

Fuzzy formulation of the Lee-Carter model forecasting with age-specific Enhancement

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Abstract

In this paper, we consider the fuzzy method of Koissi and Shapiro (2006) and apply the Lee-Carter model with age-specific enhancement of Renshaw and Haberman (2003). The proposed fuzzy formulation of the extended Lee-Carter model is exercised based on mortality data like the mortality of China between 1994 and 2008. We also obtain the predictive mortality rate. The comparative advantages of our proposed fuzzy formulation of the extended Lee-Carter model, relative to the classical Lee-Carter model, are analyzed and discussed.

Key words: Lee-Carter model; Fuzzy modelling; mortality forecasting