Preface

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Biographical notes: Charles S. Tapiero is the Topfer Chair Professor of Technology and Financial Engineering at the Polytechnic University of New York. He has assumed Full-time Professorship positions at Bar Ilan University (Israel) and ESSEC (France) as well as Academic positions at Columbia University and the Hebrew University. He has a worldwide reputation as an active researcher and a consultant in Industrial and Quality Management, Risk and Computational Finance and a Risk Management. Currently, he is the area editor for Finance in the journal of *Applied Stochastic Models for Business and Industry* as well as a member of Editorial Boards of a number of journals. He has published 12 books and over 250 papers on a broad range of issues spanning risk management, stochastic modelling in business and industry and applied stochastic control in operations, insurance and finance.

Alberto Grando is a Full-time Professor of Operations and Supply Chain Management at Bocconi University of Milan (Italy). Founder and the Director of CRITOM – Centre for Research in Innovation, Technology and Operations Management, Bocconi University, Milan, he is also a Senior Professor in Department of Operations and Technology of SDA Bocconi School of Management, an Adjunct Professor of Production and Supply Chain Management at Cattaneo University of Castellanza (Italy) and a Visiting Professor at Cranfield School of Management (UK). Graduated in Business Administration at Bocconi University in 1983, he has published a number of books and papers in academic and professional journals. His research interests are manufacturing performances, supply chain management and production management.

This Special Issue contains selected papers presented at a workshop on 'Performance and risk measurement: operations, logistics and supply chains', held at Bocconi University, Milan. In these papers, risk in all its operational states takes centre stage. These papers provide a broad outline of risk, its definition and applications to operations, services and its increasing importance in supply chains and networked organisations.

In 'Risks and supply chains', Tapiero and Grando provide a definition and an assessment of risk in the new, network-based operational environment. In particular, risk externalities, external risks, operational risks and strategic risks are defined and applied to problems of inventory outsourcing, quality management and other problems.

Dolgui et al. in their paper 'Forecasting risk analysis for supply chains with intermittent demand' focus on the forecasting risks in supply chains with typically 'slow-moving items' (such as service parts and costly capital goods). They essentially use a Beta-Binomial model that incorporates additive distortion in the demand historical record parameters. Their essential result is based on an efficient estimation of the risks involved and confirmed by computer simulation.

Faull, in his paper on 'HIV/AIDS employer programmes', raises fundamental issues regarding the risks implied for individual and corporate firms' operations. In South Africa, for example, related HIV risks and the AIDS tax cost somewhere between 1.8% and 5.9% of payroll. This paper's particular contributions, however, are in attracting attention to these risks, in suggesting a measurement approach and in clarifying their costs.

Dalla Valle et al. in their paper 'Copulae and operational risks', summarise and extend the notion of dependence risks in operations to include copulae and simulation as a measurement tools. Copulae, broadly used in credit and financial risks, are algebraic structures that provide a mathematically rigorous definition of statistical dependence in multivariate systems when their marginal distributions are assumed known. Given these marginal distributions, such as the Poisson and binomial distribution, this paper tests a number of copulae by using simulation. Subsequently, applications to operational risks are introduced.

Kenett and Raphaeli's paper, 'Multivariate methods in enterprise system implementation, risk management and change management', provides a first step towards the application of multivariate methods in risk management and change management in Enterprise System Implementation (ESI). In their paper they rely on an ESI theory developed by the BEST project (www.best-project.com) and more conventional risk management methodology. This paper's focus is on the application of multivariate methods in comparing risk profiles and readiness assessments at various stages of an ESI project. The techniques introduced include correspondence analysis and partial order mapping. These techniques help to characterise and compare ESI readiness across different parts of a company and compare risk profiles of different ESI components.

Szwejczewski et al. in 'Risk measurement and management during new product development: an exploratory study', state that several contributions on product development have suggested various approaches to determining risk and managing it, but there is very little research regarding what companies are doing in practice. Thus, this paper presents the results of a research project that investigated how a number of UK manufacturing companies measure and manage risk during the new product development process.

Berg et al. in 'Assessing performance of supply chain risk management programmes – a tentative approach', provide initial directions about how risk management programmes could be assessed in a supply chain setting and discuss how such a measurement system could be designed. A tentative framework, based on a quality model, is proposed to assess the performance of supply chain risk management work. It highlights the importance of trying to capture both the capabilities of supply chain risk management and the results of the work.