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*Assessing the solvency of insurance portfolios via a continuous-time cohort model*

This paper evaluates the solvency of a portfolio of assets and liabilities of an insurer subject to both longevity and financial risks. Liabilities are evaluated at fair-value and, as a consequence, interest-rate risk can affect both the assets and the liabilities. Longevity risk is described via a continuous-time cohort model. We evaluate the effects of natural hedging strategies on the risk profile of an insurance portfolio in run-off. Numerical simulations, calibrated to UK historical data, show that systematic longevity risk is of particular importance and needs to be hedged. Natural hedging can improve the solvency of the insurer, if interest-rate risk is appropriately managed. We stress that asset allocation choices should not be independent of the composition of the liability portfolio of the insurer.