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A Note on Dependencies in Multiple Life Statuses

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Abstract

We introduce the correlation order as a tool for describing and understanding dependencies in multiple life statuses. This order is well-known in the economical literature. It is a partial order in the class of all bivariate lifetime distributions with given marginals. It is shown that this order is preserved (or reversed) when pricing multiple life and last survivor insurance and annuity contracts. In particular, we establish conditions that provide information on phenomenon of over/underpricing when the usual assumption of mutual independency of the life times involved is made. The results can also be used to establish lower and upper bounds for the single premiums of insurances and annuities on joint-life and last-survivor statuses with given marginals.

Keywords: correlation order, joint-life statuses, last-survivor statuses,

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