Mathematical and Computer Modelling
Volume 34, Issues 9–11, November 2001, Pages 1037-1072

Safety-first analysis and stable paretian approach to portfolio choice theory

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https://doi.org/10.1016/S0895-7177(01)00116-9
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Abstract

In this paper, we present some characterizations of efficient sets using the stochastic dominance rules and comparing the safety-first approach with the stable Paretian analysis. We introduce a new stable Paretian version of the Markowitz financial optimization model in order to find an optimal frontier based on a more realistic model for the distribution of asset returns. As a generalization of moments analysis, we consider a portfolio selection for an investor who wishes to allocate has initial wealth across n investments with returns following general heavy-tailed distributions. Alternatively, we show that the safety-first approach can be more efficient than the stable Paretian approach. Finally, we present two possible direct methods for portfolio choice in a safety-first world.

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Keywords

Portfolio selection; Safety-first portfolio; Stable Paretian distributions; Efficient frontier; Domain of attraction