Preface

What Sort of Book Is This?

As the title makes clear, this is a book about multiple regression. There are lots of books about multiple regression, however, and it's fair to ask if there is a need for another one. Not wanting to duplicate what's already been done, I have designed this book to be different from most books on the subject. Whether it fills a need remains to be seen.

One way in which this book differs from most others is that it is presented in the form of questions and answers. My hope is that this will make it easier for you to find answers to those questions that are uppermost in your mind, or that arise as you proceed through the book. Without further ado, let's proceed to some questions.

Who Is This Book For?

I've written this book primarily for undergraduate students in the social sciences who are taking their first research methods or statistics course. It is not intended to be the principal textbook for a course, but rather a supplement to other books on research methods or statistics. With that in mind, I have kept the book short, at least much shorter than most textbooks on regression. I've also used as little mathematics as possible, although the nature of the subject requires an occasional equation. Most important, my presumption in writing this book is that the vast majority of readers will be primarily *consumers*, not *producers*, of multiple regression results. You may have to run some multiple regressions for a homework

assignment, but I'm not expecting that you'll become a statistical researcher. As a result, the book is organized rather differently from most multiple regression books, in ways that I'll discuss in a moment.

Besides students, I'm hopeful that this book will prove useful to anyone who needs to learn about multiple regression quickly, especially if the goal is to be able to read and comprehend published research results. That might include lawyers who want to use multiple regression to support legal arguments, government policymakers who need to understand the implications of the latest research for their own decisions, or managers who must evaluate the reports of market researchers.

How Is This Book Organized?

The book is structured so that the most essential questions are answered in the early chapters, with the less important questions relegated to the later chapters. With this organization, you can stop reading the book at end of any chapter and still feel like you've already gotten the meat of the subject. Chapter 1 is a general overview of what multiple regression is and what it's good for (and not good for). Chapter 2 tells you how to read and interpret multiple regression tables. Chapter 3 explains how to critique multiple regression results by asking a number of crucial questions about any regression model. These three chapters are the heart of the book. The remaining chapters discuss some of the practical aspects involved in doing multiple regression as well as a bit of the theory that underlies this method.

What Do I Need to Know to Be Able to Understand This Book?

This book is designed for readers who have a very basic knowledge of statistics. If you've previously taken a course in introductory statistics, you should have little or no difficulty. If you're currently taking a course in statistics or research methods, you may have already encountered all the concepts I will use in this book. I will assume, for example, that you're familiar with the mean, the stand-

ard deviation, and the correlation coefficient. I will also frequently refer to standard errors, confidence intervals, and hypothesis tests, so it's desirable to have a basic understanding of what these things are and how they're used. For a quick introduction to some of these concepts, see Lewis-Beck (1995). For a more detailed treatment, try Frankfort-Nachmias (1997).

How Should I Read This Book?

Chapter 1 presents the essential overview. For some of you, this chapter may be all you need (or want). Chapters 2 and 3 are recommended if you expect to read reports of multiple regression results. After reading these chapters, you may want to skip around among the remaining chapters. If you plan to run any multiple regressions yourself, you should definitely read Chapter 4 and possibly Chapters 7 and 8. If your aim is to understand the method in greater depth, I recommend Chapters 5, 6, and 9.

Where Can I Learn More?

Because the great bulk of material in this book is well known and widely available in textbooks, I have avoided giving detailed references. Nevertheless, you will find references for any unusual, nonstandard, or controversial claims. There are also references to accessible textbooks covering more advanced topics, especially in Chapter 9. Because this book is deliberately short, you may find it helpful to consult more detailed textbooks on regression analysis. In my own college courses on regression analysis, I have at various times used the books by McClendon (1994), Mendenhall and Sincich (1996), Gujarati (1995), and Chatterjee and Price (1991). All four of these books are comprehensive treatments of regression analysis, written for students with modest mathematical backgrounds. In particular, they do not require a knowledge of matrix algebra. Another excellent text that does use matrix algebra in later chapters is Fox (1997).

Where Can I Get the Data?

Throughout the book, I make use of a small dataset containing information on income, schooling, age, and marital status for 35 persons. This dataset can be downloaded at the Pine Forge Website at www.pineforge.com. From the home page, click on Research Methods / Statistics for the Social Sciences, then click on the title for this book, *Multiple Regression: A Primer.* At that point, there will be instructions for downloading the data.

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