Society of Actuaries in Ireland

EIOPA-CP-16-003 Consultation Paper on the methodology to derive the UFR

and its implementation

The following comments were submitted by the Society of Actuaries in Ireland to the Actuarial Association of Europe (AAE). The AAE submitted a response on behalf of its member associations, which can be read here.

Submitted to the AAE in June 2016

Template comments

	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:		
Disclosure of comments:	Please indicate if your comments should be treated as confidential:	Confidential/Public
	Please follow the following instructions for filling in the template: ⇨ Do **not** change the numbering in the column "reference"; if you change numbering, your comment cannot be processed by our IT tool ⇨ Leave the last column empty. ⇨ Please fill in your comment in the relevant row. If you have no comment on a paragraph or a cell, keep the row empty. ⇨ Our IT tool does not allow processing of comments which do not refer to the specific numbers below. **Please send the completed template, in Word Format, to** CP-16-003@eiopa.europa.eu **Our IT tool does not allow processing of any other formats.** The numbering of the paragraphs refers to on the Consultation Paper on the	

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	methodology to derive the UFR and its implementation.

Reference	Comment	
General Comment	The consultation paper by EIOPA on the methodology to derive the ultimate forward rate is welcomed. The paper is transparent and clear. It is recognised that the new methodology is an improvement as it makes better allowance of actual market rate developments. However the proposed methodology continues to offer protection against exaggerated responses to shocks in the financial markets which are short term in nature and do not reflect long term expectations. However there are a number of concerns which are outlined here. The primary goals, as required by Article 47 of the Delegated Regulation, are: • Stability • Reliability • Transparency • Objectivity • Replicability • Prudence. In light of the consultation paper, it is felt that most of these objectives are achieved. However, a few challenges are noted, in particular the methodology appears to favour stability over prudence in most instances. Whilst the desire for stability is recognised, it is felt the paper places insufficient emphasis on prudence, as required by Article 47 of the Delegated Regulation. The methodology does not generally result in a prudent rate. This will manifest in the responses to	

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the seven questions of the consultation paper.

It is noted that the methodology proposes to base the calculation of the ultimate real rate on historical data. It is reasonable that actual historical returns are used to calibrate the ultimate real rate of return. However the proposed approach is completely retrospective and takes no account of any prospective measures of returns. This issue is included in the responses to the seven questions from the consultation paper, including a suggestion that the ultimate real rate could be set based on historic data but reference prospective forward rates in its final result.

The paper references the requirement under Article 43 of the Delegated Regulation, where it states that insurers and reinsurers should be able to earn the rates on the risk free curve in practice. It would be useful if the paper further elaborated on how this requirement is being met under the current proposal. It is recognised that the lack of instruments of sufficient duration means this will be not be feasible, however the paper should acknowledge this and should also acknowledge that the proposed methodology does not necessarily achieve market consistency. Reference could also be made to the very long dated instruments that have been issued as a sense check (e.g. 100 year Irish and Belgian issuances). While these were issued in small private sales, and therefore are not deep nor liquid assets, the very low yields of 2.35% and 2.5% respectively are inconsistent with the UFR. The issuance of these bonds was widely reported therefore it is recommended that the paper include commentary and justification around these points and an explanation of how the methodology is consistent with the legal requirements of the Delegated Regulation that "insurance and reinsurance undertakings are able to earn the rates in a risk-free manner in practice"

Finally, as this methodology will be deployed for the first time, it is recommended that a review

