

# Preface

This book has a limited aim: to make available empirical approaches to non-market valuation in a single location. We cover the two major areas of non-market valuation: stated preferences and behavioral approaches. The breadth and rapid expansion of methods have forced us to choose our coverage carefully. We have opted for depth in the more frequently applied methods, wanting the book to serve as a source for the popular and established models of non-market valuation. We have provided a portal to the literature for methods that we have not covered.

The spirit of the book is empirical modeling. We focus on how observations on behavior or responses to questions can be used to recover measures of willingness to pay. This is not a strictly econometric book. We provide the basics of models but space and time constraints prevent us following many otherwise compelling questions. It is not a book on the theory of non-market valuation either. But we think the book will help in both directions.

The motivation for writing the book has come from many encounters with able economists and students who want to do non-market valuation, but have not yet been exposed to the methods. For them we hope this book will make some parts of the enterprise easier. Almost everything in the book can be found somewhere in the literature. In some cases, we have simply transcribed models. In other cases, we have engaged in simplification or exposition.

Non-market valuation employs microeconomics, welfare economics, and econometrics. Readers will need some knowledge of each to profit from the book. Three books that are especially valuable in these areas are Just, Hueth and Schmitz on welfare economics, A. Myrick Freeman's book on valuation, and the volume edited by Joe Herriges and Cathy Kling, also published by Elgar. Most models applied to valuation use maximum likelihood methods. For readers not familiar with these methods, we have provided a brief review in Appendix A. The books by Maddala and by Ben-Akiva and Lerman are good sources for the econometric issues associated with maximum likelihood estimation for discrete choice methods.

While the book deals with the empirical approaches to valuation, we do not want to leave the impression that this role dominates. Valuation

stretches from defining the problem, to formulating the economic model, to questionnaire design and then estimation. This book focuses principally on the last part, the estimation of models for non-market valuation. It will have implications for the other tasks, for it is not really correct to separate the components of research. Econometric model formulation is part of questionnaire design. This is especially true for contingent valuation. One needs to be armed with a sense of good questionnaire design and practice, such as one can find in Mitchell and Carson's book, *Using Surveys to Value Public Goods*, Carson's paper 'Contingent Valuation: A User's Guide' (2000) and Carson's forthcoming book *Contingent Valuation: A Comprehensive Bibliography and History* published by Elgar.

The options for software for estimating maximum likelihood models are growing. Increasingly many researchers write their own estimation routines using packages like Gauss or Matlab. We develop models and methods principally for programs like LIMDEP and SAS. And for the most part, we limit our model development to those that can be estimated by researchers without writing their own maximum likelihood routines. We write the likelihood function for each model in a way that should allow one to program the function. Researchers writing their own programs probably don't need our help.

We have received help and encouragement from many. Kerry Smith wrote an encouraging review and provided his own disproportionate contribution to the literature on all of the chapters. John Loomis read parts of the contingent valuation chapters and provided the dataset used in Chapters 2-5. John Whitehead also read parts of the early chapters and gave us access to several datasets. Cathy Kling read parts of the chapters on travel cost models. Brent Sohngen lent us a dataset used in Chapter 7. George Parsons provided us with the dataset for logit model estimation of Chapter 8. Nancy Bockstael, Chris Leggett and Ray Palmquist read the hedonic chapter. Part of the data for the hedonic models was also provided by Nancy and Chris. Charles McCormick provided the other part. Virginia McConnell provided encouragement and a thorough reading of the first chapter. Margaret McConnell did extensive work on the references. Graduate students in the Department of Agricultural and Resource Economics at the University of Maryland and in the Department of Agricultural, Environmental and Development Economics at The Ohio State University read various draft chapters of the book and provided valuable comments on clarity and exposition. We thank them for their comments and willingness to help with data. In short, we thank all who helped directly as well as all contributors to the literature whose results we have used. And we accept full responsibility for the remaining errors, omissions and misuse of data.