

**Lütkepohl, Helmut**

**New introduction to multiple time series analysis.** (English) Zbl 1072.62075  
Berlin: Springer (ISBN 3-540-40172-5/hbk). xxi, 764 p. (2005).

The monograph is a substantial revision of the author's previous successful book, Introduction to multiple time series analysis. (1991; [Zbl 0729.62085](#)). As the previous book, the present one is meant to be an introductory exposition (nevertheless, it has nearly eight hundred pages) and it has been prepared with economic and business students in mind (but it can serve multiple time series courses in other fields). At the end of each chapter are exercises (most of the empirical ones can be solved with matrix oriented software such as GAUSS, MATLAB, Ox or with the software JMulTi which is available free of charge at the website [www.jmulti.de](http://www.jmulti.de)).

Chapters: 1. Introduction; 2. Stable vector autoregressive processes (VARs); 3. Estimation of VARs; 4. VAR order selection and checking the model adequacy; 5. VARs with parameter constraints; contain introduction to the VAR methodology.

The new chapters 6. Vector error correction models (VECMs); 7. Estimation of VECMs; 8. Specification of VECMs; are devoted to VAR models with cointegrated variables (the basic framework for the cointegration are here just VECMs). The new chapter 9. Structural VARs and VECMs; deals with structural models which are standard tools in applied econometric analysis.

Chapter 10. Systems of dynamic simultaneous equations is the classical one from the previous book. Chapters 11–15 are devoted to VARMA models including a new chapter on cointegrated VARMA models. The last three chapters are on special topics related to multiple time series analysis: 16. Multivariate ARCH and GARCH models; 17. Periodic VARs and intervention models; 18. State space models. Appendices are on additional matrix results, on asymptotics (including unit root one) and on simulation technics including bootstrap.

Reviewer: [Tomáš Cipra \(Praha\)](#)

**MSC:**

- [62M10](#) Time series, auto-correlation, regression, etc. in statistics (GARCH)
- [62-01](#) Introductory exposition (textbooks, tutorial papers, etc.) pertaining to statistics
- [62M20](#) Inference from stochastic processes and prediction
- [91B84](#) Economic time series analysis

Cited in **1** Review  
Cited in **198** Documents

**Keywords:**

[multiple time series](#); [vector autoregressive processes](#); [VAR](#); [cointegration](#); [multivariate ARCH models](#); [state space models](#)

**Software:**

[GAUSS](#); [JMulTi](#); [Matlab](#); [Ox](#)