1. Record Nr. UNINA9910483845903321

Autore	Sarmas Elissaios
Titolo	Multicriteria portfolio construction with Python / / Elissaios Sarmas, Panos Xidonas and Haris Doukas
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2020] Â©2020
ISBN	3-030-53743-9
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (IX, 176 p. 138 illus., 47 illus. in color.)
Collana	Springer Optimization and Its Applications, , 1931-6828 ; ; 163
Disciplina	332.60285
Soggetti	Applied mathematics Decision making Operations research
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1. Introduction -- 2. The Portfolio Management Problem -- 3. Multicriteria Decision Analysis Methods -- 3. Literature Review -- 5. The Proposed Methodology -- 6. Information System in Python.-7. Empirical Testing -- 8. Conclusions -- Bibliography.
Sommario/riassunto	This book covers topics in portfolio management and multicriteria decision analysis (MCDA), presenting a transparent and unified methodology for the portfolio construction process. The most important feature of the book includes the proposed methodological framework that integrates two individual subsystems, the portfolio selection subsystem and the portfolio optimization subsystem. An additional highlight of the book includes the detailed, step-by-step implementation of the proposed multicriteria algorithms in Python. The implementation is presented in detail; each step is elaborately described, from the input of the data to the extraction of the results. Algorithms are organized into small cells of code, accompanied by targeted remarks and comments, in order to help the reader to fully understand their mechanics. Readers are provided with a link to access the source code through GitHub. This Work may also be considered as a reference which presents the state-of-art research on portfolio construction with multiple and complex investment objectives and

constraints. The book consists of eight chapters. A brief introduction is provided in Chapter 1. The fundamental issues of modern portfolio theory are discussed in Chapter 2. In Chapter 3, the various multicriteria decision aid methods, either discrete or continuous, are concisely described. In Chapter 4, a comprehensive review of the published literature in the field of multicriteria portfolio management is considered. In Chapter 5, an integrated and original multicriteria portfolio construction methodology is developed. Chapter 6 presents the web-based information system, in which the suggested methodological framework has been implemented. In Chapter 7, the experimental application of the proposed methodology is discussed and in Chapter 8, the authors provide overall conclusions. The readership of the book aims to be a diverse group, including fund managers, risk managers, investment advisors, bankers, private investors, analytics scientists, operations researchers scientists, and computer engineers, to name just several. Portions of the book may be used as instructional for either advanced undergraduate or post-graduate courses in investment analysis, portfolio engineering, decision science, computer science, or financial engineering.