







Q

Home ► All Journals ► Economics, Finance & Business ► Scandinavian Actuarial Journal ► List of Issues ➤ Volume 2008, Issue 2-3 ➤ On systematic mortality risk and risk-mi

Scandinavian Actuarial Journal >

Volume 2008, 2008 - Issue 2-3

402 77 0 Views CrossRef citations to date Altmetric **ORIGINAL ARTICLES**

On systematic mortality risk and riskminimization with survivor swaps

Mikkel Dahl, Martin Melchior & Thomas Møller

Pages 114-146 | Published online: 12 Dec 2008

66 Cite this article ▶ https://doi.org/10.1080/03461230701795873



Abstract

Full Article

A new market for so-called mortality derivatives is now appearing with survivor swaps (also called mortality swaps), longevity bonds and other specialized solutions. The development of these new financial instruments is triggered by the increased focus on the systematic mortality risk inherent in life insurance contracts, and their main focus is thus to allow the life insurance companies to hedge their systematic mortality risk. At the same time, this new class of financial contract is interesting from an investor's point of view, since it increases the possibility for an investor to diversify the investment portfolio. The systematic mortality risk stems from the uncertainty related to the future development of the mortality intensities. Mathematically, this uncertainty is described by modeling the underlying mortality intensities via stochastic processes. We consider two different portfolios of insured lives, where the underlying mortality intensities are correlated, and study the combined financial and mortality risk inherent in a portfolio of

general life insurance contracts. In order to hedge this risk, we allow for investments in survivor swaps and derive risk-minimizing strategies in markets where such contracts are available. The strategies are evaluated numerically.

Keywords:

Risk-minimization Stochastic mortality Affine mortality structure Survivor swap

Related Research Data

A Guided Tour through Quadratic Hedging Approaches

Source: Unknown Repository

Stochastic mortality in life insurance: market reserves and mortality-linked insurance

contracts

Source: Insurance Mathematics and Economics

Valuation and hedging of life insurance liabilities with systematic mortality risk

Source: Insurance Mathematics and Economics

Survivor Swaps

Source: Journal of Risk & Insurance

Affine Stochastic Mortality

Source: SSRN Electronic Journal

Living with Mortality: Longevity Bonds and Other Mortality-Linked Securities

Source: British Actuarial Journal

Pricing Death: Frameworks for the Valuation and Securitization of Mortality Risk

Source: Astin Bulletin

Related research 1



People also read

Recommended articles

Cited by

Information for

Authors

R&D professionals

Editors

Librarians

Societies

Opportunities

Reprints and e-prints

Advertising solutions

Accelerated publication

Corporate access solutions

Open access

Overview

Open journals

Open Select

Dove Medical Press

F1000Research

Help and information

Help and contact

Newsroom

All journals

Books

Keep up to date

Register to receive personalised research and resources by email



Sign me up











Accessibility



Copyright © 2025 Informa UK Limited Privacy policy Cookies Terms & conditions



Registered in England & Wales No. 01072954 5 Howick Place | London | SW1P 1WG