# Annex on Solvency II Risk Margin

## 19 JUNE 2018

This annex is a short summary of a technical paper co-signed by the CFO Forum, CRO Forum and Insurance Europe. This technical paper was written in response to and as a follow-up on a meeting between the CFO representatives and the European Commission where EIOPA's technical advice on the cost of capital was discussed. The technical paper suggests ranges[1] for a number of parameters used to calculate the cost of capital that the industry believes are more consistent with Solvency II regulation and academic research. These adjustments would address technical flaws and inconsistencies in certain parameters used by EIOPA to derive the cost of capital. Please refer to the technical paper for a more in-depth understanding of the flaws identified in EIOPA's advice on this topic.

First of all, and most importantly, EIOPA currently computes the cost of capital through a formula[2] with several parameters. In this formula, it is assumed that the insurance sector has no debt leverage when setting the initial general cost of equity and debt. In this formula, a so-called "beta factor"[3] is used. The beta retained by EIOPA is levered i.e. includes debt leverage, which is inconsistent with the assumption of absence of leverage. Correcting this error by eliminating the risk inherent to debt financing leads to a reduced beta from 1.2 to 0.9 and to a lower cost of capital between 5% and 5.8%.

In addition, to derive the cost of capital, the Solvency II regulation prescribes that the assets should be assumed to be selected in such a way that they minimise the Solvency Capital Requirement for market risk that the reference undertaking is exposed to (cf. Solvency II Delegated Acts - Article 38 1-h). This implies that the beta should be further adjusted downwards as the beta used by EIOPA reflects both insurance and asset risks, with no adjustment to acknowledge minimal asset risk requirement. A simple but limited downward adjustment of 10% in beta to reflect this omission would lead to a cost of capital between 4.5%-5.3%.

Furthermore, EIOPA's methodological choices in deriving the equity risk premium are inconsistent with the Solvency II directive requirements, which imply that this parameter should be forward-looking[4]. EIOPA uses a backward-looking approach, which according to academic research leads to an upward bias of around 2% in the equity risk premium, for which it fails to make a correction. Finally, also in alignment with academic research, the technical paper suggests a more consistent use of risk free rate and of geometric average (versus arithmetic). Adjusting the equity risk premium accordingly would lower the cost of capital even further to a 2.5%-3.9% range.

In conclusion, a correct application of EIOPA's chosen approach for setting the cost of capital requires the correction of a number of flaws in order to arrive at a figure that is appropriate from both a theoretical and a regulation point of view. After such corrections, the cost of capital rate would be materially lower than the level initially proposed by EIOPA.

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[1] The detailed justification for these ranges and the application of these paraments are included in a detailed report issued by the CRO Forum in December 2017.

[2] The formula used by EIOPA is: $\text{Cost of capital rate} = \text{Equity Risk Premium ("ERP")} * \beta * \text{An adjustment factor}$ - The ERP reflects the average risk of the equity market, β reflects the risk of the insurance sector and the adjustment factor, introduced by CEIOPS, allows for specific Solvency II elements.

[3] A beta superior/inferior to 1 means that the asset or sector under consideration is more/less risky than the overall equity market, leading to higher/lower cost of capital.

[4] Art. 77.5 of the Solvency 2 Directive reads "the Cost-of-Capital rate used shall be equal to the additional rate, above the relevant risk-free interest rate, that an insurance or reinsurance undertaking would incur holding an amount of eligible own funds [..] necessary to support insurance and reinsurance obligations over the lifetime of those obligations" which implies a forward-looking dimension.