

Preface

We would first like to quote from the preface of a well-known and respected Stata Press book on survival analysis in Stata (Cleves et al. 2010):

This is a book about survival analysis for the professional data analyst, whether a health scientist, an economist, a political scientist, or any of a wide range of scientists who have found that survival analysis is applicable to their problems. This is a book for researchers who want to understand what they are doing and to understand the underpinnings and assumptions of the tools they use; in other words, this is a book for all researchers.

In a way, the aims of our book are similar to those of Cleves et al. (2010). We extend their book in particular directions: flexible, parametric, going beyond the standard models, particularly the Cox model. We include, for example, detailed treatments of time-dependent effects and relative survival. Our starting point is a basic understanding of survival analysis and how it is done in Stata. We would be surprised, for example, if a reader had not created and plotted Kaplan–Meier curves and fitted a Cox model in Stata. Our aim is that researchers can build on our examples to apply the methodology to their own investigations of survival data. To that end, we have provided the basic tools (ado-files) but also, in the examples, we present Stata code to do many of the analyses and produce many of the graphs. Indeed, presentation of the results of flexible parametric modeling is often best achieved by well-chosen graphs, and we regard that as an important message of our book.

Royston–Parmar models are a key tool in our approach; they are currently available only in Stata. (See section 1.10 for more information.) We would like to see their implementation in other software, such as R or SAS. However, we are very unlikely to implement this ourselves! If anyone has attempted such an implementation (or plans to do so) and would value our input, we would encourage them to contact us.

This book uses Stata version 12 throughout, but is fully compatible with Stata 11.1 or later, with only minor cosmetic differences across versions.

Finally, we would like to thank the folk who have contributed to our understanding of survival analysis and those who have undertaken the seemingly thankless task of commenting on our draft text. We are particularly grateful to

Therese Andersson, Karolinska Institute
Carol Coupland, University of Nottingham

Paul Dickman, Karolinska Institute
Sandra Eloranta, Karolinska Institute
Bobby Gutierrez, StataCorp
Hans van Houwelingen, University of Leiden
Bernard Rchet, London School of Hygiene and Tropical Medicine
Bill Rising, StataCorp
Mark Rutherford, University of Leicester
Willi Sauerbrei, University of Freiburg Medical Center
Michael Schemper, University of Vienna

London and Leicester
July 2011

Patrick Royston
Paul C. Lambert