



美国商学院原版教材精选系列

PEARSON

应用计量经济学

实践指南

(第6版)

Using Econometrics

A Practical Guide

Sixth Edition

(美) 施图德蒙德 (A. H. Studenmund) 著

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清华大学出版社
北 京

EISBN: 978-0-13-136773-9

Original edition, entitled **Using Econometrics: A Practical Guide**, 6th edition by A. H. Studenmund, published by Pearson Education, Inc., publishing as **Prentice Hall**, Copyright © 2011.

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English reprint edition published by **PEARSON EDUCATION ASIA LTD.**, and **TSINGHUA UNIVERSITY PRESS**, Copyright © 2010.

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北京市版权局著作权合同登记号 图字: 012010-5867

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图书在版编目(CIP)数据

应用计量经济学: 实践指南 = Using Econometrics: A Practical Guide, 6e: 英文 / (美) 施图德蒙德(Studenmund, A. H.) 著. --北京: 清华大学出版社, 2011.1

(美国商学院原版教材精选系列)

ISBN 978-7-302-24385-4

I. ①应… II. ①施… III. ①计量经济学—高等学校—教材—英文 IV. ①F224.0

中国版本图书馆 CIP 数据核字(2010)第 228152 号

责任编辑: 徐学军

责任印制: 何 芊

出版发行: 清华大学出版社

<http://www.tup.com.cn>

社 总 机: 010-62770175

投稿与读者服务: 010-62776969, c-service@tup.tsinghua.edu.cn

质 量 反 馈: 010-62772015, zhiliang@tup.tsinghua.edu.cn

印 刷 者: 清华大学印刷厂

装 订 者: 三河市新茂装订有限公司

发 行 者: 全国新华书店

开 本: 185×230 印张: 40

版 次: 2011 年 1 月第 1 版

印 数: 1~5000

定 价: 58.00 元

地 址: 北京清华大学学研大厦 A 座

邮 编: 100084

邮 购: 010-62786544

印 次: 2011 年 1 月第 1 次印刷

产品编号: 039604-01

出版说明

为了适应经济全球化的发展趋势，满足国内广大读者了解、学习和借鉴国外先进管理经验和掌握经济理论前沿动态的需要，清华大学出版社与国外著名出版公司合作影印出版一系列英文版经济管理方面的图书。我们所选择的图书，基本上是已再版多次、在国外深受欢迎、并被广泛采用的优秀教材，绝大部分是该领域中较具权威性的经典之作。在选书的过程中，我们得到了很多专家、学者的支持、帮助和鼓励，在此表示谢意！

由于原作者所处国家的政治、经济和文化背景等与我国不同，对书中所持观点，敬请广大读者在阅读过程中注意加以分析和鉴别。

我们期望这套影印书的出版对我国经济科学的发展能有所帮助，对我国经济管理专业的教学能有所促进。

欢迎广大读者给我们提出宝贵的意见和建议，同时也欢迎有关的专业人士向我们推荐您所接触到的国外优秀图书。

清华大学出版社

英/双语教学的成功路径与商科英文原版教材的效用

(代序)

在我国高校,用英语或双语教授专业课程(以下简称:英/双语教学)始于改革开放引进热潮,历经30年,虽发展不快,仍在缓慢推进。20世纪80年代,改革开放后留学归来的教育界学者们不仅引进了各学科先进的研究成果,也随之引进了西方高校的教材。以清华大学出版社为领军的国内出版社适时地引进了西方优秀教材的影印版,推动了一些高校开始在专业课程中开展英/双语教学。2007年以来,国家教育工程专设的“国家高校双语教学示范课程建设点”的评定项目被视为政府教育发展的政策风向标,正有力地推动着高校英/双语教学的发展。

