term stable parameter specifically in order to ensure stability and avoid the SII framework creating artificial volatility in the valuation of long-term liabilities and it is not appropriate to consider changing it only 1

year after the start of SII or have a methodology that could lead to annual recalibrations in the future.

Key points are:

1) While we appreciate EIOPA's desire to meet the requirement to have a methodology to set the UFR going forward, the rationale for considering any change after less than 6 months of operation and to implement after 1 year appears to conflict with the spirit and letter of the legal texts which defines the UFR as a long-term stable parameter specifically in order to ensure stability and avoid the SII framework creating artificial volatility in the valuation of long-term liabilities. It also seems to conflict with EIOPA's own comments in its QIS 5 calibration paper where the aim was to declared of having a stable UFR over 100 years.

2) Although interest rates are currently low, a few years of low rates does not justify a fundamental change in a parameter designed as stable in the same way that a few years of high rates would not justify an increase. This is especially true given that the current low rates are linked to ECB monitory policy which is not expected to last far into the future. Pressure from certain commentators to reduce the UFR urgently may come from misunderstandings about its intended long-term, stable nature and its purpose. Contrary to what some appear to be believe, it is not the discount rate used for valuing liabilities. The UFR is an input parameter used for generating the risk free curve and it is this curve not the UFR which is used for discounting liabilities. Actual risk free rates for the EURO based for May based on the current UFR of 4.2% were far lower than the UFR – for example in June for the Euro, the 10 year risk free rate was 0.32%, and even for liabilities 60 years in the future the rate was only 2.76% and therefore conservative compared to what companies can and are actually earning. Comments from some that that the UFR at 4.2% seems high compared to what can be earned currently in the market highlight these misunderstandings – it is the discount rate not the UFR that should be compared to what can be currently earned in the markets.

3) There is no justification from a policyholder protection point of view for any rapid change because with the current UFR of 4.2%, Solvency II is already a conservative framework and there are a range of features of SII to ensure adequate provisions and overall policyholder protection. Solvency II conservative - it requires more assets to back liabilities than are expected to be needed to pay the claims as they fall due   because of the market consistent basis for measurement

- Using risk free rate will tend to over-estimate the assets needed to support payment of a liabilities. (Re-)insurers invest in assets backing the insurance obligations. Principally the cash flows of assets are matching the cash flows of the liabilities. Based on the assumption that the whole of the economic balance sheet has to be determined using a risk free interest rate a difference occurs. The difference exists because 1)The discount rate of the assets differs from that used for the liabilities. Furthermore the assets are adjusted to reflect additional risk characteristics (spreads). In this sense the earnings on assets will exceed the earnings on the risk free interest rate; and 2) (Re)insurers also invest in other investment categories such as property and equity investments which generally is expected to earn a higher return. For these additional risks the (re)insurer is already holding additional capital.

- Additional assets have to be held for risk margin and the time-value of options and guarantees. These are needed by SII because the market consistent approach used by Solvency II requires additional assets so that the portfolio can be transferred to a new owner if necessary. However, these assets are not actually actually expected to be needed to pay customer claims and so in practice provide additional layers of protection within the liability calculations.   In fact these extra layers can actually increase significantly with low interest rates in ways not expected or tested when SII was designed and the UK supervisor has raised the large size and volatility of the risk margin under low interest rates as a major concern.

Solvency II also requires solvency capital in case the actual outcomes are different from the "base case" assumptions used to value liabilities and assets.

SII requires insurers to test the impact of up to about 30 different extreme scenarios and hold enough capital to cover a combination of these.

- These include scenarios where assets underperform but also includes a low interest scenario which is equivalent (in May) to having the UFR instantly reduce to about 3%. This therefore ensures that insurers are holding enough extra capital to cope with potential future changes to reductions in the UFR and still deliver on their promises.

