Book Review

Financial risk forecasting: The theory and practice of forecasting market risk with implementation in R and MATLAB

Jon Danielsson

John Wiley & Sons, Chichester, UK, 2011, 296pp., £45.00/€54.00, ISBN: 978-0470669433 (hardcover)

Journal of Derivatives & Hedge Funds (2011) **17**, 279–280. doi:10.1057/jdhf.2011.21

In *Financial Risk Forecasting*, Jon Danielsson has achieved an excellent balance between the academic substances required by the subject as well as the more practical and empirical aspects of financial markets. This in my mind makes the book attractive to many market practitioners. Of course, bearing in mind the turmoil and change of risk regime we have experienced over the last few years it is clear that the book is timely in respect of his content. Finally, what makes this book attractive is the applied angle that it takes from the onset.

Jon Danielsson provides both R and MATLAB scripts at most stages of his book to deliver the readership with clear and concise examples of all the theories he goes through. Also, what I particularly like is the progressive stance he takes in regard of building into the meat of the subject therefore making the book more approachable to the less academic literates while not conceding on the depth of the subject.

The first chapter of the book illustrates well-known and stylised features of financial markets returns such as the existence of fat tails, volatility clustering and non-linear dependencies. This is a useful re-introduction, as the following two

chapters focus on both Univariate and Multivariate modelling of volatility, starting from simple moving average volatility models to numerically challenging multivariate Garch models. Unfortunately, the later are not illustrated by programming examples because of the lack of library available in both R and MATLAB.

Chapters 4–7 are probably the ones market practitioners will relate the most to as they focus on value at risk (VaR) estimation and its implementation. Whereas Chapters 4 and 5 serve as a gentle refresher of VaR and its implementation, Chapters 6 and 7 bring much information on the use of analytical and numerical methodology to estimate VaR for instruments with time factor decay in their pricing such as bonds and options.

Finally, Chapter 8 proposes methodologies to investigate the accuracy of risk forecasting model through back testing and stress testing. The penultimate chapter looks at risk from a tail perspective and focus on EVT (extreme value theory) while recognising that EVT application might be relegated to niche application. The book closes on general remarks about the endogenous nature of risk,

its feedback effect in financial markets and the necessity to incorporate this dynamic in risk frameworks.

Overall *Financial Risk Forecasting* strikes me as an exciting, applied and timely book, which

should be of much interest to both academics and financial market practitioners.

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