但对英/双语教学的必要性,我国高校内部一直争议不断。争议首先围绕着中国人用英语教学的必要性。在公认英语是目前世界通用语言的前提下,英/双语教学的必要性取决于我国高校师生是否有必要及时汲取世界最新的知识和研究成果。答案是不言而喻的。况且英/双语教学省却了翻译过程,可以避免常见的信息减损和曲解问题。不过,信息发布者——教师的英语演讲能力和信息接收者——学生的英语解读能力不足又成为开展英/双语教学的障碍。因而常见的反对意见是,开展英/双语教学,课堂教学内容就会缩水,因为讲授者和听众都得花费精力和时间解译内容。如此看来,我国开展英/双语教学的高校教师必须应对挑战,洞察在我国现有条件下用英文原版教材开展英/双语教学的利和弊,并找到可行的扬长避短的路径。

在经济开放和全球化的大趋势推动下,我国中小学英语教学分量加重,英语普及程度逐年提高,高校新生的英语基础愈益扎实;教师的英语能力也随着师资的新陈代谢而日渐增强。这一趋势无疑在为英/双语教学营造越来越有利的条件。尽管如此,不同于以英语为主要语言或官方语言的一些国家,英语在我国的普及率仍较低。在青少年中,英语的普及程度和英语应用能力还仅处于初级水平;高校中能用英语演讲的教师尚属少数,且熟练程度还有待大幅提高。这样的师生英语基础,使得英/双语教学面临巨大的挑战。

同时,在多数的中国高校课堂里,教学任务多被视为逐章讲解某本教材的内容。本土中文教材通常是400~500页的32开本,含理论框架、主要知识点、计算方法和习题,但案例和故事不在其中,多由教师在讲解时添加,以演示和诠释理论要点。迄今仍然普遍盛行的“填鸭式”、“满堂灌”的传统教学法侧重于传授知识,从多数评教指标可见,只要学生感觉教师讲得精彩、有条理、能解惑,就算教学成功。

而引进的国外教材篇幅通常较长,16开大本,500~800页。习惯于上述传统教学法和评价标准的人们自然会产生一个疑问:在有限的课时内,这么厚的教材,怎么讲得完?其实,发达国家多数高校对学生阅读量的要求远远大于我国高校(即使是中文课本和资料),名校更是如此。它们的教材不仅涵盖理论框架和基本概念,而且富含长短不一、详简各异的演示性案例、故事和大量习题,总之它便于学生自学。课堂讲解只占一半课时,其余课时常被用于师生讨论和互动。于是,教师的讲解主要是勾勒理论框架,阐释重点和难点,

还需针对事先布置的阅读资料和讨论题,引导学生展开讨论。可见,大厚本的教材适合于能力培训教学法。两者相辅相成,致力于调动学生的主动性:他们必须大量阅读和思考,才能在课堂上有上好的表现,真正成为学习的主人。结果,他们的能力获得了必要和切实的磨炼。

由此可见,英/双语教学不只是教学语言的改变,它可以达到三重效用:传授专业知识;传授英语知识;同时训练专业方法和英语的应用技能。也因此,一些非英语国家的高校不惜成本,开展英/双语教学,使用与之相配的教材。对我国高校来说,要想成功开展英/双语教学,恐怕首先需要改变传统的教育思想和教学方法。换言之,如果高校想要使教育、教学接近世界先进水准,用英文原版影印教材开展英/双语教学是有效的途径。

迄今为止,原版英文教材的缺点也很明显。鉴于发达国家的作者是以其母国为背景,多数教材不涉及中国国情。教师必须在教学中紧密结合中国国情,提供相关案例、资料和思考讨论题,适时引导师生思辨现有理论的普适性,激励师生发现和创作适合我国国情的经济学、管理学、营销学规律。在我国作者编写和出版足量的优质英文教材之前,这些额外的工作必须由开展英/双语教学的教师来承担。

