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Distortion Risk Measures and Economic Capital

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Abstract

To provide incentive for active risk management, it is argued that a sound coherent distortion risk measure should preserve some higher degree stop-loss orders, at least the degree-three convex order. Such risk measures are called tail-preserving risk measures. It is shown that, under some common axioms and other plausible conditions, a tail-preserving coherent distortion risk measure identifies necessarily with the Wang right-tail measure or the expected value measure. This main result is applied to derive an optimal economic capital formula.

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