Comparing Life Insurer Longevity Risk Management Strategies in A Firm Value Maximizing Framework

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Abstract

In this paper we investigate the impact of longevity risk management decisions on the firm’s value of an insurer dealing with life annuities. Different strategies are addressed, combining reinsurance and securitization. The firm’s value is assessed following, alternatively, two approaches: an economic balance sheet and a Market-Consistent Embedded Value approach. A multi-period stochastic model including systematic and idiosyncratic longevity risk and interest rate risk is used to quantify and value insurer cash flows and balance sheet items. In order to obtain a realistic comparison of the risk management strategies, we allow for market frictions including different costs for transferring systematic and idiosyncratic longevity risk, solvency capital requirements, agency costs, financial distress costs and policyholders’ price-default-demand elasticities.

Keywords: longevity risk, reinsurance, securitization

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