古今中外,成才之士都乐于阅读和探索,而这种氛围却在当今我国的大学校园里愈见淡化。加之中国学生相对薄弱的英语基础,目前英/双语教学仍面临很大的挑战:“填鸭式”的讲授与之相悖;仅靠课堂讲授和互动也很难奏效。但如能培养学生阅读和探索真理的兴趣,并营造一个全方位的孵化温床或生态环境,英/双语教学是有望成功的。根据能力培育过程的所需,这个生态环境包含师生对教育、教学的共识,好学求知的校风,富有挑战和师生互动的课堂教学,从课外讲座、项目操作到校园竞赛等第二课堂活动,便于师生交流的校园互联网等。

要做到这些,教师亟待与时俱进。随着师资的年轻化和高学历化,如今年轻教师的英语基础更好。但逆水行舟,不进则退。英语能力的进退取决于使用频率的多寡,其实英/双语教学过程既是加强英语使用、提高英语能力,也是汲取世界新知的最佳机会。不过,这一过程通常比用汉语教学的付出大得多,且因学生也需成倍地付出,英/双语教学的课程不容易像汉语教学课程那样容易在短期内获得学生的好评。因此给予英/双语教学的教师足够的激励成为生态环境的首要组成部分;缺乏对教师的足够激励,上述英/双语教学的生态环境就无法营造。

诚然,在教育体制和环境不够理想的情况下,教师和学生仍然有个人自训和奋斗的条件。英语原版教材影印版在我国的出版和更新就是对英/双语教学的及时支持。清华大学出版社近期又有一批英文原版影印教材出版,相信必将更进一步推动英/双语教学的发展。如今,已有一些本土高校的教师与英语国家的教师合著英文教材;在可见的将来,还会有中国教师编写发行到世界各地的英文教材。总之,及时用好英文原版影印教材,编写优质的英文教材是我国高校教师的历史责任。

愿英/双语教学的师资队伍愈益壮大,愿英/双语教学更加有力地推动我国教学方法与国际接轨,愿我国高校各级学生在英/双语教学中受益良多,茁壮成长!

对外经济贸易大学
傅慧芬

PREFACE

Econometric education is a lot like learning to fly a plane: you learn more from actually doing it than you learn from reading about it.

Using Econometrics represents an innovative approach to the understanding of elementary econometrics. It covers the topic of single-equation linear regression analysis in an easily understandable format that emphasizes real-world examples and exercises. As the subtitle *A Practical Guide* implies, the book is aimed not only at beginning econometrics students but also at regression users looking for a refresher and at experienced practitioners who want a convenient reference.

What's New in the Sixth Edition?

Using Econometrics has been praised as "one of the most important new texts of the last 30 years." We've revised the book in a way that retains the clarity and practicality of previous editions and that recognizes that Econometrics doesn't stand still.

The most exciting upgrades are:

1. **Stata:** We're delighted to offer small Stata 10 as an optional package for our readers at a discounted price when packaged with a textbook. Stata is growing rapidly in popularity among professional economists, so students will be able to learn econometrics on the same program that their professors are using for their own research. Purchasing the Stata option will allow students to use small Stata 10 for six months at a cost far below the price they'd otherwise pay.
2. **Experimental and Panel Data:** We've added a completely new chapter on experimental and panel data. The chapter covers random assignment experiments, natural experiments, difference in difference estimators, the fixed effects model, and the random effects model.
3. **PowerPoint Slides:** For the first time, we offer a complete package of downloadable PowerPoint slides for the text. These slides will make it easy for instructors to individualize their own slide packages and to mold their lecture presentations to the needs of their

students. The PowerPoint slides and online Instructor's Manual are available for download at the Instructor's Resource Center (www.pearsonhighered.com/irc) on the catalog page for *Using Econometrics*.

