

An application of comonotonicity in multiple state models

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Abstract. In this paper, comonotonicity will be applied to multiple state models under Markov assumptions in a continuous time framework. We deal with one application in actuarial science. It involves deriving the distribution of the present value of benefits less premiums of a disability annuity, also known as an income protection policy. The quality of the approximation is investigated by comparing the distribution obtained with the one derived from the algorithm presented in the paper by [Hesselager and Norberg, 1996].

Keywords: comonotonicity, multiple state, disability.

References

- [Hesselager and Norberg, 1996]Hesselager, O., Norberg, R., 1996. On probability distributions of present values in life insurance. *Insurance: Mathematics and Economics*, 18, 35-42.