Book Recommendation


On January 31, 2021 the Swedish financial mathematician, Tomas Björk passed away at the age of 74. Even though I did not know him personally, he has had an enormous influence on how I – and many students from MATH from the last 20 years -- think about quantitative finance through his wonderful book Arbitrage Theory in Continuous Time.

The book (1st edition 1998) grew from notes for graduate and PhD-courses Tomas Björk taught in the 90’ies. Successes have many fathers; ETH summer schools in Ascona and KTH in Stockholm were involved, but one of the courses was at MATH, where the book is used to this date. I have been involved in teaching continuous-time finance courses (primarily FinKont[1] and FinKont2) based on the book for more than 20 years.

The book is a pedagogical masterpiece; it is written in a lucid style that makes continuous-time mathematical finance easy – and easy in the best possible way, i.e. not “too easy” or “look easy”. It introduces measure based probability theory and stochastic calculus (e.g. the Ito formula), covers basic non-arbitrage option pricing (Black-Scholes), describes the abstract martingale approach (fundamental theorem of asset pricing; change of numeraire) and then looks into a number of extensions; interest rate modelling and stochastic control problems being closely related to Björk’s research. That may sound like pretty standard textbook stuff. Yes, exactly. And this book is a major reason for that.

(Note: This is a considerably shortened version of a column I have written for Wilmott Magazine https://tinyurl.com/dnuu88 The column contains examples of what I find particularly elegant in the book, but these are “too much inside baseball” for this short recommendation.)

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