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	be scheduled after, say, 5 years, to consider how the methodology has worked in practice and if it is fit for purpose.	
Q1. (pg. 56)	While we agree that the principle of calculating the UFR using the sum of an expected real rate and the expected inflation rate is reasonable, we do have some concerns around how each of these elements are calculated under the proposed methodology. • The approach to determining the expected real rate element is based entirely on historic data. No attempts are made to consider whether the output is broadly consistent with financial markets' expectations regarding nominal interest rates or future inflation rates up to the time horizon where liquid derivative markets for these exist. A possible option would be to apply a cap on the ultimate forward rate which is expressed as a percentage of the forward rate at the last liquid point, or derived relative to the slope of the existing yield curve. This may achieve a good balance between using historic average rates but with reference to their plausibility in the context of current market rates. For example, the cap could be set to 150% of the forward rate at the last liquid point. • While deep and liquid markets do not exist for fixed interest securities beyond the last liquid point of the yield curve, some European governments have privately placed small issuances of 100 year bonds in recent years. While there is not a deep and liquid market for these instruments and they therefore cannot be used to actually derive the UFR, the consistency of the yields on these instruments with the UFR should be considered. For example, the yield on these instruments includes a term premium, an illiquidity premium and possibly an allowance for credit risk. It could therefore be argued that the UFR should not exceed the (implied) one year forward rate of these instruments at	

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	the point in time at which the euro UFR converges fully.	
	• The expected real rate is derived using the simple arithmetic mean of the annual real rates of 5 Eurozone countries, the UK and the US. In contrast, the future expected inflation rate is currency specific. There is therefore an inconsistency in how the two elements of UFR are derived. While it may not be practical to calculate expected real rates for all currencies, we consider it important that there is justification using economic principles for why it is considered appropriate to assume that real rates of return will converge for all economies.	
Q2. (pg. 56)	In general the use of averaged historic data to determine the expected real rate should maintain stability and avoid significant changes in the expected rate from year to year which is to be welcomed. We agree with the use of AMECO database as it is desirable to use a data source that is maintained by a public institution, whose calculation methodology is clearly defined and where the data is available to all market participants Looking at the choice of the commencement date of 1960 for the widening average. While this date is driven by the availability of data from the AMECO database, it is desirable to use a long term time series so the choice of 1960 appears reasonable. In particular, the period should be long enough that short term increases / decreases in the real rate do not unduly influence the result.	

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	While acknowledging the attractiveness of using all of the available data, consideration should also be given to whether the post 1960 period, characterised by high post-war economic growth and the oil crisis is truly representative of current and potential future market conditions. Taking all of these points into consideration, the choice of 1960 appears reasonable.	
Q3. (pg. 56)	We acknowledge that from a theoretical viewpoint using a weighted average mitigates some of the issues (in terms of capturing recent trends) of using a simple arithmetic average of historic data. It is desirable that the new data be given sufficient weight in the determination of the expected real rate and using a simple average means that the most recent data points are effectively given a lower weighting as new data is added. However, given the desire for stability and the fact that the UFR is a very long term expectation this is not unreasonable. The use of a fixed parameter in determining the geometric average is welcome as it increases the transparency of the calculation. However, the support for the choice of 0.99 appears inadequate. It seems to be primarily justified by the fact that the result is very close to using a simple average (Figure 2 on page 21). In that case, we would question whether the move to a geometric average is warranted given the limited impact it has on the result and would suggest that the simple average be retained in the interests of reducing the complexity of the derivation of the expect real rate.	

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	If it is desired to place a greater weighting on more recent experience then a parameter of 0.97 would appear to do this in a more meaningful way and offers a reasonable compromise between reflecting recent market norms and stability in the absence of any statistical justification for choosing one parameter over another. In terms of the choice between a widening and rolling average, we would support the proposed approach.	
Q4. (pg. 56)	The use of inflation buckets allows for a higher degree of replication and will increase the robustness of calculation and the introduction of the fourth bucket at 4% is welcomed as it increases the level of tailoring of a country's inflation level with the UFR assessment. However, by extension, using more buckets would further increase the ability to tailor to a country's inflation level. It is suggest that the allowance is moved to a higher number of buckets or to at least introduce buckets at 1.5% and 2.5%. There are some countries with inflation targets of 2.5% and it is not clear why these countries should be bucketed into 2% or 3%.	
Q5. (pg. 56)	Based on the evidence presented in the paper overall we consider the proposed limit on the annual change of UFR to be necessary and appropriate but with some recommendations for improvement.	

