Profit participation annuities: a business profitability analysis within a demographic risk sensitive approach

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Abstract

Aim of the paper is the analysis of the period performance of a portfolio of participating life annuities, focusing on the minimum acceptable income level throughout the quantiles of the return distribution. The model, in addition to the necessary consideration of the volatility of financial markets, gives a central role to the impact of the longevity phenomenon. The sensitivity of the portfolio performance to the survival projection, the presence of a break even point and the time of optimum performance are pointed out, under different hypotheses for the participating quota and with stochastic assumption for the accumulation and the discounting financial processes and for the survival description.