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The confidence in the annuity divisor for premium pension

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Abstract

In Sweden the public pension premiepension is part of the national pension and determined by accumulated pension, funds returns, interest rate and annuity divisor. The annuity divisor therein is determined by life expectancy tables, interest rate and operating costs. A closer look into the current methodology used by the Swedish Pension Agency and Statistics Sweden tell if the methodology could be improved. The future mortality rates are predicted using the Lee-Carter model which are used to estimate the parameters in the Gompertz-Makeham mortality law. The force of mortality is the first step in the calculation of the annuity divisor. Assuming that the number of deaths have a binomial distribution, simulation of life expectancies result in annuity divisors close to published values. However, a closer look reveal that life expectancy simulations are in better agreement with historical values for women than men. The modelling approach performs poorer for higher ages, regardless of gender.

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