Preface to the First Edition

It is obvious to say that graphics are a visual medium for communication. This book takes a visual approach to help you learn about how to use Stata graphics. While you can read this book in a linear fashion or use the table of contents to find what you are seeking, it is designed to be "thumbed through" and visually scanned. For example, the right margin of each right page has what I call a *Visual Table of Contents* to guide you through the chapters and sections of the book. Generally, each page has three graphs on it, allowing you to see and compare as many as six graphs at a time on facing pages. For a given graph, you can see the command that produced it, and next to each graph is some commentary. But don't feel compelled to read the commentary; often, it may be sufficient just to see the graph and the command that made it.

This is an informal book and is written in an informal style. As I write this, I picture myself sitting at the computer with you, and I am showing you examples that illustrate how to use Stata graphics. The comments are written very much as if we were sitting down together and I had a couple of points to make about the graph that I thought you might find useful. Sometimes, the comments might seem obvious, but because I am not there to hear your questions, I hope it is comforting to have the obvious stated just in case there was a bit of doubt.

While this book does not spend much time discussing the syntax of the graph commands (because you will be able to infer the rules for yourself after seeing a number of examples), the Intro : Options (20) section discusses some of the unique ways that options are used in Stata graph commands and compares them with the way that options are used in other Stata commands.

I strived to find a balance to make this book comprehensive but not overwhelming. As a result, I have omitted some options I thought would be seldom used. So, just because a feature is not illustrated in this book, this does not mean that Stata cannot do that task, and I would refer to [G-2] **graph** for more details. I try to include frequent cross-references to [G-2] **graph**; for example, see also [G-3] ***axis_options***. I view this book as a complement to the *Stata Graphics Reference Manual*, and I hope that these cross-references will help you use these two books in a complementary manner. Note that, whenever you see references to [G-2] **xyz**, you can either find "xyz" in the *Stata Graphics Reference Manual* or type `whelp xyz` within Stata. The manual and the help have the same information, although the help may be more up to date and allows hyperlinking to related topics.

Each chapter is broken into a number of sections showing different features and options for the particular kind of graph being discussed in the chapter. The examples illustrate how these options or features can be used, focusing on examples that isolate these features so you are not distracted by irrelevant aspects of the Stata command or graph. While this approach improves the clarity of presentation, it does sacrifice some realism because graphs frequently have many options used together. To address this, there is a section

addressing strategies for building up more complicated graphs, Intro : Building graphs (29), and a section giving tips on creating more complicated graphs, Appendix : More examples (466). These sections are geared to help you see how you can combine options to make more complex and feature-rich graphs.

While this book is printed in color, this does not mean that it ignores how to create monochrome (black & white) graphs. Some of the examples are shown using monochrome graphs illustrating how you can vary colors using multiple shades of gray and how you can vary other attributes, such as marker symbol and size, line width, and pattern, and so forth. I have tried to show options that would appeal to those creating color or monochrome graphs.

The graphs in this book were created using a set of schemes specifically created for this book. Despite differences in their appearance, all the schemes increase the size of textual and other elements in the graphs (e.g., titles) to make them more readable, given the small size of the graphs in this book. You can see more about the schemes in Intro : Schemes (15) and how to obtain them in Appendix : Online supplements (482). While one purpose of the different schemes is to aid in your visual enjoyment of the book, they are also used to illustrate the utility of schemes for setting up the look and default settings for your graphs. See Appendix : Online supplements (482) for information about how you can obtain these schemes.

Stata has a number of graph commands for producing special-purpose statistical graphs. Examples include graphs for examining the distributions of variables (e.g., `kdensity`, `pnorm`, or `gladder`), regression diagnostic plots (e.g., `rvfplot` or `lvr2plot`), survival plots (e.g., `sts` or `ltable`), time series plots (e.g., `ac` or `pac`), and ROC plots (e.g., `roctab` or `lsens`). To cover these graphs in enough detail to add something worthwhile would have expanded the scope and size of this book and detracted from its utility. Instead, I have included a section, Appendix : Stat graphs (431), that illustrates a number of these kinds of graphs to help you see the kinds of graphs these commands create. This is followed by Appendix : Stat graph options (438), which illustrates how you can customize these kinds of graphs using the options illustrated in this book.

If I may close on a more personal note, writing this book has been very rewarding and exciting. While writing, I kept thinking about the kind of book you would want to help you take full advantage of the powerful, but surprisingly easy to use, features of Stata graphics. I hope you like it!

Simi Valley, California
February 2004