

Studies in Computational Intelligence

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Series editor

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About this Series

The series “Studies in Computational Intelligence” (SCI) publishes new developments and advances in the various areas of computational intelligence—quickly and with a high quality. The intent is to cover the theory, applications, and design methods of computational intelligence, as embedded in the fields of engineering, computer science, physics and life sciences, as well as the methodologies behind them. The series contains monographs, lecture notes and edited volumes in computational intelligence spanning the areas of neural networks, connectionist systems, genetic algorithms, evolutionary computation, artificial intelligence, cellular automata, self-organizing systems, soft computing, fuzzy systems, and hybrid intelligent systems. Of particular value to both the contributors and the readership are the short publication timeframe and the world-wide distribution, which enable both wide and rapid dissemination of research output.

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Econometrics of Risk

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Preface

Econometrics is the application of mathematical, statistical, and computational methods to economic data. Econometrics adds empirical content to economic theory, allowing theories to be tested and used for forecasting and policy evaluation.

One of the most important aspects of economics—and one of the most difficult tasks in analyzing economic data—is how to properly take into account economic risk. Proper accounting of risks is vitally important for keeping the economy stable and prosperous.

The economic crises of the 1990s has shown that the traditional methods of risk analysis, methods based on simplified Gaussian statistical descriptions of economic phenomena and corresponding risks, are often not sufficient to adequately describe economic risks. Because of this insufficiency, new methods have been developed, in particular, methods using non-Gaussian heavy-tailed distributions, methods using non-Gaussian copulas to properly take into account dependence between different quantities, methods taking into account imprecise (“fuzzy”) expert knowledge, and many other innovative techniques.

This volume contains several state-of-the-art papers devoted to econometrics of risk. Some of these papers provide further theoretical analysis of the corresponding mathematical, statistical, computational, and economical models. Several other papers describe applications of the novel risk-related econometric techniques to real-life economic situations.

We hope that this versatile volume will help practitioners to learn how to apply new techniques of econometrics of risk, and help researchers to further improve the existing models and to come up with new ideas on how to best take into account economic risks.

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Nomi, Japan, January 2015
El Paso, TX, USA
Chiang Mai, Thailand

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