StMoMo: An R Package for Stochastic Mortality Modelling

Andrés M. Villegas*, Vladimir Kaishev, Pietro Millossovich Cass Business School, Faculty of Actuarial Science and Insurance, City University, London, UK

In this paper we use 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. The latest development version of **StMoMo** is available at https://github.com/amvillegas/StMoMo and we expect the first stable version of the package to be available in CRAN by June 2015.

Keywords: Mortality modelling; mortality forecasting; generalised linear models; generalised nonlinear models

^{*} Presenting author: