

Risk measures with applications to actuarial premiums and insurance solvency

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Abstract In actuarial research, mean value-, distortion and Haezendonck risk measures are concepts that are usually treated separately. In this paper we indicate and characterize the relation between these different risk measures, as well as their relation to convex and concave risk measures. First, we clarify the relation between the Haezendonck-Goovaerts risk measure and the distortion risk measure. Moreover, we explain the role provided for the distortion risk measures as an extension of the Tail Value-at-Risk (TVaR) and Conditional Tail Expectation (CTE). We also discuss addition theorems for risk measures.

Keywords: Haezendonck risk measure, distortion risk measure, mean value risk measure, TVAR, CTE.