

**Comments Template on
Consultation Paper on EIOPA's second set of advice to the European
Commission on specific items in the Solvency II Delegated Regulation**

**Deadline
5 January 2018
23:59 CET**

Name of Company:	University of Amsterdam (prof.dr.ir. Michel Vellekoop)	
Disclosure of comments:	Please indicate if your comments should be treated as confidential:	Public
<p>Please follow the following instructions for filling in the template:</p> <ul style="list-style-type: none"> ⇒ 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 <u>empty</u>. ⇒ Please fill in your comment in the relevant row. If you have <u>no comment</u> on a paragraph or a cell, keep the row <u>empty</u>. ⇒ Our IT tool does not allow processing of comments which do not refer to the specific numbers below. <p>Please send the completed template, <u>in Word Format</u>, to CP-17-006@eiopa.europa.eu</p> <p>Our IT tool does not allow processing of any other formats.</p> <p><u>The numbering of the reference refers to the sections</u> of the consultation paper on EIOPA's second set of advice to the European Commission on specific items in the Solvency II Delegated Regulation. Please indicate to which paragraph(s) your comment refers to.</p>		
Reference	Comment	
General Comment		
Introduction		
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3.4.2	<p>206. A binomial distribution requires a first parameter which is an integer, and exposures do not need to be integers. Deaths can be modelled using a Poisson specification based on exposures (which does not require the parameter to be an integer) or using a binomial specification based on population sizes (which are integers).</p> <p>215. It is not clear why mortality and longevity risk are not considered for ages under 40. The figure in 229. suggests that the stress function h will become very large for those ages.</p> <p>231. Taking an average of different models does not address model risk: analyzing model risk requires that <i>differences</i> between results for different models are examined.</p> <p>234. Averaging results over different datasets does not capture the effect of volatility changes or parameter risk: one must analyse the <i>differences</i> between results for different datasets (or time periods) to capture those.</p> <p>236. The fact that there is a certain age for which the shock factors 20% and 25% are appropriate does not make this true for all ages. The graph in 229. suggests they are not appropriate for most ages. They are probably even less appropriate for ages below 40.</p> <p>241./242./243. The implementation costs (when changing multiplications by a constant number into multiplications by age-dependent numbers) will probably turn out to be less than overwhelming in the modern computer age. I am also certain that such an adjustment will not strike actuarially trained professionals as a modification which is "too complex".</p>	
3.4.3	<p>244./245. The suggested stressfactors seem only appropriate around age 60. They are far too high for the highest ages and much too low for the youngest ages. For people younger than 40 no analysis is provided, but the factors will probably be even less appropriate for that age range.</p>	

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246. EIOPA states that there are more arguments against than in favour of age- (or gender-) dependent mortality and longevity shocks. But not all arguments carry the same weight.

A constant (or almost constant) stress factor on the individual probabilities is completely at odds with all the empirical evidence that has been gathered over the years on the dynamics of human mortality. EIOPA's own figure for the function h confirms this. A constant stress factor is also inconsistent with the Lee-Carter and Cairns-Blake-Dowd specifications that EIOPA has chosen as benchmarks for its analysis. That makes the argument in favour of a more detailed approach a very strong one.

On the other hand, the implementation costs and the added complexity of age- and gender-dependent shocks are very limited. That makes those arguments against a more detailed approach rather unconvincing.

I therefore urge EIOPA to introduce age- and gender-dependent stressfactors for longevity and mortality risk. The analysis carried out in the consultation document provides an excellent starting point to do this. It will involve hardly any extra costs and adds almost no complexity, but it will ensure a significant improvement in the quality (and credibility) of longevity and mortality risk management.

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