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**Moments of discounted aggregate claim costs until ruin in a Sparre Andersen risk model with general interclaim times.** (English) [Zbl 1304.91095](#)

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Summary: In the context of a Sparre Andersen risk model with arbitrary interclaim time distribution, the moments of discounted aggregate claim costs until ruin are studied. Our analysis relies on a novel generalization of the so-called discounted density which further involves a moment-based component. More specifically, while the usual discounted density contains a discount factor with respect to the time of ruin, we propose to incorporate powers of the sum until ruin of the discounted (and possibly transformed) claims into the density. Probabilistic arguments are applied to derive defective renewal equations satisfied by the moments of discounted aggregate claim costs until ruin. Detailed examples concerning the discounted aggregate claims and the number of claims until ruin are studied upon assumption on the claim severities. Numerical illustrations are also given at the end.

**MSC:**

**91B30** Risk theory, insurance (MSC2010)

**60K10** Applications of renewal theory (reliability, demand theory, etc.)

Cited in **2** Reviews  
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**Keywords:**

discounted aggregate claims until ruin; number of claims until ruin; higher moments; Sparre Andersen risk model; general interclaim times; defective renewal equation; discounted densities

**Full Text:** [DOI](#)

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