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The UFR is composed of an expected real interest rate component and an expected inflation component. Based on the proposed methodology in this paper the real interest rate component is unlikely to change significantly year to year. If this expected real interest rate component does change it is likely to be part of a trend over a number of years rather than an isolated single step change. Therefore if the change in a single year was capped, it is likely the following year's change would also be capped if the change in the expected real interest rate was of the same magnitude. Over a number of years the difference between the UFR_t^L and UFR_t could become significant and imprudent. For this reason it is desirable that any change due to the expected real interest rate changing is reflected immediately and not limited in anyway.

In contrast, the long term expected inflation rate represents the long term expectations of inflation which should not change unless there is a significant shift in monetary policy. A decision by one or more central banks to change their inflation target can result in very significant step changes in the UFR which may need to be phased in over time to maintain a stable UFR.

In deciding how any change in future expected inflation rates, as outlined in forward guidance issued by Central Banks, should be allowed for in the UFR calculation we consider the following:

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- Forward looking inflation targets are a relatively new concept with the Bank of England and ECB only introducing them in the late 90s and the Federal Reserve and Bank of Japan introducing them within the past 5 years

- In this time the targets have been remarkably stable right through a number of economic cycles with inflation targets remaining at c.2% for the Central Banks of most large developed economies

Figure 12 in paragraph 126 of the Consultation paper shows the time taken to fully phase in changes in expected inflation using three different approaches. Making a step change in the UFR following a change in expected inflation causes a significant change in the UFR which goes against the principle of stability referenced in the Delegated Acts. Under the period studied, applying a 10 bps cap fails to even update the UFR for changes in the real interest rate component. Therefore the 20bps proposed cap appears to be reasonable.

Prior experience shows that Central banks have kept targets unchanged for very long periods of time. However Central Banks may change their inflation targets at any point in time within any given economic cycle in order to achieve their desired impact on the economy. While it is unlikely that Central Banks would change their expectations twice within a single economic cycle the rules for setting the UFR should be robust enough to allow for this scenario.

There should be some consideration of setting maximum permitted deviation between

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	the UFR_t^L and UFR_t. For example if the deviation was limited to 100bps this would aid in the prudent and transparent setting of the UFR over time.	
Q6. (pg. 56)	The movement from a constant UFR to one that is derived explicitly from observable data will inevitably result in changes year on year. We understand that the proposed approach is designed to ensure that an element of stability in the UFR is retained year on year. However, we believe that historical data shows fundamental differences in the historical stability of real interest rates and expected inflation rates. These differences lead us to believe that while an annual cap is appropriate to bring through changes in expected inflation rates, the proposed 5bp rounding rule is unnecessary for real rates.

Data in Table 2 (pg. 27) illustrates that real interest rates change over time and it is therefore reasonable that this element of UFR calculation would change year on year. In contrast, as discussed in the previous question, empirical evidence shows that expected inflation rates have remained stable historically and the mechanisms used to ensure the stability of this element of the UFR formula is therefore appropriate.

We would also like to highlight that a 5bps rounding convention is not used for other component parts of SII risk discount rates that are based on observable market data. The matching adjustment and volatility adjustment are both rounded to 1bp and the swap rates published by EIOPA are rounded to nearest 0.1bps. | |

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	Notwithstanding the justification for rounding at the proposed level, based on the method outlined in the paper, there are concerns that if the UFR is trending upwards the rate will be systematically understated and if trending downwards it will be systematically overstated. If it is decided to include rounding in the final method, a more desirable alternative would be that once the UFR has moved outside of a corridor of +/- 5bps that the published UFR is fully updated. This would mean that there would not be a consistent over or understatement of the UFR over a number of years and aid in the prudent and transparent setting of the UFR over time.	
Q7. (pg. 56)	We have overall concerns in relation to the general methodology expressed under general observations. However, if the question here refers purely to the timescale of the introduction of the new method (rather than its nature) we feel the proposed approach is not unreasonable. A more market consistent and prudent approach (given current yields) would suggest a speedier implementation; greater stability of UFR arises from a longer term. Option 2 could be tolerated	
Paragraph 1.		
Paragraph 2.		
Paragraph 3.		