4) Any new UFR methodology and its implementation process can only be finalised as part of the SII review. This has a number of reasons
- Firstly a number of years is needed to assess the efficacy and impact of the current SII calibrations before parameters and other changes are finalised or implemented.
  Particularly concern has been raised over how Solvency II treats long-term business and investments and may have unintended consequences on insurers' ability to invest long-term and could encourage procyclicality. Lowering the UFR is likely to impact long-term business more than any other business and so any change is not appropriate without a wider assessment of how Solvency II is working. Low interest rates have impacts on other parts of the framework with the result of making provisions more conservative and so time is needed to assess SII's overall levels of conservativeness, to see how SII is working in practice, back test any proposed UFR methodology and to assess any unintended consequences.
- Secondly, as noted above, low interest rates are likely to be have increased the level of overall prudence in the valuation of liabilities and capital requirements, potentially significantly for certain long-term products. For example, there have been questions raised over the calculation of the Risk Margin and the potential need to reconsider the cost of capital or other elements of its methodology as part of the Solvency II review because of how large and volatile it can become with low interest rates. Therefore before making a change which would make SII even more conservative, an assessment is needed of how low interest rates interact with other elements

of SII.
- Other interactions also give rise to the need to consider changes to the UFR along with other potential changes and its likely impact on other parameters including the Convergence period, Last Liquid Point and calibrations of the interest rate shocks used for the the SCR calculation

5) It should also be recognised that changing UFR could have unintended consequences at a time when the EU is struggling financially and some efforts have been made to allow the insurance sector to continue and grow its contribution towards investments and growth. The insurance sector is quite unique in that it is large enough to make a real difference, and that it – contrary to the banking sector – sits on enormous amounts of capital with a very long term focus. The UFR is an important feature in maintaining the long term abilities of the insurance sector in providing these benefits to the society as a whole. If the UFR is set too low or changed too often, based on the type of temporary policy interventions we currently experience, EU risks accumulating too much unproductive capital in the insurance sector. This can stifle economic growth and make the financial recovery take longer. There is also a real risk that the very measure that was supposed to instill financial stability actually creates financial instability.

6) On the specific proposals, assuming the methodology and implementation process is not finalised until they can be incorporated into a wider review, the IRSG can support some key aspects of EIOPA's proposed methodology including:
- The use of long-term inflation plus long-term real interest rates as the basis for calibration
- The use of as much historical data as is available and to add to that data with each additional year over-time
- We agree with the proposal to increase the number of buckets to ensure that the framework also works for high inflation currencies
- We agree with rounding to the nearest 5bps

	7) The IRSG however proposes the following changes to EIOPA's methodology
	    • The most significant change we recommend is to achieve the stability required by the legal text and to avoid artificial and unmanagable volatiliy in long-term liabiltiies by applying the recalibration process at intervals (for example every 5 years) rather than annually. This combined with phasing in changes by the maximum of 10bp per year would achieve the stability required by the legal text and avoid artificial and unmanageable volatility in long-term liabilities. Annual reclaculations with a 5bp minimum threshold for change will not achieve the needed stability. Any methodology should be tested to determine how it would work in practice and impact valuations.
	    • Denmark should be included as one of the countries because almost as much data is available as for the other countries included and there seems be no rationale to exclude them.
	    • Use a simple average on the historical data rather than weighting recent years's data as more important than older data because there does not appear to be any evidence that recent data is more predictive of the future rates far in the future and if anything recent data may be distorted due to the ECB monitory policy. This would also help remove the dependency on the additional "beta" parameter. It is not clear how the beta parameter was determined, but while it may not impact the initial UFR calibration for 2015, it can have significant impact on the level of the UFR going forward.
	
	Further details on many of the points above are provided in the responses to the questions.	

Q1. (pg. 56)	Yes, the IRSG can support the use of expected inflation plus long-term real interest rates as the basis for calibration.	
Q2. (pg. 56)	The IRSG agrees with the use of as much historical data as is available and to add to that data with each additional year over-time. However, Denmark should be included as one of the countries because almost as much data is available as for the other countries included and there seems be no	

