

Contents

<i>Introduction</i>	v
Answers to Text Exercises	1
Chapter 1	An Overview of Regression Analysis.....	1
Chapter 2	Ordinary Least Squares	4
Chapter 3	Learning to Use Regression Analysis.....	7
Chapter 4	The Classical Model	8
Chapter 5	Hypothesis Testing	12
Chapter 6	Specification: Choosing the Independent Variables.....	16
Chapter 7	Specification: Choosing a Functional Form	21
Chapter 8	Multicollinearity	26
Chapter 9	Serial Correlation	32
Chapter 10	Heteroskedasticity	36
Chapter 11	Running Your Own Regression Project.....	39
Chapter 12	Time-Series Models.....	40
Chapter 13	Dummy Dependent Variable Techniques	42
Chapter 14	Simultaneous Equations	45
Chapter 15	Forecasting	48
Chapter 16	Experimental and Panel Data	50
Chapter 17	Statistical Principles.....	51
Lecture Notes	53
Chapter 1	An Overview of Regression Analysis.....	53
Chapter 2	Ordinary Least Squares	54
Chapter 3	Learning to Use Regression Analysis.....	55
Chapter 4	The Classical Model	56
Chapter 5	Hypothesis Testing	56

Chapter 6	Specification: Choosing the Independent Variables	58
Chapter 7	Specification: Choosing a Functional Form	60
Chapter 8	Multicollinearity.....	61
Chapter 9	Serial Correlation	62
Chapter 10	Heteroskedasticity	62
Chapter 11	Running Your Own Regression Project.....	63
Chapter 12	Time-Series Models	64
Chapter 13	Dummy Dependent Variable Techniques	65
Chapter 14	Simultaneous Equations.....	65
Chapter 15	Forecasting.....	66
Chapter 16	Experimental and Panel Data	67
Chapter 17	Statistical Principles.....	67
Sample Examinations		68
Sample Exam for Chapters 1–3		68
Sample Exam for Chapters 4–5		69
Sample Exam for Chapters 6–7.....		71
Sample Exam for Chapters 8–10.....		73
Sample Exam for Chapters 12–16		76
An Additional Interactive Regression Learning Exercise		78

Introduction

This instructor's manual contains answers to the odd-numbered exercises in *Using Econometrics*, lecture notes, sample examinations (with answers), and an additional interactive exercise. We think that you'll find these sections more or less self-explanatory. Before we get to these sections, we'd like to start off with some overall advice on how to use both the textbook and this manual.

Organizing the Class

The text is intended for a first course in econometrics, and its prerequisites are little more than a reasonable exposure to microeconomic and macroeconomic theory and statistics. Calculus, matrix algebra, and proofs appear only in the footnotes.

While readers should have been exposed to some statistics, all the required statistical concepts are covered in the appropriate chapters. In addition, we offer an optional chapter on statistical principles written by Gary Smith of Pomona College, who also is the author of an excellent introductory statistics text: *Statistical Reasoning* (Boston, WCB McGraw Hill, 1998, ISBN: 0-07-059276-4).

Using Econometrics is intended to be used in a course that covers single-equation linear regression, and a "core" consisting of Chapters 1–11 (skipping all appendices) allows a fairly complete coverage of the topic in one semester or term.

Topics covered in the appendices and in Chapters 12–15 are not required for an understanding of the core, but one or more can be added at the instructor's discretion. These optional topics are:

- Section 5.6 The *F*-Test
- Section 6.7 Additional Specification Criteria
- Chapter 12 Time-Series Models
- Chapter 13 Dummy Dependent Variable Techniques
- Chapter 14 Simultaneous Equations
- Chapter 15 Forecasting

While some instructors will want to have examinations every two or three chapters (this is the pattern of the sample exams), most probably will decide to give them every five chapters. In addition, we strongly recommend that each student be asked to conduct his or her own regression project. These projects can be run either on data that the student finds individually (after appropriate theoretical development) or on data provided by the instructor. One data source for this latter approach is in the interactive regression learning exercise in this manual.

Using This Manual

This instructor's manual does more than provide exercise answers and hints on lecturing with the book. In addition, it provides new material not in the text for instructors who want to go beyond the text on some topics. We also point out which exercises we think would make good problem sets for students and provide an additional interactive exercise for your use. This exercise could for example be used as an in-class exercise on how to get the most out of the interactive exercises in the text, but it can be used for other purposes as well.

The EViews Option

We're excited to be able to offer the student version of EViews, the number one Windows-based econometric software package, as an option with the text at an extremely low additional price. EViews was used to produce the econometric results in the text, and the EViews CD-ROM includes datafiles for all the datasets in the book, so the software supports the text in a very positive way.

EViews is not required for teaching out of *Using Econometrics*, so don't feel obligated to use or even mention the program in class if you don't want to. However, even if you don't use EViews, we urge you to ask your bookstore to stock the "with EViews" version of the text as well as the "without EViews" version. Owning their own regression software allows students to run regressions at home or after they complete your class, and the low price makes EViews a terrific bargain.

The Using Econometrics Website: www.pearsonhighered.com/studenmund

We're quite pleased to now have a website for the textbook at www.pearsonhighered.com/studenmund. The website includes the text's datasets already formatted so that they can be downloaded for use in EXCEL EViews and ASCII formats. The website also includes additional interactive regression learning exercises. Finally, while we're trying to avoid typos in the textbook, we recognize that no-one's perfect, so we plan on listing corrections to the text on the website as well.

Giving Us Feedback

While we've put literally years of work into developing this book, we recognize that errors (both typographical and theoretical) might still exist. In addition, we know that quite a few of you have approaches to teaching particular econometric topics that might work better than the ones we've adopted. Finally, you might have examples or exercises that you think would be useful additions to the book. If you find an error or have a suggestion for improvement, please write us and tell us about it. Write Woody Studenmund, Department of Economics, Occidental College, Los Angeles, CA 90041, or send email to <woody@oxy.edu>.