Abstract

The portfolio optimization problem is an important management issue in financial economics. Its aim is to calculate an optimal asset allocation that satisfy specific investment goals, out of a given investment plan. In the past few years, more and more attention is given in applying Evolutionary Computation in solving complex optimization problems. The use of Multi-Objective Evolutionary Algorithms - MOEA in practical problems involving multi-objective optimizations is not restricted to a strict application of an existing algorithm described in literature. Oftenly, for a certain problem, one prefers an algorithm design that includes strategies characterizing different important algorithms used in the MOEA field. The main objective of this study was to develop an efficient and effective portfolio selection Multi-Objective Genetic Algorithm. Experimental tests presented for five benchmark data sets are given to demonstrate significant advantages regarding the solution quality and the speed of the algorithm.

References


Index Terms

Computer Science

Algorithms
Keywords
Genetic Algorithms  Portfolio optimization  Efficient frontier  Mean-Variance