

Increasing Multivariate Risk: Some Definitions

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Abstract

The paper investigates multivariate extensions of the Rothschild-Stiglitz notions and of a stronger notion of increasing univariate risk for arbitrarily distributed multivariate prospects with equal as well as unequal mean vectors. In addition, two multivariate versions of increasing variance are considered. The relations between the multivariate notions correspond very closely to known relations between the univariate ones. For multinormal prospects, a multivariate mean-variance rule is stated which is equivalent to preference in terms of expected concave (resp. convex) utility.