4. **Expanded Help for Student Projects:** We've substantially revised and upgraded Chapter 11; its title now is "Running Your Own Regression Project." The chapter covers student research projects from top to bottom, with hints on collecting data, making specification choices, and writing up a final report.
5. **Exciting New Data Sets:** We've added an average of two updated or new data sets to each chapter, with many of the data sets coming from recent articles in the economics literature. We've chosen topics that will be of real interest to students, for example, "the prices of iPods on eBay," "predicting presidential elections," "the impact of Manny Ramirez on Dodger attendance," "the impact of easy grading on RateMyProfessors.com," "attendance at Hollywood nightclubs," "how patients choose a hospital," and many more.
6. **Better Problem Sets:** At the suggestion of a number of professors, we've moved the answers to most of the text's exercises from the back of the book to the Instructor's Manual. This change frees up many excellent exercises to be used in problem sets that couldn't previously be used because the answers were in the text. Professors who want to make the answers available to their students still can do so by downloading a particular answer and circulating it to their students. The Instructor's Manual, which is available online to all adopters, also includes lecture notes, sample examinations, and an additional interactive regression learning exercise.
7. **EViews Upgrade:** EViews 4.1 has been upgraded to EViews 6.0. This means that the student version of EViews 6.0 that can be included with each copy of this text is now much more powerful. The econometric procedures have been updated and refined, and the software can handle many more variables and observations than ever before.
8. **Expanded Web Site:** The text's Web site has been modernized and made easier to use. It now includes all the text's data sets, ready for downloading, in EViews, Stata, ASCII, and Excel formats. The Web site also includes advice on using the text and two additional interactive regression learning exercises. Why not take a look? Go to www.pearsonhighered.com/studenmund.

Features

1. Our approach to the learning of econometrics is simple, intuitive, and easy to understand. We do not use matrix algebra, and we relegate proofs and calculus to the footnotes or exercises.
2. We include numerous examples and example-based exercises. We feel that the best way to get a solid grasp of applied econometrics is through an example-oriented approach.
3. Although most of this book is at a simpler level than other econometrics texts, Chapters 6 and 7 on specification choice are among the most complete in the field. We think that an understanding of specification issues is vital for regression users.
4. We use a unique kind of learning tool called an *interactive regression learning exercise* to help students simulate econometric analysis by giving them feedback on various kinds of decisions without relying on computer time or much instructor supervision.
5. We offer the student version of EViews 6.0 and small Stata 10 as options with each copy of the text at an extremely low additional cost. Although we use EViews and Stata to produce the regression results in the book, *Using Econometrics* is not tied to EViews or Stata in any way, so the text fits well with all standard regression programs.

The formal prerequisites for using this book are few. Readers are assumed to have been exposed to some microeconomic and macroeconomic theory, basic mathematical functions, and elementary statistics (even if they have forgotten most of it). Students with little statistical background are encouraged to begin their study of econometrics by reading Chapter 17, "Statistical Principles."

Because the prerequisites are few and the statistics material is self-contained, *Using Econometrics* can be used not only in undergraduate courses but also in MBA-level courses in quantitative methods. We also have been told that the book is a helpful supplement for graduate-level econometrics courses.

The EViews and Stata Options

We're delighted to be able to offer our readers the chance to purchase the student version of EViews 6.0 or small Stata 10 at discounted prices when bundled with the textbook. EViews and Stata are two of the best econometric software

programs available, so it's a real advantage to be able to buy them at substantial savings.

We urge professors to make these options available to their students even if EViews or Stata aren't used in class. The advantages to students of owning their own regression software are many. They can run regressions when they're off-campus, they will add a marketable skill to their resume if they learn EViews or Stata, and they'll own a software package that will allow them to run regressions after the class is over if they choose the EViews option.

CourseSmart

For Instructors

CourseSmart goes beyond traditional expectations providing instant, online access to the textbooks and course materials you need at a lower cost to students. And, even as students save money, you can save time and hassle with a digital textbook that allows you to search the most relevant content at the very moment you need it. Whether it's evaluating textbooks or creating lecture notes to help students with difficult concepts, CourseSmart can make life a little easier. See how when you visit www.coursesmart.com/instructors.

For Students

CourseSmart goes beyond traditional expectations, providing instant, online access to the textbooks and course materials that students need at lower cost. They can also search, highlight, and take notes anywhere at any time. See all the benefits to students at www.coursesmart.com/students.

