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Modelling and management of mortality risk: a review

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Abstract

In the first part of the paper, we consider the wide range of extrapolative stochastic mortality[illegible]nber of models t[illegible]n the statistica[illegible]els can be evaluate[illegible]et model that faci[illegible]ns. We then review[illegible] models tend[illegible]for dynamic hedging[illegible]s (traded and over[illegible]hese, such as morta[illegible]nts in the market.

Keywords: Stochastic mortality models | Short-rate models | Market models | Cohort effect | SCOR market model | Mortality-linked securities | Mortality swaps | q-forwards

Notes

[1]In our notation the subscript c in $m_c(t, x)$ distinguishes the crude or actual death rate from the underlying or expected death rate.

[2]To date, we are unaware of any studies that have explicitly attempted to model the exposures as unobserved variables.

[3]The discrete-time models described in Section 4 can all be described as short-rate models, with the exception of the market model in Section 4.7.

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