

Call for Contributions

Water Risk Modeling: Developing Risk-Return Management Techniques in Finance and Beyond

An edited collection to be published by Palgrave Macmillan

Co-edited by
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The Jacques Ménard - BMO Centre for Capital Markets at Concordia University and the Department of Banking at Baden-Württemberg Cooperative State University kindly invite contributions to the forthcoming edited book, titled “**Water Risk Modeling: Developing Risk-Return Management Techniques in Finance and Beyond**,” to be published by **Palgrave Macmillan**.

ABOUT THE BOOK

Water risk, including the lack of access to fresh water for personal and industrial use, droughts, floods, and water contamination, is not a new problem; in the face of climate change, population growth, and rapid economic development, it is only intensified. Water risk affects not only companies in the real economy, but also private households and governments, and thus society. Given the many interactions of these stakeholders with the financial markets, financial investors must assess the risks related to their stakes in companies as well as their affectedness as financiers of private households and public authorities. In addition to material damages from the devaluation of loans, bonds, equities, derivatives, and insurance claims, financial firms must consider regulatory and reputational risks as these can affect costs and brand reputation, among other things, hence materializing in additional costs.

Properly identifying, measuring, and managing water risk as well as seizing mitigation opportunities is essential for the future well-being of firms across industries, investors, local and federal governments, and ultimately our whole society. With the financial system increasingly focusing on sustainable investments and risk management, the right models and frameworks must be developed to guide investors and government in their decision-making process. Indeed, it has become imperative that financial investors, corporate managers, and policymakers understand the importance and potential impacts of water risk as well as the interconnectivity between water risk and financial and societal developments.

Following the publication of our book *Water Risk and Its Impact on the Financial Markets and Society: New Developments in Risk Assessment and Management* (2021), this edited book aims to shed light on the topic of water risk by examining the measurement and management challenges associated with water risk while considering the interaction between water risk, the real economy, society, and finance. It will (1) explore various **approaches to operationalize water risk** from the perspective of financial investors, managers, engineers, and regulators of the financial system. Specifically, it will provide a comprehensive collection of models to quantify the dimensions of water risk. The analysis of tools to measure water risk will provide (2) the basis for the **development of appropriate risk-return management** techniques in finance and beyond. Approaches may include both actions to protect against the threats from financial water risk and measures to benefit from opportunities in the field. The book will also address this topic from a risk and return perspective of managers of financial firms, corporate financial managers, financial supervisors, regulators, and central bankers. The contributions will take account of recent developments in financial technology and apply it to the assessment and management of water risk.

Our book fills a gap in the literature by providing important new insights on water risk and related opportunities. It explores a wide range of topics in the field, providing a combined financial and societal as well as a local and global perspective. We will select chapter submissions from key players in the field.

CALL FOR CONTRIBUTIONS

The editors are inviting contributions from the international community of scholars and practitioners at the interface of finance, economics, geology, philanthropy, and policy. With a specific focus on models and frameworks, they will present, review, and critically analyze current assessment methods and management techniques for financial water risk and will discuss ongoing and potential innovations in this field. The contributions will aim to highlight the current hurdles and challenges – technological, social, cultural, geographic, and political – which are impeding the global transition from traditional short-term financial models towards effective long-term and combined financial-social solutions.

Considering the interconnected and complex nature of water risk, the editors are encouraging contributions that are transdisciplinary in their approaches. They will also accept chapters that incorporate new concepts or tools beyond the academic fields of finance, economics, and social science. These could include contributions from the natural sciences, especially from geology and meteorology, as well as engineering solutions that seek to address technical and technological challenges in the conception, development, and management of water risk and their financial implications. Moreover, the editors encourage contributions that present experimental approaches or concepts that are yet to be applied. Chapters that use case studies or comparative studies in this context are strongly encouraged.

