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Book reviews

New Introduction to Multiple Time Series Analysis, Helmut Lütkepohl. Springer-Verlag (2005), ISBN 3-540-40172-5 (hardcover), 149.95 €, ISBN 3-540-26239-3 (softcover), 54.95 €, 764 pages

This graduate level textbook in vector time series econometric methods is a substantial revision of its predecessor “Introduction to Multiple Time Series Analysis” by the same author. The original volume was a huge success. Indeed, it was a textbook I used myself as a PhD student! This new volume keeps all the excellent qualities of the previous volume, namely clarity, excellence of exposition, detail, rigour, and a lucid and readable style of writing. All of these attributes are perfect for a graduate level text and help explain the great success of the first volume. The original volume sat in a relatively uncrowded marketplace and came before the really big explosion of co-integration analysis into econometric practice and graduate teaching syllabi. The new volume is very timely in this sense because the old version was becoming very outdated relative to other newer textbooks in this marketplace. This has been entirely rectified with the additional and re-written content of the new volume.

Specifically, although Chapters 1–5 (Part I — Finite Order Vector Autoregressive Processes) of the new volume, are very similar to the previous volume they have nonetheless been significantly re-written, and for the better in my opinion. Additional material has also been added. Chapters 6–8 (Part II — Cointegrated Processes) are entirely devoted to the analysis of VAR models with co-integrated variables. Together these chapters represent one of the very nicest and most clearly explained graduate textbook level discussions of co-integration I have read. Chapters 9 and 10 (Part III — Structural and Conditional Models) also consider issues relating to co-integration and non-stationarity in the context of structural VAR models and dynamic

simultaneous equation models. VARMA models are discussed in Chapters 11–15 (Part IV — Infinite Order Vector Autoregressive Processes), which includes an entirely new chapter (Chapter 14) on co-integrated VARMA processes. Chapters 16–18 constitute the final part of the book (Part V — Time Series Topics). Chapter 16 contains an excellent discussion on multivariate models of conditional heteroskedasticity (this was my favourite chapter). Chapter 17 covers issues relating to periodic VAR models. Multivariate state space models and Kalman filtering are discussed in Chapter 18. I found both Chapters 17 and 18 a little disappointing because neither discusses any of the recent important work on co-integration modelling and testing in periodic and state space models. A very useful Appendix covers basic concepts related to A. vectors and matrices; B. the multivariate normal and related distributions; C. issues relating to large sample distribution theory, and D. simulation and re-sampling methods. The discussion in C and D was particularly well done in my view, striking just the right balance for what are often quite difficult conceptual issues for graduate students.

In terms of discipline, it is clear that this book is aimed at graduate students in business and economics faculties studying multivariate time series methods, and for these students I am hard pressed to think of a superior book on the market. I would recommend this book to graduate students in economics and business without reservation. Students of other disciplines could also use this book fruitfully, although they should be aware that the range of models considered is aimed at economic and financial modelling applications.

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