

Dickson, David C. M.; Hipp, Christian

On the time to ruin for Erlang(2) risk processes. (English) Zbl 1074.91549
Insur. Math. Econ. 29, No. 3, 333-344 (2001).

The authors consider a Sparre Andersen risk process for which the claim interarrival distribution is Erlang(2). They defined

$$\varphi(u) = E[e^{-\delta T} 1_{\{T < \infty\}} / V(0) = u],$$

where $1_{\{\cdot\}}$ is the indicator function, $\delta > 0$, $V(t)$ is the surplus process. With help of the function $\varphi(u)$ the authors find the moments of the time to ruin. It is shown that $\varphi(u)$ satisfies some integrodifferential equation. There are also considered two individual claim distributions: an exponential and mixture of two exponentials. For the case of zero initial surplus moments of the time to ruin can be found without an explicit solution for $\varphi(u)$, $u > 0$.

Reviewer: [Alexandra Rodkina \(Kingston/Jamaica\)](#)

MSC:

91B30 Risk theory, insurance (MSC2010)

Cited in **1** Review
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Keywords:

[Sparre Andersen risk processes](#); [Erlang\(2\)](#); [Time to ruin](#)

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