Preface

SAS® (SAS Institute, 2009) is a statistical software package used in many fields of research. We have written this book as a reference text for users of SAS. Our primary goal is to provide users with an easy way to learn how to perform an analytic task, without having to navigate through the extensive, idiosyncratic, and sometimes unwieldy documentation provided. We include many common tasks, including data management, descriptive summaries, inferential procedures, regression analysis, multivariate methods, and the creation of graphics. We also show a small sample of the many more complex applications available. In toto, we hope that the text will serve as a brief summary of the features of SAS most often used by statistical analysts.

We do not attempt to exhaustively detail all possible ways available to accomplish a given task. Neither do we claim to provide the most elegant solution. We have tried to provide a simple approach that is easy for a new user to understand, and have supplied several solutions when this seems likely to be helpful.

Who should use this book?

Those with an understanding of statistics at the level of multiple-regression analysis will find this book helpful. This group includes professional analysts who use statistical packages almost every day as well as statisticians, epidemiologists, economists, engineers, physicians, sociologists, and others engaged in research or data analysis. We anticipate that the book will be particularly useful for relatively new users, those with some experience using SAS but who often find themselves frustrated by the documentation provided. However, even expert SAS programmers may find it valuable as a source of task-oriented, as opposed to procedure-oriented, information. In addition, the book will bolster the analytic abilities of a new user of SAS, by providing a concise reference manual and annotated examples.

Using the book

The book has two indices, in addition to the comprehensive “Table of Contents.” The first index is organized by topic (subject), in English; the other is a SAS index, organized by SAS syntax. You can use the “SAS Index” to look up
a task for which you know the approximate SAS keywords but need to find the
exact syntax or an example. You can use the “Subject Index” to find syntax or
applications when the syntax is unknown.

Extensive example analyses are presented. Table A.1 is a comprehensive
list of example applications employing data from the HELP study, which is
described in the Appendix. Additional case studies, usually with more com-
plex coding, are shown in Chapter 7. Readers are encouraged to download the
dataset and code from the book Web site. The examples demonstrate the code
in action and facilitate exploration by the reader. In the indices, example ap-
plications are listed with standardized page numbers.

Where to begin

We do not anticipate that the book will be read cover to cover. Instead,
we hope that the extensive indexing, cross-referencing, and worked examples
will make it possible for readers to directly find and then implement what they
need. A user new to SAS should begin by reading Chapter 1, which includes
a sample session and overview. Other users may want to skip to the indices or
table of contents.

On the Web

The book Web site at http://www.math.smith.edu/sas includes the “Ta-
gle of Contents,” the indices, the HELP dataset, example code in SAS, and a
list of erratum.

Acknowledgments

We would like to thank Rob Calver, Kari Budyk, Shashi Kumar, Sarah
Morris, and Linda Leggio for their support and guidance at Informa CRC/
Chapman & Hall. We also thank Allyson Abrams, Russell Lenth, Brian McAr-
dle, Richard Platt, and David Schoenfeld for contributions to SAS or L\LaTeX
programming efforts, comments, guidance, support, and/or helpful suggestions
on drafts of the manuscript.

Above all we greatly appreciate Sara and Julia as well as Abby, Alana,
Kinari, and Sam, for their patience and support.

Amherst, Massachusetts and Northampton, Massachusetts