

Preface

Econometrics has been developing rapidly over the past four decades. This is not only true for microeconometrics which more or less originated during this period, but also for time series econometrics where the cointegration revolution influenced applied work in a substantial manner. Economists have been using time series for a very long time. Since the 1930s when econometrics became an own subject, researchers have mainly worked with time series. However, economists as well as econometricians did not really care about the statistical properties of time series. This attitude started to change in 1970 with the publication of the textbook *Time Series Analysis, Forecasting and Control* by GEORGE E.P. BOX and GWILYM M. JENKINS. The main impact, however, stems from the work of CLIVE W.J. GRANGER starting in the 1960s. In 2003 together with ROBERT F. ENGLE, he received the Nobel Prize in Economics for his work.

This textbook provides an introduction to these recently developed methods in time series econometrics. Thus, it is assumed that the reader is familiar with a basic knowledge of calculus and matrix algebra as well as of econometrics and statistics at the level of introductory textbooks. The book aims at advanced Bachelor and especially Master students in economics and applied econometrics but also at the general audience of economists using empirical methods to analyse time series. For these readers, the book is intended to bridge the gap between methods and applications by also presenting a lot of empirical examples.

A book discussing an area in rapid development is inevitably incomplete and reflects the interests and experiences of the authors. We do not include, for example, the modelling of time-dependent parameters with the Kalman filter as well as Marcov Switching Models, panel unit roots and panel cointegration. Moreover, frequency domain methods are not treated either.

Earlier versions of the different chapters were used in various lectures on time series analysis and econometrics at the Freie Universität Berlin, Germany, and the University of St. Gallen, Switzerland. Thus, the book has developed over a number of years. During this time span, we also learned a lot from our students and we do hope that this has improved the presentation in the book.

We would like to thank all those who have helped us in producing this book and who have critically read parts of it or even the whole manuscript. It is our pleasure to mention, in particular, MICHAEL-DOMINIK BAUER, ANNA CISLAK, LARS P. FELD, SONJA LANGE, THOMAS MAAG, ULRICH K. MÜLLER, GABRIELA SCHMID, THORSTEN UEHLEIN, MARCEL R. SAVIOZ, and ENZO WEBER. They have all made valuable contributions towards improving the presentation but, of course, are not responsible for any remaining deficiencies. Our special thanks go to MANUELA KLOSS-MÜLLER who edited the text in English. Moreover, we are indebted to Dr. WERNER A. MÜLLER and MANUELA EBERT from Springer for their kind collaboration.

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