The Effects of Advanced Age Mortality Improvement on the Valuation of Variable Annuities with Guaranteed Death Benefits

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Abstract

This paper studies the impact of improved advanced age mortality on the pricing and valuation issues of variable annuity (VA) contracts with guaranteed minimum death benefits (GMDBs). The contingent claim analysis is applied to evaluate the GMDBs, and the impact of the mortality improvement is then examined. The implications of the advanced age mortality improvement on GMDBs for various mortality models are discussed. A new hybrid mortality model is presented for the valuation of GMDBs.