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László Mátyás • Patrick Sevestre (Eds.)

The Econometrics of Panel Data

Fundamentals and Recent Developments
in Theory and Practice

Third Edition

With 13 Figures and 43 Tables

 Springer

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Preface

The aim of this third, completely re-written, re-edited and considerably expanded, edition of this book is to provide a general overview of both the basics and recent, more sophisticated, theoretical developments in panel data econometrics. It also aims at covering a number of fields of applications where these methods are used for improving our knowledge and understanding of economic agents' behaviors. Since the pioneering works of Edwin Kuh (1959), Yair Mundlak (1961), Irving Hoch (1962), and Pietro Balestra and Marc Nerlove (1966), the pooling of cross sections and time series data has become an increasingly popular way of quantifying economic relationships. Each series provides information lacking in the other, so a combination of both leads to more accurate, reliable and informative results than would be achievable by one type of series alone. Over the last three decades of the last century, much fundamental work has been done: investigation of the properties of different estimators and test statistics, analysis of dynamic models and the effects of eventual measurement errors, etc.

The more recent years and in particular the ten years elapsed since the second edition of this book have witnessed even more considerable changes. Indeed, our ability to estimate and test nonlinear models have dramatically improved and issues such as the unobserved heterogeneity in nonlinear models, attrition and selectivity bias have received considerable attention. This explains why the number of chapters dealing with such issues has increased in this third edition. Other recent and important developments relate to the issue of unit roots and cointegration in long times series panels as well as that of cross-sectional dependence that occur in particular in spatial models, and else.

The first objective of this book, which takes up Parts I and II, is to give a complete and state of the art presentation of these theoretical developments. Part I is concerned with the basic fixed effects, random effects and random coefficients models, both linear and nonlinear; Part II deals with various extensions: dynamic models with small T panels, dynamic models with large T panels, models with other sources of endogeneity (measurement errors, simultaneity) and also provides an overview of recent developments in several other directions: attrition and selection bias, pseudo-panels, semi- and non-parametric methods, the Bayesian approach to panel data, the

poolability of individuals, duration models and point processes, and count data models. The second objective of this volume is to provide insights into the use of panel data in empirical studies. Since the beginnings, interest in panel data has mostly been empirically motivated. Panel data methods have gained an increased importance over time and are now applied in a very large spectrum of economic studies. Part III thus deals with studies in several major fields of applied economics, such as foreign direct investments, production frontiers, linked employer-employee data, labor supply, policy analysis and transitions on the labor market. Some of the chapters in this third edition are revised versions of those already published in the previous ones, while several others are completely new contributions. In this respect, we are particularly happy to welcome aboard our new authors. Their input definitely helped to substantially improve the contents of this volume.

The double emphasis of this book (theoretical and applied), together with the fact that all the chapters have been written by well-known specialists in the field, encourage us to hope that it has now become a standard reference textbook for all those who are concerned with the use of panel data in econometrics, whether they are advanced students, professional economists or researchers. The editors have tried to standardize the notation, language, depth, etc. in order to present a coherent book. However, each chapter is capable of standing on its own as a reference in its own topic.

We must address our thanks to all those who have facilitated the creation of this book: the contributors who produced quality work, then took part in an internal refereeing process to ensure a high overall standard; Kluwer Academic Publishers, who had the foresight to publish in a subject which, at the time of the first edition, had a limited, but expanding, audience; and of course Springer which has become our publisher by now. In particular, Cathelijne van Herwaarden, Herma Drees, Marie Sheldon, Martina Bihn, Ruth Milewski and Isabelle George must be thanked for their help in the realization of this volume. Also, the University of Paris–Val de Marne in France; the Monash Research Fund and the Australian Research Council in Australia, and the Budapest University of Economics and the Hungarian Research Fund (OTKA) in Hungary must be thanked for having provided financial support to the editors for the earlier editions. This third edition has benefited from generous financial support provided by the Central European University and the University of Paris-Val de Marne.

Budapest and Paris
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László Mátyás
Patrick Sevestre

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