## A Comonotonic Image of Independence for Additive Risk Measures

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## Abstract

This paper presents a new axiomatic characterization of risk measures that are additive for independent random variables. In contrast to previous work, we include an axiom that guarantees monotonicity of the risk measure. Furthermore, the axiom of additivity for independent random variables is related to an axiom of additivity for comonotonic random variables. The risk measure characterized can be regarded as a mixed exponential premium.

**Keywords:** Risk measures, Additivity, Exponential order, Laplace transform order, Esscher transform, Comonotonicity

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