

Extensions of the Lee-Carter Model for Mortality Projections

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Key words: mortality projection, longevity risk, Bayesian implementation, exponential dispersion models

The literature on mortality projections was dominated in the 1990's by the Lee-Carter model (L-C) which assumes that the central death rate for a specific age follows a log-bilinear form, allowing for variations in the level of mortality over time. This model, with its inherent homoscedastic structure, was later extended by a Poisson model governed by a similar log-bilinear force of mortality. The paper will discuss potential extensions to the Lee-Carter model along the following lines:

- Presentation of the L-C model as a state-space model.
- Reviewing Bayesian approaches to time series analysis
- Bayesian Implementation of the L-C model with a broad family of imbedded ARIMA models.
- Bayesian model choice considerations.
- Adaptation of the L-C model for simultaneous projection of several populations.