Econometrics

Synopsis

Hayashi's Econometrics promises to be the next great synthesis of modern econometrics. It introduces first year Ph.D. students to standard graduate econometrics material from a modern perspective. It covers all the standard material necessary for understanding the principal techniques of econometrics from ordinary least squares through cointegration. The book is also distinctive in developing both time-series and cross-section analysis fully, giving the reader a unified framework for understanding and integrating results.Econometrics has many useful features and covers all the important topics in econometrics in a succinct manner. All the estimation techniques that could possibly be taught in a first-year graduate course, except maximum likelihood, are treated as special cases of GMM (generalized methods of moments). Maximum likelihood estimators for a variety of models (such as probit and tobit) are collected in a separate chapter. This arrangement enables students to learn various estimation techniques in an efficient manner. Eight of the ten chapters include a serious empirical application drawn from labor economics, industrial organization, domestic and international finance, and macroeconomics. These empirical exercises at the end of each chapter provide students a hands-on experience applying the techniques covered in the chapter. The exposition is rigorous yet accessible to students who have a working knowledge of very basic linear algebra and probability theory. All the results are stated as propositions, so that students can see the points of the discussion and also the conditions under which those results hold. Most propositions are proved in the text.For those who intend to write a thesis on applied topics, the empirical applications of the book are a good way to learn how to conduct empirical research. For the theoretically inclined, the no-compromise treatment of the basic techniques is a good preparation for more advanced theory courses.

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Customer Reviews

I have a love/hate relationship with this book. Perhaps I should state as a precursor that I was never formally trained in economics before learning econometrics. And, that the last time I’d done matrix algebra or calculus was some 15 years prior.We used this book as part of a taught graduate course. It took half a semester to go through the first two chapters - an investment of time that proved well worth it for the rest of the topics which were covered in the remainder of the semester.Basically, if you can understand the first two chapters on ordinary least square regression for finite and large samples, the required assumptions and properties, then the rest of the chapters are a piece of cake:- generalized method of moments for single and multiple equations- panel data- time series analysis (including unit root analysis)- extremum estimators- maximum likelihood- cointegration.In short, the book covers all major econometrics topics and does so in a succinct, clear manner. The way in which Hayashi builds on each topic, showing that all models are basically different versions of the same method, with slightly different assumptions is just brilliant. It put statistics in a different light for me, and gave me a much deeper, intuitive understanding of it than any other book or class had done before.There is a caveat however. This book assumes that you have substantial mathematical grounding. In particular, I found the succinct use of notation, without any verbal explanation, irritating at first. I invested quite some time in a mathematical economics book reminding myself what sets were, rules of matrices, calculus functions, expectations and probability.

Over the past four or five decades, econometric methods have been borrowed and used more or less effectively by social scientists in a broad range of disciplines. Generally, though certainly not in every case, those who use econometric methods in other social sciences are not as well trained in mathematics as economists, and they have little or no knowledge of economic theory.To meet the demand for accessible econometric literature in other disciplines, authors and publishers have produced textbooks that are much less mathematically demanding than the staple sources. Examples include Wooldridge’s Introductory Econometrics, Gujarati’s Essentials of Econometrics, Stockman and Watson’s Introductory Econometrics, and Mirer’s Economic Statistics and Econometrics. Also, Peter Kennedy’s Guide to Econometrics is an accessible catalog of tests and correctives for violation of assumptions, provided the non-specialists stay out of the technical appendices.However, Hayashi’s Econometrics clearly does not belong in the category of textbooks that appeal to a broad-based audience of social scientists. Hayashi, quite rightly, has a different audience in mind, and he assumes that the reader knows and has facility in applying the mathematics that is legitimately expected of economists. He also liberally incorporates economic theory into his presentation. While the econometric texts mentioned above lean heavily on OLS estimators, Hayashi treats OLS as just a special case of the generalized method of moments, a concept that is entirely alien to most students and practitioners who are not well schooled in the mathematical methods of economics.

A Primer for Spatial Econometrics: With Applications in R (Palgrave Texts in Econometrics) Introduction to the Mathematical and Statistical Foundations of Econometrics (Themes in Modern Econometrics) Challenges of the Muslim World, Volume 19: Present, Future and Past (International Symposia in Economic Theory and Econometrics) Introductory Econometrics: A Modern Approach (Upper Level Economics Titles) Advances in Heavy Tailed Risk Modeling: A Handbook of Operational Risk (Wiley Handbooks in Financial Engineering and Econometrics) Real Econometrics: The Right Tools to Answer Important Questions Introduction to Econometrics Using Econometrics: A Practical Guide (7th Edition) Introduction to Econometrics, Update Plus NEW MyEconLab with Pearson eText -- Access Card Package (3rd Edition) (Pearson Series in Economics) Using Econometrics: A Practical Guide (6th Edition) (Addison-Wesley Series in Economics) Introduction to Econometrics (3rd Edition) (Addison-Wesley Series in Economics) A Guide to Econometrics. 6th edition Introduction to Econometrics, Update (3rd Edition) (Pearson Series in Economics) Introductory Econometrics: A Modern Approach, 4th Edition Basic Econometrics Schaum's Outline of Statistics and Econometrics, Second Edition (Schaum's Outlines) Principles of Econometrics Using Econometrics: A Practical Guide 6th (sixth) Edition by Studenmund, A.H. published by Pearson (2010) Econometrics Essentials of Econometrics