

Preface to the Second Edition

For the second edition, I have made a number of typographic, historical and mathematical corrections to the original text. I am deeply grateful to many people who have been kind enough to communicate some of these corrections to me. In this respect, I would like to mention the following names, again, in alphabetical order: Hansjoerg Albrecher, Larbi Alili, Sandra Palau Calderon, Loïc Chaumont, Ron Doney, Leif Döring, Irmingard Eder, Janos Engländer, Her Majesty Queen Elizabeth II, Clément Foucart, Hans Gerber, Sasha Gnedin, Martin Herdegen, Friedrich Hubalek, Lyn Imeson, Robert Knobloch, Takis Konstantopoulos, Alexey Kuznetsov, Eos Kyprianou, Ronnie Loeffen, Juan Carlos Pardo, Pierre Patie, José-Luis Tripitaka Garmendia Pérez, Victor Rivero, Antonio Elbegdorj Murillo Salas, Paavo Salminen, Uwe Schmock, Renming Song, Matija Vidmar, Zoran Vondraček, Long Zhao and Xiaowen Zhou. I must give exceptional thanks to my four current Ph.D. students, Maren Eckhoff, Marion Hesse, Curdin Ott and Alex Watson, who diligently organised themselves to give an extremely thorough read of the penultimate draft of this document. Likewise, Erik Baurdoux and Kazutoshi Yamazaki deserve exceptional thanks for their meticulous proof-reading of substantial parts of the text. In particular, Erik must be commended for his remarkable stamina and ability to spot the most subtle of errors.

The biggest thanks of all however *must* go to the mighty Nick Bingham who committed himself to reading the entire book from cover to cover. Aside from errors of a mathematical and historical nature, he uncovered untold deficiencies in my use of the English language.^{1,2} Sincerely, thank you, Nick, for having the patience to fight your way through both my grammar and punctuation and to teach me by example.

I have also included some additional material which reflects some of the many developments that have occurred in the theory and application of Lévy processes

¹Many thanks to Erik Baurdoux who ironically pointed out that, in the penultimate draft of this manuscript, even the original version of the sentence referred to by this footnote was a grammatical mess.

²Erik also took issue with the wording in footnote 1 above.

since the last edition, and which I believe are accessible at the level that I originally pitched this book. Within existing chapters, I have included new material on the theory of special subordinators and I have updated the discussion on particular examples of Wiener–Hopf factorisations. I have also included three new chapters. One chapter concerns the theory of scale functions and another their use in the theory of ruin. Finally, the third new chapter addresses the theory of positive self-similar Markov processes. Another notable change to the book is that the full set of solutions at the back has been replaced by a more terse set of hints. This follows in response to the remarks of several colleagues who have used the book to teach from, as well as using the exercises as homeworks. Finally, the title of the book has also changed. Everyone hated the title of the first edition, most of all me. Within the constraints of permuting the original wording, I am not sure that the new title is a big improvement.

The final big push to finish this second edition took place during my six-month sabbatical as a guest at the Forschungsinstitut für Mathematik, ETH Zürich. I am most grateful to Paul Embrechts and the FIM for the invitation and for accommodating me so comfortably.

Once again, by way of a new inscription, special thanks go to Jagaa, Sophia, Sanaa and, the new addition to the family, little Alina (although she is not so little any more as it took me so long to get through the revision in the end).

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