

 21 世纪经济学系列教材

Stata/EViews 计量经济分析

Introduction to Modern Econometrics Using Stata/EViews

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胡志宁◎编著

 中国人民大学出版社

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前言

笔者在教学和科研工作中,深知学习并掌握计量经济学理论和应用方法的重要性。本书的出版目的就是试图引导海内外高等院校学生如何系统、循序渐进地学习各种计量经济模型并将理论应用到实践中。本书也可作为学术界同仁的参考用书。

本书较为全面地介绍了计量经济学的基础理论和各种常用回归模型的分析及检验。强调实用性是本书的第一个特点。在美国的很多高等院校、科研机构,甚至是公司的 R&D 部门, Stata 这种统计计量软件经常会用到。同样, EViews 常常被用于时间序列分析中。本书特意为计量分析的学习和计量软件的学习架起一座桥梁。通过对本书的阅读和理解,国内外高等院校的学生们能由此了解到如何使用 Stata 和 EViews 软件进行计量分析,并从本书中获知如何建立分析自己的计量模型。相信本书也会对学术界同仁和计量研究爱好者有所帮助。

本书还介绍了现代计量的分析方法并提供了很多有趣并实用的例题和上机操作的习题。每一个习题都尽量配有 Stata 或者是 EViews 的使用说明。读者完全可以根据例题在 Stata 或 EViews 软件上操作模拟,从而很快地掌握这两种软件的使用,并根据本书对软件运行中得到的图表数据的分析和讨论加深对现代计量分析方法的理解和运用。这是本书的第二个特点。

本书的第三个特点是使用两种语言(英文和中文)同步讲解现代计量理论及其运用,读者可以比较清楚地了解现代计量的专业术语在英语国家的教学科研里是如何被解释和阐述的。另外,本书每一章里的上机操作习题都是用英文书写的,并没有附上中文对照,对读者而言具有一定的挑战性。笔者希望读者通过这样的练习机会加强和巩固对计量的英文学习,从而可以更为轻松地阅读其他有关计量经济学的英文书籍,更好地和国际接轨,并保持同步。



Preface

The author, involved in research and teaching work, is well aware of the study and mastery of econometric theory, and understands the importance of the application of econometrics. Hence, the aim of this book is to guide university students, both in China and abroad, in a systematic and step-by-step manner to learn a variety of econometric models and how econometric theory is applied in practice. The book can be also used as a reference book for academic colleagues.

This book provides a pretty comprehensive description of the basis of econometric theory and a variety of commonly used regression analysis and testing. Practicality is the first and most stressed characteristic of this book. In many colleges and universities in the United States, research institutions, and even R & D departments, Stata is a very often used software package for statistical and econometric analysis. In a similar fashion, EViews is often used to deal with time series models. This book specifically strives to bridge a gap between the study of quantitative analysis and econometric/statistical software. Using this book, students of domestic and international economic research institutions of higher learning can learn how to use econometric analysis software, Stata and EViews, and discover how to establish their own econometric model analysis. The author believes this book will be of use to academic scholars and other econometric enthusiasts as well.

Furthermore, the book provides modern applications of econometric analysis, and lots of interesting, practical examples and computer exercises. Exercise and practice are essential to the mastery of Stata or EViews, and helpful instructions are presented in furtherance of this quest. Readers can follow examples to learn to operate and quickly master the use of both Stata or EViews. The book also provides charts and data to be

analyzed and discussed in order to deepen understanding of econometric analysis. This is the second feature of the book.

The book's third feature is its use of two languages (English and Chinese) to explain modern econometric theory and methods on the synchronization, enabling readers to more clearly understand the terms of modern econometrics in English-speaking countries. In addition, in each chapter of this book, computer exercises are just written in English. Without Chinese translations, the reader may be challenged. The author hopes that through these exercises the reader will be granted the opportunity to strengthen and consolidate the learning of econometrics, allowing him/her to more easily read other econometric books, in order to keep pace.



