Taylor & Francis
Online

Home ► All Journals ► Economics, Finance & Business ► Scandinavian Actuarial Journal ► List of Issues
► Volume 1994, Issue 1 ► Pricing of Unit-linked Life Insurance Po ....

Original Article

Pricing of Unit-linked Life Insurance Policies

Knut K. Aase & Svein-Arne Persson

66 Cite this article   ⬈ https://doi.org/10.1080/03461238.1994.10413928

📄 References   66 Citations   📊 Metrics   🖨 Reprints & Permissions

Read this article   ◄ Share

Abstract

The key feature of unit-linked or equity-linked life insurance policies is the uncertain value of the future insurance benefit. By issuing unit-linked insurances that guarantees the policy-holder a minimum benefit, the insurance company is exposed to financial risk. The value of the insurance benefit is assumed to be a function of a particular stochastic process. We use the financial theory of arbitrage pricing and martingale theory to derive single premiums for different policies. We derive risk-minimizing trading strategies describing how the issuing company can reduce financial risk. We derive a partial differential equation for the market value of the premium reserve which we compare to Thiele's equation of the actuarial sciences. Our equation contains some new terms stemming from our economic model. The interpretation of the principle of equivalence may be revisited in this framework; the principle still holds but under a new risk adjusted probability measure, equivalent to—but different from—the originally given probability measure.

Key words:

Related Research Data

Martingales and stochastic integrals in the theory of continuous trading
Source: Stochastic Processes and their Applications

Martingales and arbitrage in multiperiod securities markets
Source: Journal of Economic Theory

Reserves for maturity guarantees under unit-linked policies
Source: Journal of the Institute of Actuaries

The pricing of equity-linked life insurance policies with an asset value guarantee
Source: Journal of Financial Economics

Contingent claims valuation when the security price is a combination of an Ito process
and a random point process
Source: Stochastic Processes and their Applications

Dynamic Equilibrium and the Structure of Premiums in a Reinsurance Market
Source: The Geneva Papers on Risk and Insurance Theory

Valuation of a multistate life insurance contract with random benefits
Source: Scandinavian Journal of Management

Related research ⓘ

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