	rationale to exclude them.	
Q3. (pg. 56)	The IRSG proposes to use a simple average on the historical data rather than weighting recent years's data as more important than older data because there does not appear to be any evidence that recent data is more predictive of the future rates far in the future and if anything recent data may be distorted due to the ECB monitory policy. This would also help remove the dependency on the additional "beta" parameter. It is not clear how the beta parameter was determined. but while it may not impact the initial UFR calibration for 2015, it can have significant impact on the level of the UFR going forward.	
Q4. (pg. 56)	Yes, we agree with the proposal to increase the number of buckets to ensure that the framework also works for high inflation currencies.	
Q5. (pg. 56)	It is appropriate that any changes be phased in over time but the annual change should be set at 10bp rather than 20bp.	
Q6. (pg. 56)	Yes, the IRSG agrees with rounding to the nearest 5bps as a sensible way to avoid spurious accuracy.	
Q7. (pg. 56)	No, the IRSG does not consider the implementation methodology appropriate because it seems very unlikely to achieve the required long-term and stable outcome set out in the legal text. Test should be done under different interest rate movement assumptions to test the proposed methodology but it appears very likely to lead to changes almost annually to the UFR. This would not constitute a long-term stable outcome. A simple way of achieving a stable and long-term calibration would be to apply the recalibration process at intervals (for example every 5) rather than annually. This combined with phasing in changes by the maximum of 10bp per year would achieve the stability required by the legal text and avoid artificial and unmanageable volatility in long-term liabilities. Such an approach may be more in line with how other bodies set parameters that are intended to be long-term and stable. For example, before finalising the UFR recalibration process it may be worth investigating how often the ECB reviews their long-term inflation target.	

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Paragraph 23.	Foot note #10 : OECD inflation rate for the Netherlands for 1960 is not available (data accessed on 13&14 June 2016). However, the corresponding data point for France is available. Was the inflation rate for France or for the Netherlands used in EIOPA's calculation?	

Paragraph 24.		
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Paragraph 28.	The source for inflation targets should also be stated (for some countries - China, India, South Korea and Russia - the inflation targets found differ from the one published by EIOPA).	
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Paragraph 38.	The IRSG believes further comments and analysis of each of the alternative UFR approaches listed would help readers assess whether they are valid comparison points. **Barrie & Hibbert:** • The Barrie-Hibbert methodology can be considered a valid alternative method for comparison purposes because it is a robust method that has been developed based on a valid economic rationale and is consistent with the approach specified in the legal text Article 47(2) of the SII Delegated Regulation. The consultation document indicates in the list of cons that the UFR includes a term premium but the document also indicates that their method also produces a UFR without term premium of 4.2% and with term premium of	

5.7%. Therefore this criticism can be ignored if the figure without term premium is taken as the basis for comparison. The valid disadvantages identified are the lack of transparency over sources of data and detailed methodology but the UFR it produces is valid for comparison purposes.

Dutch UFR:

- The DNB methodology is based on (1) using the swap rates (published by Bloomberg from 09/08/2001 to 31/12/2015) to determine spot rates (extrapolating the term structure where needed), (2) deriving the 1 year forward rate in 20 years maturity from these spot rates and (3) taking 10 years average (from 2005 to 2015).
- We consider there to be several problems with this methodology. Firstly this approach is based on a core assumption that forward rates can be used to estimate spot rates in the future. Our review of academic and empirical research indicates that this assumption is incorrect with rather evidence that forward rates are not good predictors of future spot rates (see below). In fact it seems that forward rates tend to predict future spot rates which reflect current conditions so when current spot rates are high they predict that future spot rates will be high and when current rates are low they predict low future spot rates. Also, the DNB uses 20 year forward rates when it is 60 year forward rates we are aiming to forecast. Finally, as the DNB itself indicated ([Advisory report of the UFR Committee](#) page 40), the 10 years average is arbitrary and we believe that this actually creates a volatile UFR and does not ensure a stable outcome as required by the SII legal text. For example extending the average from the arbitrary 10 to say 14 years, increases the UFR produced from 3.3% to 3.9%.
  - Academic findings: "*Forward rates are not therefore a prediction of what spot interest rates are likely to be in the future, rather a mathematically derived set of interest rates that reflect the current spot term structure and the rules of no-arbitrage*" (Choudry, 2008:17*). The finding that forward rates are not good predictors of future spot rates is also supported by Macauley (1938), Hickman (1942) and Culbertson (1957).

