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Sharing the longevity risk between annuitants and annuity provider

The benefits provided by conventional life annuity and pension products are guaranteed in face of adverse experience in respect of investment returns or mortality rates. Facing the risks by charging high premiums can make life annuities even less attractive than how currently perceived by potential customers. Appropriate solutions should be suggested, aiming at providing retirees with effective alternatives to the income drawdown (or “self-annuitization”). We focus on the risk of unanticipated mortality improvements, that is the nondiversifiable aggregate longevity risk. Non-conventional life annuities can be defined, aiming at linking, to some extent, the annuity benefit to the mortality experienced in the group of annuitants, and / or in the market of life annuities (or pensions) and / or in the population. This link implies sharing the risks arising from experienced mortality between annuitants and annuity provider. Various approaches can be adopted in order to link annuity benefits to mortality experience, or to updated forecasts of future mortality trends. We propose a rather general model that aims at providing a unifying point of view from which several practicable schemes, sharing the common purpose of transferring part of the longevity risk to the annuitants, can be analyzed and compared. We consider the possibility of changing the annuity benefit by relating the benefit itself to the experienced mortality, or to updated mortality forecasts, or both. We suggest that the experienced mortality can be directly measured, or adjusted through an inference procedure. Further, we investigate the possibility to mitigate the reduction in the annuity benefit due to unanticipated mortality improvements through investment profit participation. *This is a joint work with Ermanno Pitacco, University of Trieste, Italy.*

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