
Preface

This collection contains invited papers by distinguished statisticians to honour and acknowledge the contributions of Professor Dr. Dr. Helge Toutenburg to Statistics on the occasion of his sixty-fifth birthday. These papers present the most recent developments in the area of the linear model and its related topics.

Helge Toutenburg is an established statistician and currently a Professor in the Department of Statistics at the University of Munich (Germany) and Guest Professor at the University of Basel (Switzerland). He studied Mathematics in his early years at Berlin and specialized in Statistics. Later he completed his dissertation (Dr. rer. nat.) in 1969 on optimal prediction procedures at the University of Berlin and completed the post-doctoral thesis in 1989 at the University of Dortmund on the topic of mean squared error superiority. He taught at the Universities of Berlin, Dortmund and Regensburg before joining the University of Munich in 1991.

He has various areas of interest in which he has authored and co-authored over 130 research articles and 17 books. He has made pioneering contributions in several areas of statistics, including linear inference, linear models, regression analysis, quality engineering, Taguchi methods, analysis of variance, design of experiments, and statistics in medicine and dentistry. His most influential contributions are in the area of optimal prediction in linear models, mean squared error superiority of biased estimators, weighted mixed estimation in missing data analysis, repeated measures designs and the unification of various parameterizations of the carry-over effect in cross-over designs. His books *Prediction and Improved Estimation in Linear*

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Models (Wiley) and *Prior Information in Linear Models* (Wiley) laid the foundations for further work in the field of utilization of prior information as well as in the field of prediction. Other pioneering works include *Linear Models and Generalizations: Least Squares and Alternatives* (Springer) and *Statistical Analysis of Designed Experiments* (Springer). His books in German on descriptive and inductive statistics, quality engineering, design of experiments and linear models are among the popular textbooks in several universities in Germany. He has also translated the celebrated books of Professor C.R. Rao into German. His book on statistics in dentistry is the first book in German in this area.

Helge Toutenburg maintains fruitful research collaboration with researchers in different countries like the USA, India, Korea, etc. He has hosted DAAD and Humboldt fellows. He is not only a well known researcher but also an excellent teacher. He has advised Ph.D. students from Germany and abroad. His efficient working style has always been appreciated by those who had a chance to collaborate with him. He has been actively associated with the International Statistical Institute, Deutscher Hochschulverband, Deutsche Statistische Gesellschaft, Biometrical Society and Bernoulli Society for Mathematical Statistics and Probability.

Besides having a great interest in statistics, Helge Toutenburg has a great sense of humor, too. He has written several books on humor in German to the pleasure of his friends and colleagues.

This collection of invited papers brings together the recent developments in the field of linear models and its related sub-fields as well as papers from Helge Toutenburg's other areas of interest.

As the editors of this book, we would like to express our heartfelt thanks to the authors whose contributions and commitment made this book possible. We would like to thank Michael Schomaker for his immense help in the editorial process and Valentin Wimmer for his help in typing. We are also thankful to Dr. Müller of Springer for his cooperation in the publication of this book.

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