

Preface

“Time changes everything except something within us, which is always surprised, by change”—Thomas Hardy.



The following book is devoted to the history of change of time methods (CTMs), the connection of CTMs to stochastic volatilities and finance, and many applications of CTMs. One may consider this book as a brief introduction to the theory of CTMs and as a handbook that can be used to apply to multiple real-life problems. As Winston Churchill once said, “...I only read for pleasure or for profit”; similarly, some may read this book for pleasure, some for profit (see disclaimer below!), and some for both. My intention is to satisfy all the readers who enjoy change of time methods, with reference to stochastic volatilities and quantitative finance. There is one book that resembles mine partly, this being *Change of Time and Change of Measure* by O. Barndorff-Nielsen and A. Shiryaev (World Scientific, 2010). The difference between the following book and the latter book is that this book focuses more on applications and presents some novel models (e.g. the delayed version of the Heston model) that are not covered by the monograph of Barndorff-Nielsen and Shiryaev. To some extent, someone may consider this book as a useful complement to the latter monograph. I hope that this book will attract a wide audience: from graduate students and quants to researchers in mathematical and quantitative finance and also to practitioners in finance and energy areas.

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We make no guarantees that the approaches contained in this book are free of error or that they will meet your requirements for any particular application. If you do use the approaches present in the following book, please do so at your own risk. We disclaim all liability for direct or consequential damages resulting from your use of these approaches.

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