

# Preface

This book is a concise introduction to the art of Stata programming. It covers three types of programming that can be used in working with Stata: do-file programming, ado-file programming, and Mata functions that work in conjunction with do- and ado-files. Its emphasis is on the automation of your work with Stata and how programming on one or more of these levels can help you use Stata more effectively.

In the development of these concepts, I do not assume that you have prior experience with Stata programming, although familiarity with the command-line interface is helpful. Examples are drawn from several disciplines, although my background as an applied econometrician is evident in the selection of some sample problems. The introductory chapter motivates the *why*: why should you invest time and effort into learning Stata programming? In chapter 2, I discuss elementary concepts of the command-line interface and describe some commonly used tools for working with programs and datasets.

The format of the book may be unfamiliar to readers who have some familiarity with other books that help you learn how to use Stata. Beginning with chapter 3, each odd-numbered chapter is followed by a “cookbook” chapter containing several “recipes”, 40 in total. Each recipe poses a problem: how can I perform a certain task with Stata programming? The recipe then provides a complete solution to the problem and describes how the features presented in the previous chapter can be put to good use. As in the kitchen, you may not want to follow a recipe exactly from the cookbook; just as in cuisine, a minor variation on the recipe may meet your needs, or the techniques presented in that recipe can help you see how Stata programming applies to your specific problem.

Most Stata users who delve into programming make use of do-files to automate and document their work. Consequently, the major focus of the book is do-file programming, covered in chapters 3, 5, 7, and 9. Some users will find that writing formal Stata programs, or ado-files, meets their needs. Chapter 11 is a concise summary of ado-file programming, with the following cookbook chapter presenting several recipes that contain developed ado-files. Stata’s matrix programming language, Mata, can also be helpful in automating certain tasks. Chapter 13 presents a summary of Mata concepts and the key features that allow interchange of variables, scalars, macros, and matrices. The last chapter presents several examples of Mata functions developed to work with ado-files. All the do-files, ado-files, Mata functions, and datasets used in the book’s examples and recipes are available from the Stata Press web site, as discussed in *Notation and typography*.