OPTIMIZATIONAL PRINCIPLES FORMINIMIZING RISK IN PORTFOLIO ANALYSIS

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ABSTRACT

There exists a variety of measures of entropy and cross entropy in the literature of information theory, each with its own field of applications. In portfolio analysis, these measures can be used as measures of risk which is an alternative approach to those based upon variance, a theory developed by Markowitz. In the present paper, our aim is to develop some optimizational principles using well known existing measures of entropy and cross entropy, and consequently to provide the applications of these measures for the development of measures of risk in portfolio analysis for minimizing risk.

KEYWORDS: Portfolio analysis, Entropy, Cross entropy, Covariance matrix, Uncertainty