

Estimation of Spectral Risk Measures for Risk Management

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Abstract

Spectral risk measure is coherent when its risk-aversion function satisfies some mild conditions. It is a weighted average of the quantile of a loss distribution with the weights defined by the risk-aversion function which captures the user's attitude toward risk. In this paper, we study the properties of spectral risk measures based on risk-aversion functions that are derived from either utility functions or distortion functions. As there is no closed form function of the quantile, we estimated these spectral risk measures numerically for loss distributions that are Gaussian, student's t and skewed t .

Keywords: Spectral risk measures; Coherent risk measures; Risk-aversion function; Distortion function.