POTENTIAL TOPICS FOR CHAPTERS

1. *Modeling Financial Water Risk*
 - a. Dimensions of water risk
 - b. Water risk and climate change
 - c. Opportunities from water risk
 - d. Presentation of specific water risk models
 - e. Financial water risk and accounting/risk reporting
 - f. Water risk stress testing
 - g. Modelling financial water risk approaches using neural networks, artificial intelligence, and other advanced methods
2. *Managing Financial Water Risk*
 - a. Financial water risk and the use of data science (e.g., advances in high-resolution geomapping)
 - b. Water risk governance of companies and countries
 - c. Water risk insurance
 - d. Water risk derivatives
 - e. Water risk management of investment portfolios
 - f. Directions in water risk regulations

IMPORTANT DATES

We currently anticipate the following timeline for the project:

Abstract and CV submission deadline – **May 24, 2022**

Selection of abstracts and notification to successful contributors – **May 31, 2022**

(Publisher release forms forwarded to successful contributors)

Full chapter submissions – **August 31, 2022**

Revised chapter submissions – **September 30, 2022**

Publication – **December 30, 2022** (tentative)

GUIDELINES FOR CONTRIBUTORS

Submissions should be written in a non-technical writing style. The contributions may include only original diagrams/illustrations in order to present data, or photographs/figures to better illustrate the topic discussed. Submitted chapters should be original and exclusively prepared for the present book. No part of the article should be published elsewhere. Chapters must not exceed 7,000 words (including all references, appendices, biographies, etc.), must use 1.5 line spacing and 12 pt. Times New Roman font, and must use the APA 7th edition reference style.

Researchers and practitioners are invited to submit an abstract of 750 words maximum and a CV by May 24, 2022.

Submissions should be sent via email to emerging.risks@concordia.ca

Authors will be notified about the status of their proposals and will be sent complete chapter guidelines. Full chapters are expected to be submitted by **September 30, 2022**.

It goes without saying that there are no submission or acceptance fees for submitted manuscripts. Each contributor will receive an e-copy. One complimentary hard copy will be sent per chapter.

ABOUT THE EDITORS

Dieter Gramlich is a Professor of Banking & Finance at DHBW - Baden-Württemberg Cooperative State University, Heidenheim, where he serves as the head of the banking department. He received his PhD from the University of Mannheim and his Habilitation degree from the University of Halle. His main research focuses on financial risk and return management, systemic financial stability, and sustainable finance. He has published widely in these areas and has co-edited the book *Water Risk and Its Impact on the Financial Markets and Society: New Developments in Risk Assessment and Management* (2021). He was the deputy chair of banking and finance at the University of Halle, a visiting professor at Cleveland State University and the Cleveland Federal Reserve Bank and is a recurring visiting scholar at Concordia University, Montreal, where he recently co-founded the Emerging Risks Information Center.

Thomas Walker holds an MBA and PhD degree in Finance from Washington State University. Prior to his academic career, he worked for several years in the German consulting and industrial sector at firms such as Mercedes Benz, Utility Consultants International, Lahmeyer International, Telenet, and KPMG Peat Marwick. He has taught as a visiting professor at the University of Mannheim, the University of Bamberg, the European Business School, and the WHU – Otto Beisheim School of Management. His research interests are in sustainability & climate change, corporate governance, securities regulation and litigation, and insider trading. He has published over seventy articles and book chapters in these areas. He

is the co-editor of seven books on sustainable financial systems, sustainable real estate, sustainable aviation, emerging risk management, environmental policy, innovations in social finance, and water risk. Dr. Walker has held numerous administrative and research positions during his career. For instance, he served as the Laurentian Bank Professor in Integrated Risk Management (2010-2015), Chair of the Finance Department (2011-2014), Director/Co-director of the David O'Brien Centre for Sustainable Enterprise (2015-2017), and as Associate Dean, Research and Research Programs (2016-2017) at Concordia University. In addition, he has been an active member of various advisory boards and steering committees including, among others, the human resources group of Finance Montréal, the steering committee of the Montreal chapter of the Professional Risk Managers' International Association (PRMIA), the academic advisory board of the MMI/Morningstar Sustainable Investing Initiative, and the advisory board for Palgrave Macmillan's Future Earth book series on sustainability. Together with Dr. Gramlich, he co-founded the Emerging Risks Information Center. In addition, since 2021, he serves as director of the Jacques Ménard - BMO Centre for Capital Markets and as Concordia University Research Chair in Emerging Risk Management (Tier 1).

Adele Dumont-Bergeron is a research associate at the John Molson School of Business at Concordia University, Montreal. She co-edited the book *Water Risk and Its Impact on the Financial Markets and Society: New Developments in Risk Assessment and Management* (2021) and has copyedited over one hundred articles and chapters for publication. Adele holds a BA and an MA in English Literature, Creative Writing, and Professional Writing from Concordia University. Her research focuses mainly on water risk.