SCHAUM'S OUTLINE OF

Theory and Problems of

STATISTICS AND ECONOMETRICS

SECOND EDITION

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PREFACE

This book presents a clear and concise introduction to statistics and econometrics. A course in statistics or econometrics is often one of the most useful but also one of the most difficult of the required courses in colleges and universities. The purpose of this book is to help overcome this difficulty by using a problem-solving approach.

Each chapter begins with a statement of theory, principles, or background information, fully illustrated with examples. This is followed by numerous theoretical and practical problems with detailed, step-by-step solutions. While primarily intended as a supplement to all current standard textbooks of statistics and/or econometrics, the book can also be used as an independent text, as well as to supplement class lectures.

The book is aimed at college students in economics, business administration, and the social sciences taking a one-semester or a one-year course in statistics and/or econometrics. It also provides a very useful source of reference for M.A. and M.B.A. students and for all those who use (or would like to use) statistics and econometrics in their work. No prior statistical background is assumed.

The book is completely self-contained in that it covers the statistics (Chaps. 1 to 5) required for econometrics (Chaps. 6 to 11). It is applied in nature, and all proofs appear in the problems section rather than in the text itself. Real-world socioeconomic and business data are used, whenever possible, to demonstrate the more advanced econometric techniques and models. Several sources of online data are used, and Web addresses are given for the student's and researcher's further use (App. 12). Topics frequently encountered in econometrics, such as multicollinearity and autocorrelation, are clearly and concisely discussed as to the problems they create, the methods to test for their presence, and possible correction techniques. In this second edition, we have expanded the computer applications to provide a general introduction to data handling, and specific programming instruction to perform all estimations in this book by computer (Chap. 12) using Microsoft Excel, Eviews, or SAS statistical packages. We have also added sections on nonparametric testing, matrix notation, binary choice models, and an entire chapter on time series analysis (Chap. 11), a field of econometrics which has expanded as of late. A sample statistics and econometrics examination is also included.

The methodology of this book and much of its content has been tested in undergraduate and graduate classes in statistics and econometrics at Fordham University. Students found the approach and content of the book extremely useful and made many valuable suggestions for improvement. We have also received very useful advice from Professors Mary Beth Combs, Edward Dowling, and Damodar Gujarati. The following students carefully read through the entire manuscript and made many useful comments: Luca Bonardi, Kevin Coughlin, Sean Hennessy, and James Santangelo. To all of them we are deeply grateful. We owe a great intellectual debt to our former professors of statistics and econometrics: J. S. Butler, Jack Johnston, Lawrence Klein, and Bernard Okun.

We are indebted to the Literary Executor of the late Sir Ronald A. Fisher, F. R. S., to Dr. Frank Yates, F. R. S., and the Longman Group Ltd., London, for permission to adapt and reprint Tables III and IV from their book, *Statistical Tables for Biological, Agricultural and Medical Research*.

In addition to Statistics and Econometrics, the Schaum's Outline Series in Economics includes *Microeconomic Theory, Macroeconomic Theory, International Economics, Mathematics for Economists*, and *Principles of Economics*.

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