Dear Reader,

We would like to thank you very much for studying the proceedings volume of the conference “Risk Management Reloaded”, which took place in Garching-Hochbrück, during September 9–13, 2013. This conference was organized by the KPMG Center of Excellence in Risk Management and the Chair of Mathematical Finance at Technische Universität München. The scientific committee consisted of Prof. Claudia Klüppelberg, Prof. Matthias Scherer, Prof. Wim Schoutens, and Prof. Rudi Zagst. Selected speakers were approached to contribute with a manuscript to this proceedings volume. We are grateful for the large number of high-quality submissions and would like to especially thank the many referees that helped to control and even improve the quality of the presented papers.

The objective of the conference was to bring together leading researchers and practitioners from all areas of quantitative risk management to take advantage of the presented methodologies and practical applications. With more than 200 registered participants (about 40% practitioners) and 80 presentations we outnumbered our own expectations for this inaugural event. The broad variety of topics is also reflected in the long list of keynote speakers and their presentations: Prof. Hansjörg Albrecher (risk management in insurance), Dr. Christian Bluhm (credit-risk modeling in risk management), Prof. Fabrizio Durante (dependence modeling in risk management), Dr. Michael Kemmer (regulatory developments in risk management), Prof. Rüdiger Kiesel (model risk for energy markets), Prof. Ralf Korn (new mathematical developments in risk management), Prof. Alfred Müller (new risk measures), Prof. Wim Schoutens (model, calibration, and parameter risk), and Prof. Josef Zechner (risk management in asset management). Besides many invited and contributed talks, the conference participants especially enjoyed a vivid panel discussion titled “Quo vadis quantitative risk management?” with Dr. Christopher Lotz, Dr. Matthias Mayer, Vassilios Pappas, Prof. Luis Seco, and Dr. Daniel Sommer as participants and Markus Zydra serving as anchorman. Moreover, we had a special workshop on copulas (organized by Prof. Fabrizio Durante and Prof. Matthias Scherer), a DGVFM workshop on “Alternative interest guarantees in life insurance” (organized by Prof. Ralf Korn and Prof. Matthias Scherer),...
a workshop on “Advances in LIBOR modeling” (organized by Prof. Kathrin Glau), and a workshop on “Algorithmic differentiation” (organized by Victor Mosenkis and Jacques du Toit). Finally, the last day of the conference was dedicated to young researchers, serving as a platform to present results from ongoing Ph.D. projects. It is clearly worth mentioning, however, that there was enough time reserved for social events like a conference dinner at “Braustüberl Weihenstephan,” a “Night watch man tour” in Munich, and a goodbye reception in Garching-Hochbrück. The editors of this volume would like to thank again all participants of the conference, all speakers, all members of the organizing committee (Kathrin Glau, Bettina Haas, Asma Khedher, Mirco Mahlstedt, Matthias Scherer, Anika Schmidt, Thorsten Schulz, and Rudi Zagst), all contributors to this volume, the referees, and finally our generous sponsor KPMG AG Wirtschaftsprüfungsgesellschaft.

Kathrin Glau
Matthias Scherer
Rudi Zagst
Preface II

The conference “Risk Management Reloaded” was held on the campus of Technische Universität München in Garching-Hochbrück (Munich) during September 9–13, 2013. Thanks to the great efforts of the organizers, the scientific committee, the keynote speakers, contributors, and all other participants, the conference was a great success, motivating academics and practitioners to learn and discuss within the broad field of financial risk management.

The conference “Risk Management Reloaded” and this book are part of an initiative called KPMG Center of Excellence in Risk Management that was founded in 2012 as a very promising cooperation between the Chair of Mathematical Finance at the Technische Universität München and KPMG AG Wirtschaftsprüfungsgesellschaft. This collaboration aims at bringing together practitioners from the financial industry in the areas of trading, treasury, financial engineering, risk management, and risk controlling, with academic researchers in order to supply trendsetting and realizable improvements in the effective management of financial risks. It is based on three pillars, consisting of the further development of a practical and scientifically challenging education of students, the support of research with particular focus on young researchers as well as the encouragement of exchange within the scientific community and between science and the financial industry.

The topic of financial risk management is a subject of great importance for banks, insurance companies, asset managers, and the treasury departments of industrial corporations that are exposed to financial risk. It has been of even greater attention ever since the financial crisis in 2008. Though regulatory focus rose and the requirements on internal risk models have become more pronounced and comprehensive, confidence in risk models and the financial industry itself has been damaged to some extent. We intended to discuss several questions concerning these doubts, for example, whether we need more or fewer quantitative risk models, and how to adequately use and manage risk models. We think that quantitative risk models are an important tool to understand and manage the risks of what continues to be a complex business. However, comprehensive regulation for internal models
is necessary. It is important that models can be explained to internal and external stakeholders and are used in a suitable way.

The campus of the university in Garching-Hochbrück was a great place for the conference. The 200 participants, 55% of whom were academics, 40% practitioners, and 5% students, had many fruitful discussions and exchanges during five days of workshops, talks, and great social events. Participants came from more than 20 countries, which made the conference truly international. Due to the breadth of the main theme and the many different backgrounds of the participants, the topics presented during the conference covered a large spectrum, ranging from regulatory developments to theoretical advances in financial mathematics and including speakers from both academia and the industry.

The first day of the conference was dedicated to workshops on copulas, algorithmic differentiation, guaranteed interest payments in life insurance contracts, and LIBOR modeling. During the following days, several keynote speeches and contributed talks treated various aspects of risk management, including market specific (insurance, credit, energy) challenges, and tailor-made methods (model building, calibration). The panel discussion on Wednesday brought together the views of prestigious representatives from academia, industry, and regulation on the necessity, reasonableness, and limitations of quantitative risk methods for the measurement and evaluation of risk. The conference was completed by a “Young Researchers Day” giving junior researchers the opportunity to present and discuss their results in front of a broad audience.

We would like to thank all the participants of the conference for making this event a great success. In particular, we express our gratitude to the scientific committee, namely Claudia Klüppelberg, Matthias Scherer, Wim Schoutens, and Rudi Zagst, the organizational team, namely Kathrin Glau, Bettina Haas, Asma Khedher, Mirco Mahlstedt, Matthias Scherer, Anika Schmidt, Thorsten Schulz, and Rudi Zagst, the keynote speakers, the participants of the panel discussion, namely Christopher Lotz, Luis Seco, and Vasilios Pappas, all speakers within the workshops, contributed talks, and the young researchers day, and, last but not least, all participants that attended the conference.

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