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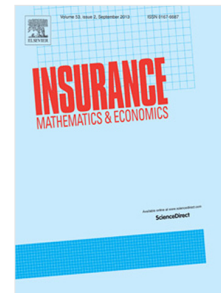
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Fair valuation of insurance liabilities: merging actuarial judgement and market-consistency

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Abstract

In this paper, we investigate the fair valuation of liabilities related to an insurance policy or portfolio in a single period framework. We define a fair valuation as a valuation which is both market-consistent (mark-to-market for any hedgeable part of a claim) and actuarial (mark-to-model for any claim that is independent of financial market evolutions). We introduce the class of hedge-based valuations, where in a first step of the valuation process, a 'best hedge' for the liability is set up, based on the traded assets in the market, while in a second step, the remaining part of the claim is valued via an actuarial valuation. We also introduce the class of two-step valuations, the elements of which are very closely related to the two-step valuations which were introduced in Pelsser and Stadje (2014). We show that the classes of fair, hedge-based and two-step valuations are identical.

Keywords: Fair valuation of insurance liabilities, market-consistent valuation, actuarial valuation, Solvency II, mean-variance hedging.

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