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o Empirically findings: Based on the data used in the Dutch UFR, the Figure below shows the 1 year spot rate at the end of 2015 as predicted by the historical forward rates for each year from 2001. So we see what the 14 year forward in 2001 was predicting for the 1 year spot rate in 2015, and the 13 year forward rate in 2002 was predicting for the 2015 1 year spot rate. In 2015 we show the actual 1 year spot rate. If the forward rates were good predictors we woud see a straight line predicting slightly negative rates but we see instead that it is obvious that these forward rates are not good predictors. In fact as noted above forward rates seem to predict (wrongly) that spot rates in the future will be similar to current spot rates.

o Using an average of forward rates will not provide a better prediction for actual interest rates in the future

Graph below supports academic and empirical studies which indicate that forward rates are poor predictors of actual rates in the future. The graph indicates that for the last 15 years forward rate predictions seemed to simply reflect current rates at the time rather than have any real predictive power. For example forward rates in 2001 predicted current rates would be 6%.
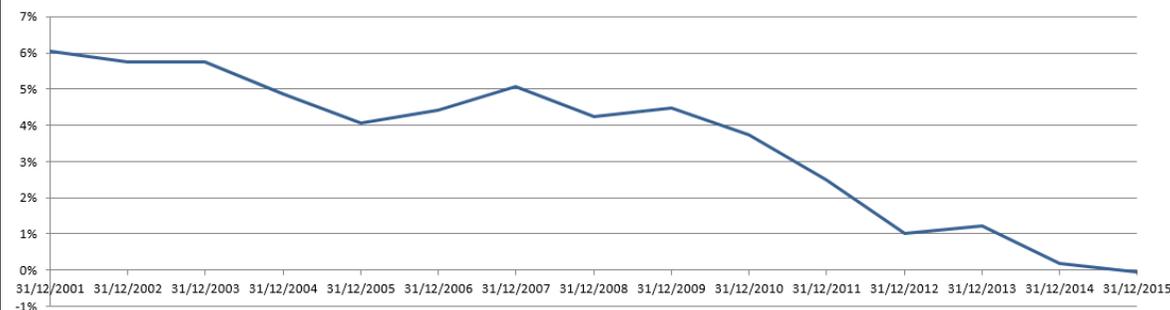
IAIS:
• The IAIS data cannot be considered suitable for comparison purposes or a

potential method. The data was generated only for the purpose of generating data for a field testing exercise and was never intended as an actual regulatory measure used for any purpose other than testing potential methodologies. It used expected growth rates instead of real interest rates to generate a UFR. It was never proposed as a valid methodology based on economic practice or theory. The only justification we are aware of for using this data was that it was an OECD source and available for a large range of countries and this was convenient for the purposes of the testing exercise.

- EIOPA furthermore references Bruce Hansens and Ananth Seshadris paper "Uncovering the Relationship bwtween Real Interest Rates and Economic Growth" and conclude that there may be a low correlation between economic growth and future real rates. This, as we see it, cannot be used an argument against using long term expected growth as a proxy for long term real rates. Hansen and Seshadri state that their data reveals a negative 0.20 correlation between growth and future real rates. However, the correlation is tested and found to be statistically insignificant. Further to this, Hansen and Seshadri are not concerned with the long run relationship between growth and interest rates in a stable run. Rather, they are concerned with the offsetting effects between changes in growth and interest rates in the much shorter run in order to assess what – if any – effect a correlation between the two have for the ability to make projections for trust funds capital accumulations and for the uncertainty of such projections. This is clearly an entirely different matter compared to figuring out what the Solvency II UFR should be.

Swiss SST:
The Swiss SST uses a simple adjustment factor to scale down the SII UFR and will therefore automatically produce a UFR which is lower than the SII UFR. It clearly cannot be valid to use the Swiss SST UFR as any sort of useful comparison or potential method to be used for generating the SII UFR.

* Choudhry M. (2008). The yield curve, and spot and forward interest rates
Surrey: Yieldcurves.com

	Accessible from http://www.yieldcurve.com/Mktresearch/files/Choudhry_IntroToYieldCurve_Jan2008.pdf	
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Paragraph 111.	The source for inflation targets should also be stated (for some countries - China, India, South Korea and Russia - the inflation targets found differ from the one	

	published by EIOPA) – c.f comment for paragraph 28.	
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