A non-linear credibility regression approach to modelling mortality rates for countries with limited data

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Abstract

It is observed that for most countries, mortality improvement by time implies a downward (but not necessarily linear) trend in age-specific mortality rates. In this talk, we present a non-linear credibility regression approach to model the non-linear trend in mortality rates, especially for countries with small population or/and limited historical data. We present a mortality modelling approach, based on non-linear credibility regression, to forecasting mortality rates. The parameter estimation is presented in detail and the forecasting performance of the proposed model in comparison with other mortality modelling approaches is evaluated using error accuracy measures.

Keywords: Non-Linear Credibility Regression; Mortality Modelling.

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