

StMoMo: An R Package for Stochastic Mortality Modelling

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Abstract

In this paper we mirror the framework of generalised (non-)linear models to define the family of generalised Age-Period-Cohort stochastic mortality models which encompasses the vast majority of stochastic mortality projection models proposed to date, including the well-known Lee-Carter and Cairns-Blake-Dowd models. We also introduce the R package StMoMo which exploits the unifying framework of the generalised Age-Period-Cohort family to provide tools for fitting stochastic mortality models, assessing their goodness of fit and performing mortality projections. We illustrate some of the capabilities of the package by performing a comparison of several stochastic mortality models applied to the England and Wales population.

Keywords: Mortality modelling; mortality forecasting; generalised linear models;
generalised non-linear models