

Risk Measures in Connection with Inequality Criteria and Reliability Concepts

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Abstract: The value-at-risk (VaR) and the conditional value-at-risk (CVaR) are two commonly used risk measures in most financial institution. The Lorenz curve is inspected as a very advantageous tool of economic suitable to its important role in the evaluation of the inequality of income distributions and wealth. We state some of their properties and make a comparison. Stochastic orders have shown to be useful notions in several areas of economics, the inequality analysis, risk analysis, reliability or portfolio insurance. Since the 1970, stochastic dominance rules have been used in comparison and analysis of poverty and income inequality.

The main aim of this paper is to investigate the relationship between some inequality measures and Risk measures with reliability concepts. Specially, we are interested in finding the connection between Lorenz ordering, risk measures and related aging classes. The convex order is not location free. This means that only random variables having the same mean are comparable in convex order and dilation order, with Lorenz order, value of risk and conditional value at risk have concepts related to Lorenz curve criteria.

Keywords: Risk Measures, Order Statistics, Lorenz Curve, Value-at-Risk, Conditional Value-at-Risk.

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