Acknowledgments

This book's spiritual parents are Henry Cassidy and Carolyn Summers. It was Henry Cassidy who saw the need for a follow-on to Rao and Miller's legendary *Applied Econometrics* and who coauthored the first edition of *Using Econometrics* as an expansion of his own work of the same name. And it was Carolyn Summers who for four straight editions was the text's superb editorial consultant, proofreader, and indexer.

Gary Smith of Pomona College once again wrote the excellent chapter on statistics. His book, *Introduction to Statistical Reasoning* (McGraw-Hill, 1998, ISBN: 0-07-059276-4) would be a perfect text for a course that acts as a prerequisite for an elementary econometrics course.

Susan Averett of Lafayette College not only was a major force behind the decision to add a chapter on experimental and panel data, but she was also kind enough to write the first draft of that chapter.

I also want to thank Nobel Prize winner Rob Engle of New York University for his help on a previous version of Chapter 12, and Peter Kennedy, the author of *A Guide to Econometrics*, for his superb advice over two editions.

In addition, this edition benefited from the evaluations of an extremely talented group of professional reviewers:

Susan Averett, Lafayette College
Niels-Hugo Blunch, Washington and Lee University
Erin Cassese, West Virginia University
W. Ken Farr, Georgia College & State University
Chulo Jung, Ohio University
Peter Kennedy, Simon Fraser University
Risa Kumazawa, Georgia Southern University
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Sita Slavov, Occidental College
Gary Smith, Pomona College
Stephen Stageberg, University of Mary Washington
Phanindra V. Wunnava, Middlebury College
Frank V. Wykoff, Pomona College

Invaluable in the editorial and production process were Adrienne D'Ambrosio, Marguerite Desornes, Kathryn Dinovo, Alison Eusden, Nancy Kotary, Holly McLean-Aldis, and Laura Murphy. Others who provided timely and useful assistance to this edition were Erdal Atukeren of the Swiss Institute for Business Cycle Research, Heather Campbell of Arizona State University, Cece Conrad of Pomona, George Jouganatos of CSU Sacramento, Manfred Keil of Claremont McKenna, Leo McGarrity of Central Arkansas, Ying Sun of Rutgers, Barbara Passerelle, Silver Oak, and my family, Jaynie, Scott, and Connell Studenmund, and Brent Morse. Finally, but perhaps most importantly, I'd like to thank my superb Occidental College colleagues and students for their feedback and encouragement. These included Lesley Chiou, John Romley, Sita Slavov, Kirsten Vandschneider, Karuna Batcha, Andrew Blythe, Ashley Flores, Richard Highsmith, Alex Lim, Gabbie McKay, Tanya Milki, Jonathan Miller, Adam O'Connor, Tyler Phillips, Thomas Pivnicny, Jake Solomon, Jacob Weiss, Robert White, Teddy Zou, and, especially, Chris Norman.

A. H. Studenmund

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- 1.2 What Is Regression Analysis?
- 1.3 The Estimated Regression Equation
- 1.4 A Simple Example of Regression Analysis
- 1.5 Using Regression to Explain Housing Prices
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1.1 What Is Econometrics?

"Econometrics is too mathematical; it's the reason my best friend isn't majoring in economics."

"There are two things you are better off not watching in the making: sausages and econometric estimates."¹

"Econometrics may be defined as the quantitative analysis of actual economic phenomena."²

"It's my experience that 'economy-tricks' is usually nothing more than a justification of what the author believed before the research was begun."

Obviously, econometrics means different things to different people. To beginning students, it may seem as if econometrics is an overly complex obstacle to an otherwise useful education. To skeptical observers, econometric results should be trusted only when the steps that produced those

1. Ed Leamer, "Let's take the Con out of Econometrics," *American Economic Review*, Vol. 73, No. 1, p. 37.

2. Paul A. Samuelson, T. C. Koopmans, and J. R. Stone, "Report of the Evaluative Committee for *Econometrica*," *Econometrica*, 1954, p. 141.