

Archimedean Survival Processes

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Archimedean copulas are popular in the world of multivariate modelling as a result of their breadth, tractability, and flexibility. A. J. McNeil and J. Neuhöfer (2009) showed that the class of Archimedean copulas coincides with the class of multivariate ℓ_1 -norm symmetric distributions. Building upon their results, we introduce a class of multivariate Markov processes that we call 'Archimedean survival processes' (ASPs). An ASP is defined over a finite time interval, is equivalent in law to a multivariate gamma process, and its terminal value has an Archimedean survival copula. There exists a bijection from the class of ASPs to the class of Archimedean copulas. We provide various characterisations of ASPs, and a generalisation.

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