致 谢

感谢我的家人和所有帮助过我的人们！

这本书受益于许许多多在中美工作的非常杰出的研究人员和学者甚至学生的帮助。他们在百忙中阅读了本书的早期文稿，并提出了很多修改建议。特别感谢郑江淮教授。

我在 Gettysburg College 的同事们也给予了我大力的支持。他们对于计量经济学教学的想法以及建议使我能更好地理解如何教授这门棘手的学科。另外，这本书之所以能顺利完成还得益于 Gettysburg College 提供给我的科研发展基金。

感谢我在 Gettysburg College 的学生助理们！Yujie Zheng 负责核对本书的中英文术语的对照工作，Chris Carrier 核对并校正了本书的英文部分。他们在本书的每个细节上努力地确保语言的准确性，为此作出了很大的贡献。

我衷心地将这本书献给我的先生（姚卫军）和我的儿子（姚思闻），感谢他们的支持和配合，以确保我写书所需要的大量时间。特别还要感谢我的父母和兄弟姐妹在这个漫长的写作过程中给予我的鼓励和支持。最后，我深切地感谢中国人民大学出版社的编辑们。在他们的耐心和不懈的帮助下，我才能够有此机会完成这样一本激动人心的著作。



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Many thanks to my student assistants at Gettysburg College: Yujie Zheng who was helpful in translating econometric terms into Chinese, and Christopher Carrier who worked very hard to proof-read and edit the English parts of this book. Their efforts contributed remarkably to the accuracy of the text in its myriad details.

With all my love, I dedicate this book to my husband (Weijun Yao) and my son (Steven Yao), who had to put up with the many hours that I spent working on this book. A special note of gratitude also goes to my family in China for their encouragement and support throughout this long process. Finally, my deepest thanks go to my editors at China Renmin University Press, who were unfailingly patient and so helpful to transform my manuscript into such an exciting and accessible book.



目 录

第 1 章 Stata 和 EViews 软件简介	1
I. Stata 软件简介	1
II. EViews 软件简介	3
第 2 章 计量经济学简介	9
I. 计量经济学的定义及其学习意义	9
II. 学习计量经济学前需思考的问题	9
第 3 章 线性回归模型	15
I. 简单线性回归模型	15
II. 多元线性回归模型	16
第 4 章 线性模型检验	24
I. 最小二乘估计量的统计属性	24
II. 单一回归参数的显著性检验： t 检验	25
III. 联合显著性检验及总体显著性检验： F 检验	26
第 5 章 建模分析和应用	35
I. 如何选择合适的线性方程式	35
II. 如何判定所建模型的合适性	38
第 6 章 进一步分析建模的不足之处	45
I. 遗漏变量导致的估计偏差	45
II. 多重共线性的问题和解决方法	46
第 7 章 异方差问题的检验和解决方法	57
I. 什么是异方差问题	57

II. 如何侦测异方差问题	58
III. 如何解决异方差问题	59
IV. 上机操作练习	60
第 8 章 自相关问题的检验和解决方法	68
I. 什么是自相关问题	68
II. 如何检验自相关问题的存在	69
III. 如何解决自相关问题	71
IV. 上机操作练习	72
第 9 章 内生性问题和辅助变量	80
I. 内生变量的问题	80
II. 辅助变量 (IV) 估计法	82
III. 内生性和辅助变量有效性的假设检验	83
IV. 上机操作练习	84
第 10 章 虚拟自变量回归模型	93
I. 虚拟变量	93
II. 虚拟变量的应用	94
III. 检测各组的差异——邹式检验法	97
IV. 上机操作练习	97
第 11 章 虚拟因变量模型	108
I. 线性概率模型	108
II. Probit 和 Logit 模型	109
III. 上机操作练习	112
第 12 章 面板数据模型	122
I. 面板数据的作用	122
II. 面板回归模型	124
III. 上机操作练习	126
第 13 章 联立方程组模型	138
I. 联立方程组模型的建立	138
II. 估计联立方程组模型	141
III. 上机操作练习	142
第 14 章 时间序列模型里的计量问题	153
I. 采用 OLS 处理时间序列数据所考虑的问题	153
II. 常用的时间序列模型	154
III. 平稳型问题分析	156
IV. 共积现象分析	158

