Investment Portfolios Optimized with Computer Based Systems

Technology #m01-027

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Investment Portfolio Selection and Optimization Computer based systems and methods for selection and optimization of an investment portfolio are disclosed. Further, determination of robust solutions to investment problems within a desired confidence level. Investment Modeling Tool for Selecting and Allocating Optimal Portfolio Assets

An investment portfolio is determined based on the investment parameters, where the portfolio includes several assets and the assets have associated return and factor loading data. Confidence threshold for the investment parameters is selected, and a nominal value for the mean return, a nominal factor loading vector and a nominal factor covariance matrix, are determined. Uncertainty sets for the mean return vector, factor loading matrix and factor covariance matrix, are defined. Based upon the desired investment objective, at least one of the uncertainty sets is applied to an investment problem, such that the worst case market parameters reside within the applied uncertainty sets with a probability set by the selected confidence threshold.

An improved computer based system for selecting assets for a portfolio and determining an optimum asset allocation in the portfolio based on defined risk, return and confidence parameters, is provided. A robust investment modeling tool in which perturbations in market parameters are modeled as uncertainty sets is offered.”

Inventors

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