

The authors also consolidated many interesting risk management frameworks that are used by financial institutions to manage risk, and provided the reader with an understanding of the latest initiatives in the financial industry. The literature is written in clear prose without excessive use of technical jargon. Hence, students who require comprehensive knowledge of operational risk management will find this book useful.

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*Market Valuation Methods in Life and Pension Insurance.* By THOMAS MOLLER and MOGENS STEFFENSEN (Cambridge University Press, 2007. 279pp. ISBN: 9780521868778)

With the move towards market-consistent valuation methods in international accounting and solvency standards, traditional valuation methods are being rapidly superseded by concepts derived from modern financial mathematics. With this in mind, this book is aimed at practising actuaries and students who need an introduction to the practical application of modern financial theory in life insurance.

The book introduces a range of different approaches for market-consistent valuation of common life and pensions insurance contracts. These techniques are described alongside more traditional methods.

The methods are presented from the perspective of the Danish approach to market valuation; however, the underlying theory is applicable to market consistent valuation in a wider context.

Chapter 1 sets the scene, giving the reader an introduction to life insurance practice with focus on the parties that underlie an insurance contract — policyholders and an insurance company — and the payment streams that form the legal obligations of any policy.

Chapter 2 looks at some aspects of life insurance valuation that are relevant for accounting at market value through the example of a with-profits endowment insurance contract.

Chapter 3, on interest rate theory as applied to insurance, covers some basic concepts taken from interest rate theory and financial mathematics and applies these for the calculation of values of life insurance liabilities. The latter sections of this chapter look at arbitrage-free pricing in discrete time, and modelling the spot rate in continuous time. Various stochastic interest rate models are introduced.

Chapter 4 continues along the path laid in the previous chapter, extending the stochastic theory in a stock market framework. The binomial option pricing model and Black-Scholes are covered.

Chapters 5 and 6 look at specific examples of market consistent valuation in the areas of unit-linked and with-profits contracts. The final chapter,

chapter 7, gives an introduction to interest rate derivatives such as vanilla swaps and discusses their application in hedging insurance risks.

The level of the book is advanced. From the outset, it assumes knowledge of life insurance mathematics and probability theory. With the focus being on the application on the underlying concepts, theoretical results are, in the most part, quickly developed. For this reason, the book would be unsuitable for those in the early stages of their studies unless supplemented with other introductory textbooks. However, for those with a thorough grounding in financial mathematics, it will serve as a useful reference source of market-consistent techniques in insurance.

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