Quantification of Inflation Risk on the Annuities

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Abstract

In this study we quantify the inflation risk on the annuity prices by using a risk capital allocation methodology which is proposed by [2]. Two main components which determine the annuity prices are mortality and interest rates. We employ the Cairns-Blake-Dowd (CBD) model introduced by Cairns et al. [1] to model mortality. For the interest rates we use the yield curve models proposed by Şahin et al. [3] which are constructed based on the UK nominal, real and implied inflation spot zero-coupon rates simultaneously. We discuss the effects of the term structures of the real and nominal interest rates on factor risk contributions to total annuity risk rather than just the short-end of the yield curves.

Keywords Annuity prices, risk capital allocation, interest rate, yield-curve, inflation, risk measures.

References

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