Operational Tools in the Management of Financial Risks

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This book presents a set of new, innovative mathematical modeling tools for analyzing financial risk.

Operational Tools in the Management of Financial Risks presents an array of new tools drawn from a variety of research areas, including chaos theory, expert systems, fuzzy sets, neural nets, risk analysis, stochastic programming and multicriteria decision making. Applications cover, but are not limited to, bankruptcy, credit granting, capital budgeting, corporate performance and viability, portfolio selection/management, and country risk.

The book is organized into five sections. The first section applies multivariate data and multicriteria analyses to the problem of portfolio selection. Articles in this section combine classical approaches with newer methods. The second section expands the analysis in the first section to a variety of financial problems: business failure, corporate performance and viability, bankruptcy, etc. The third section examines the mathematical programming techniques including linear, dynamic, and stochastic programming to portfolio management's. The fourth section introduces fuzzy set and artificial intelligence techniques to selected types of financial decisions. The final section explores the contribution of several multicriteria methodologies in the assessment of country financial risk. In total, this book is a systematic examination of an emerging methodology for managing financial risk in business.

Contents and Contributors

I: Multivariate Data Analysis and Multicriteria Analysis in Portfolio Selection.

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An Entropy Risk Aversion in Portfolio Selection; A. Scarelli.

Multicriteria Decision Making and Portfolio Management with Arbitrage Pricing Theory; Ch. Hurson, N. Ricci-Xella.

II: Multivariate Data Analysis and Multicriteria Analysis in Business Failure, Corporate Performance and Bank Bankruptcy.

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Multivariate Analysis for the Assessment of Corporate Performance: The Case of Greece; Y. Caloghirou,, et al.

Stable Set Internally Maximal: A Classification Method with Overlapping; A. Couturier, B. Fioleau.

A Multicriteria Approach for the Analysis and Prediction of Business Failure in Greece; C. Zopounidis, et al.

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A Mathematical Approach of Determining Bank Risk Premium; J. Gupta, Ph. Spieser.

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Designing Callable Bonds Using Simulated Annealing; M. R. Holmer, et al.

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