V. 上机操作练习	159
第 15 章 向量自回归模型 (VAR 模型)	174
I. 如何建立一个 VAR 模型	174
II. 如果估计一个 VAR 模型	175
III. 上机操作练习	176
附录	183
参考文献	203



CONTENTS

Chapter 1: Brief Introduction to Stata and EViews	4
I. Brief Introduction to Stata	4
II. Brief Introduction to EViews	7
Chapter 2: Introduction to Econometrics	12
I. What is Econometrics? Why study Econometrics?	12
II. The Must-be-discussed Questions Prior to Learning Econometrics	12
Chapter 3: Least Square Regressions	18
I. Simple Linear Regression	18
II. Multiple Linear Regressions	21
Chapter 4: Inference in Linear Regression Models	29
I. Statistical Properties of the OLS Estimators	29
II. Significance Test for a Single Population Parameter; the t Test	30
III. Joint Significance Test and Overall Significance Test; the F Test	32
Chapter 5: Specifying the Econometric Model	39
I. How to Choose an Appropriate Functional Form	39
II. How to Test the Appropriateness of a Functional Form	42
Chapter 6: Misspecification Analysis	51
I. Omitted Variable Bias	51
II. Multicollinearity	52
Chapter 7: Heteroskedasticity	61
I. What is Heteroskedasticity	61

II. How to Detect the Problem of Heteroskedasticity	62
III. How to Fix the Problem of Heteroskedasticity	63
IV. Computer Exercise	65
Chapter 8: Autocorrelation	73
I. What is Autocorrelation	73
II. How to Detect the Problem of Autocorrelation	74
III. How to Fix the Problem of Autocorrelation	76
IV. Computer Exercise	77
Chapter 9: Endogeneity and Instrumental Variable	85
I. Endogeneity Variable	85
II. Instrumental Variables (IV) Estimation	87
III. Hypothesis Testing for Endogeneity and Instrumental Variables	89
IV. Computer Exercise	89
Chapter 10: Models with Dummy Independent Variables	98
I. Dummy Variables	98
II. Applications of Dummy Variables	98
III. Testing for Differences Across Groups—Chow Test	101
IV. Computer Exercise	102
Chapter 11: Models with Dummy Dependent Variables	113
I. Linear Probability Model	113
II. Probit and Logit Models	114
III. Computer Exercise: Logit and Probit Regressions	117
Chapter 12: Panel Data Models	127
I. The Role of Panel Data	127
II. Panel Regression Models	129
III. Computer Exercise	132
Chapter 13: Simultaneous Model	143
I. The Setup of a Simultaneous Equations Model	143
II. Estimating a Simultaneous Equations Model	146
III. Computer Exercise	148
Chapter 14: Time Series Econometrics	160
I. Issues in Using OLS with Time Series Data	160
II. Commonly Used Time Series Models	161
III. Stationarity	164
IV. Cointegration	166
V. Computer Exercise—Stationarity and Cointegration	167

Chapter 15: Vector Autoregression (VAR) Model	177
I . How to Develop a VAR Model	177
II . How to Estimate a VAR Model	178
III . Computer Exercise	179
Appendix	193
References	203



第 1 章

Stata 和 EViews 软件简介

I. Stata 软件简介

1. 关于 Stata

Stata 是一种在命令驱动下进行操作运算的现代软件。它可以进行统计分析、数据管理以及绘图。在经济学领域，它可以用于分析各种经济数据，比如横截面数据、时间序列数据、面板数据，等等。Stata 使用方便，配有大量的参考用书，并且可以通过网络在线更新该软件的旧功能以及增添新功能。

2. 基本操作命令

2.1 输入数据

insheet : 从电子表格里读取 ASCII (文本) 数据 (该命令仅限于 .csv 文件)
infile : 读取非格式化的 ASCII (文本) 数据 (该命令仅限于空间分隔的文件)
infix : 读取格式化的 ASCII (文本) 数据 (该命令仅限于 .fix 文件)
input : 由键盘输入数据
use : 读取 Stata 格式的文件，也可以读取网上在线的 Stata 文件
describe : 描述存在内存里或磁盘上的数据内容
compress : 压缩存在内存里的数据
save : 以 Stata 数据格式被存储在内存里或磁盘上