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Reserving for maturity guarantees: Two approaches. (English) Zbl 0894.90044
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Summary: This paper examines the pricing of and reserving for certain guarantees that are associated with some insurance contracts. Specifically, we deal with maturity guarantees, which provide a minimum level of benefits at contract maturity. Under these contracts the policyholders' premiums are invested in a specified portfolio. When the contract matures the value of the benefit is guaranteed not to fall below a certain level. We examine and contrast two approaches to the pricing and reserving for these guarantees. The first approach is based on stochastic simulation of future investment returns. The second approach is based on modern option pricing theory. The reserving procedures under the two approaches differ dramatically. We provide numerical estimates of the reserves required under each approach using realistic assumptions. We find that the conventional option hedging strategies in the presence of transaction costs become relatively expensive.

MSC:

91B30 Risk theory, insurance (MSC2010)
91B28 Finance etc. (MSC2000)

Cited in **39** Documents

Keywords:

[option pricing](#); [dynamic hedging](#); [insurance contracts](#); [maturity guarantees](#)

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