《金融建模中的鞅方法》

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内容概要

《金融建模中的鞅方法》主要内容：The origin of this book can be traced to courses on financial mathematics taught by us at the University of New South Wales in Sydney, Technical University of Warsaw (Politechnika Watszawska) and Institut National Polytechnique de Grenoble. Our initial aim was to write a short text around the material used in two one-semester graduate courses attended by students with diverse disciplinary backgrounds (mathematics, physics, computer science, engineering, economics and commerce). The anticipated diversity of potential readers explains the somewhat unusual way in which the book is written. It starts at a very elementary mathematical level and does not assume any prior knowledge of financial markets. Later, it develops into a text which requires some familiarity with concepts of stochastic calculus (the basic relevant notions and results are collected in the appendix). Over time, what was meant to be a short text acquired a life of its own and started to grow. The final version can be used as a textbook for three one-semester courses one at undergraduate level, the other two as graduate courses.

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章节摘录

We shall now describe, following Hull （1997）, the basic features of tradi-tiorial stock and options markets, as opposed to computerized online trading.The most common system for trading stocks is a specialist system, Underthis system, an individual known as the specialist is responsible for beinga market maker and for keeping a record of limit orders - that is, ordersthat can only be executed at the speafied price or a more favorable price.Options usually trade under a market maker system. A market maker for agiven option is an individual who will quote both a bid and an ask price onthe option whenever he is asked to do so. The bid price is the price at whichthe market maker is prepared to buy and the ask price is the price at whichhe is prepared to sell. At the time the bid and ask prices are quoted, themarket maker does not know whether the trader who asked for the quoteswants to buy or sell the option. The amount by which the ask exceeds thebid is referred to as the bid-ask spread. To enhance the efficiency of trading, the exchange may set upper limits for the bid-ask spread. The existence of the market maker ensures that buy and sell orders canalways be executed at some price without delay. The market makers them-selves make their profits from the bid-ask spread. When an investor writesoptions, he is required to maintain funds in a margin account. The size of themargin depends on the circumstances, e.g., whether the option is covered ornaked - that is, whether the option writer does possess the underlying sharesor not. Let us finally mention that one contract gives the holder the rightto buy or sell 100 shares; this is convenient since the shares themselves areusually traded in lots of 100. ……

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