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Paragraph 4.	It might be helpful for commentary to be included in the paper on divergences in the derivative market relative to Libor and OIS discounting for some of the large investment banks.	
Paragraph 5.		
Paragraph 6.	There is a typo here, the term « risk-free interest rates » is repeated.	
Paragraph 7.		
Paragraph 8.		
Paragraph 9.		
Paragraph 10.		
Paragraph 11.	This is a particular challenge for the proposals, as no undertaking will be able to achieve this rate. This has consequences for matching and introduces additional balance sheet volatility.	
Paragraph 12.		
Paragraph 13.		
Paragraph 14.		
Paragraph 15.	The wording « where necessary » probably isn't appropriate here, it may imply that legal requirements can be deviated from. More appropriate wording would be « The review should align the methodology to the legal provisions, in particular where the	

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	previous UFR derivation was not aligned. »	
Paragraph 16.		
Paragraph 17.	There is a typo in this paragraph, « keeping the UFRS constant in the foreseeable future » should read « keeping the UFRS constant for the foreseeable future » Use of the word drastic is alarming and should be amended.	
Paragraph 18.		
Paragraph 19.		
Paragraph 20.		
Paragraph 21.	The paper would benefit from an economic justification of the approach to real interest rate + expected inflation rate approach. Additionally a justification for the removal of the convexity adjustment would be useful.	
Paragraph 22.		
Paragraph 23.	An explanation for the choice of the 7 chosen countries would be useful as well as some commentary regarding the use of an unweighted arithmetic mean.	

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Paragraph 24.		
Paragraph 25.		
Paragraph 26.		
Paragraph 27.	There appears to be a bias in how the expected inflation rate is calculated. In particular, the approach to bucketing the rates rounds rates: • In the 0%-1% corridor **up** to 1% • in the 1-2% corridor **up** to 2% • In the 2%-3% corridor **down** to 2% • In the 3%-4% corridor **down** to 3% In effect, the proposed approach tries to draw rates to 2% and there is no justification for this.	
Paragraph 28.		
Paragraph 29.		
Paragraph 30.		
Paragraph 31.	Given the fundamental methodology change in terms of how the UFR is calculated, we support the idea that the impact of the new methodology should be phased in over	

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	time. We see this as a separate point to whether the annual change in the UFRS (using the new methodology) should be capped.	
Paragraph 32.		
Paragraph 33.		
Paragraph 34.		
Paragraph 35.		
Paragraph 36.		
Paragraph 37.		
Paragraph 38.		
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Paragraph 43.		
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Paragraph 45.		
Paragraph 46.		
Paragraph 47.	It would be useful to see the historical evidence of the 0.2% change.	
Paragraph 48.		
Paragraph 49.	Typo in the following sentence: "Figure 1 shows that the exponentially weighted average proved too much volatile."	
Paragraph 50.		
Paragraph 51.		
Paragraph 52.		
Paragraph 53.		
Paragraph 54.		
Paragraph 55.		
Paragraph 56.		
Paragraph 57.		
Paragraph 58.		

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Paragraph 94.		
Paragraph 95.		
Paragraph 96.		
Paragraph 97.		
Paragraph 98.		
Paragraph 99.		
Paragraph 100.		
Paragraph 101.		
Paragraph 102.		
Paragraph 103.	Evidence of the effectiveness of inflation targets would be beneficial to support this	

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	paragraph.	
Paragraph 104.		
Paragraph 105.		
Paragraph 106.	A justification for the appropriateness of an ARMA model using 10 years of monthly data for coutries without an inflation target would be beneficial.	
Paragraph 107.		
Paragraph 108.		
Paragraph 109.		
Paragraph 110.		
Paragraph 111.		
Paragraph 112.		
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