

Preface

This book is based on a collection of the lecture notes used for my teaching of regression modeling to Ph.D. candidates in the Marshall School of Business and in the Political Science Department at the University of Southern California, from 2002 to 2004.

During the process of my re-writing these lecture notes for this book, I have a clear goal that is to make this book to be a friendly and step-by-step guide to anyone who plans to use regression for conducting some kinds of high quality empirical research. In other words, this book is not written for people who just want to think about or to talk about regression modeling. The book is for these students and practitioners who need to use regression to analyze some real data and to produce some insightful research reports.

To avoid some of the widely spread confusion in our empirical research field, a RM4Es™ framework has been used to summarize all the main concepts and methods of regression modeling. To state briefly, RM4Es consists of (e1) equations for model representations, (e2) estimation methods for coefficients calculation, (e3) evaluation methods for model assessment, and (e4) explanation for results interpretations. Feedback from my teaching has been continuously confirming that the RM4Es framework is indeed a very effective tool in helping students to gain a clear understanding of regression modeling.

Throughout the book, many real research examples have been used to demonstrate all the important regression modeling techniques presented in this book and to keep students updated of the most current applications. Many of these examples are taken from articles published in leading journals such as the American Economic Review and the American Political Science Review.

Proper computing is always an important part of any high quality regression-modeling project. For this book, we have selected SPSS and R as our primitive computing tools, because SPSS is easy to use and the powerful R package is FREE. Step by step SPSS or R implementations for the regression techniques presented in this book have been included either in the book content or in the appendix. By using these SPSS or R procedures together with a few datasets included in the book, our readers should be able to test all the important regression techniques and methods to ensure a good mastering of the modern regression modeling methods covered in this book.

This book may be used as a textbook for a graduate seminar course or as a training manual for some intensive sessions. Students who completed the course or training should be able to use SPSS or R to analyze their own datasets to produce high quality regression models, as most of my former students did.