

Mortality Improvement: An Actuarial Perspective

by

José Garrido, Department of Mathematics and Statistics, Concordia University
Ana Debón, Universidad Politecnica de Valencia

We study the relation between the two basic random events associated with human mortality; birth and death. Recorded dates of birth and death provide strong evidence of a positive association between longevity and cohort. That means, people born in more recent cohorts tend to live longer. Forecasting models such as that of Lee & Carter (1992, JASA) have attempted, with limited success, to give a parametric description of this association.

We investigate a copula model for a bivariate survival function, with non-parametric marginals. The estimation and fit of extreme value copulas is presented and compared to current parametric model.