

Preface to the Third Edition

The third edition of *Applied Quantitative Finance* moves the focus to risk management. As a consequence, we changed the basic structure from four to three chapters with many more contributions to market and credit risk. We revisit important market risk issues in Chap. 1. Chapter 2 introduces novel concepts in credit risk along with renewed quantitative methods being proposed accordingly. A wider range of coverage in recent development of credit risk and its management is presented in this version. The last chapter is on dynamics of risk management and includes risk analysis of energy markets and for cryptocurrencies. Digital assets, such as block chain-based currencies, become popular but are theoretically challenging when based on conventional methods. A modern text mining method called Dynamic Topic Modelling is introduced in detail and applied to the message board of Bitcoins. A time-varying LASSO technique for tail events is at the heart of a new financial risk meter. This third edition brings together modern risk analysis based on quantitative methods and textual analytics for the need of the new challenges in banking and finance.

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