

Regression Models For Categorical Dependent Variables Using Stata Third Edition

After reviewing the linear regression model and introducing maximum likelihood estimation, Long extends the binary logit and probit models, presents multinomial and conditioned logit models and describes models for sample selection bias.

An accessible guide to the growing field of financial econometrics As finance and financial products have become more complex, financial econometrics has emerged as a fast-growing field and necessary foundation for anyone involved in quantitative finance. The techniques of financial econometrics facilitate the development and management of new financial instruments by providing models for pricing and risk assessment. In short, financial econometrics is an indispensable component to modern finance. The Basics of Financial Econometrics covers the commonly used techniques in the field without using unnecessary mathematical/statistical analysis. It focuses on foundational ideas and how they are applied. Topics covered include: regression models, factor analysis, volatility estimations, and time series techniques. Covers the basics of financial econometrics—an important topic in quantitative finance Contains several chapters on topics typically not covered even in basic books on econometrics such as model selection, model risk, and mitigating model risk Geared towards both practitioners and finance students who need to understand this dynamic discipline, but may not have advanced mathematical training, this book is a valuable resource on a topic of growing importance.

Straightforward, clear, and applied, this book will give you the theoretical and practical basis you need to apply data analysis techniques to real data. Combining key statistical concepts with detailed technical advice, it addresses common themes and problems presented by real research, and shows you how to adjust your techniques and apply your statistical knowledge to a range of datasets. It also embeds code and software output throughout and is supported by online resources to enable practice and safe experimentation. The book includes: - Original case studies and data sets - Practical exercises and lists of commands for each chapter - Downloadable Stata programmes created to work alongside chapters - A wide range of detailed applications using Stata - Step-by-step guidance on writing the relevant code. This is the perfect text for anyone doing statistical research in the social sciences getting started using Stata for data analysis.

This book provides a comprehensive introduction to methods and models for categorical data analysis and their applications in social science research. Companion website also available, at https://webspace.utexas.edu/dpowers/www/

Logistic Regression Models for Ordinal Response Variables

Statistical Methods for Categorical Data Analysis

Regression Analysis and Linear Models

Using Monte Carlo Simulation with Microsoft Excel

Modeling Count Data

Applied Statistics Using Stata

Ordinal measures provide a simple and convenient way to distinguish among possible outcomes. The book provides practical guidance on using ordinal outcome models.

This book teaches multiple regression and time series and how to use these to analyze real data in risk management and finance.

Doing Meta-Analysis with R: A Hands-On Guide serves as an accessible introduction on how meta-analyses can be conducted in R. Essential steps for meta-analysis are covered, including calculation and pooling of outcome measures, forest plots, heterogeneity diagnostics, subgroup analyses, meta-regression, methods to control for publication bias, risk of bias assessments and plotting tool. Advanced, but highly relevant topics such as network meta-analysis, multi-three-level meta-analyses, Bayesian meta-analysis approaches and SEM meta-analysis are also covered. A companion R package, dmetar, is introduced at the beginning of the guide. It contains data sets and several helper functions for the meta and metafor package used in the guide. The programming and statistical background covered in the book are kept at a non-expert level, making the book widely accessible. Features

- Contains two introductory chapters on how to set up an R environment and do basic imports/manipulations of meta-analysis data, including exercises
- Describes statistical concepts clearly and concisely before applying them in R
- Includes step-by-step guidance through the coding required to perform meta-analyses, and a companion R package for the book

R is a language and environment for data analysis and graphics. It may be considered an implementation of S, an award-winning language initially -veloped at Bell Laboratories since the late 1970s. The R project was initiated by Robert Gentleman and Ross Ihaka at the University of Auckland, New Zealand, in the early 1990s, and has been developed by an international team since mid-1997. Historically, econometricians have favored other computing environments, some of which have fallen by the wayside, and also a variety of packages with canned routines. We believe that R has great potential in econometrics, both for research and for teaching. There are at least three reasons for this: (1) R is mostly platform independent and runs on Microsoft Windows, the Mac family of operating systems, and various flavors of Unix/Linux, and also on some more exotic platforms. (2) R is free software that can be downloaded and installed at no cost from a family of mirror sites around the globe, the Comprehensive R Archive Network (CRAN); hence students can easily install it on their own machines. (3) R is open-source software, so that the full source code is available and can be inspected to understand what it really does, learn from it, and modify and extend it. We also like to think that platform independence and the open-source philosophy make R an ideal environment for reproducible econometric research.

Regression Methods for Categorical Dependent Variables

Explanatory Model Analysis

Statistical modeling : a fresh approach

A Guide for the Social Sciences

An Applied Approach

Handbook of Data Analysis

Generalized Linear Models for Categorical and Continuous Limited Dependent Variables is designed for graduate students and researchers in the behavioral, social, health, and medical sciences. It incorporates examples of truncated counts, censored continuous variables, and doubly bounded continuous variables, such as percentages. The book provides broad, but unified, coverage, and the authors integrate the concepts and ideas shared across models and types of data, especially regarding conceptual links between discrete and continuous limited dependent variables. The authors argue that these dependent variables are, if anything, more common throughout the human sciences than the kind that suit linear regression. They cover special cases or extensions of models, estimation methods, model diagnostics, and, of course, software. They also discuss bounded continuous variables, boundary-inflated models, and methods for modeling heteroscedasticity. Wherever possible, the authors have illustrated concepts, models, and techniques with real or realistic datasets and demonstrations in R and Stata, and each chapter includes several exercises at the end. The illustrations and exercises help readers build conceptual understanding and fluency in using these techniques.

At several points the authors bring together material that has been previously scattered across the literature in journal articles, software package documentation files, and blogs. These features help students learn to choose the appropriate models for their purpose.

Regression Models for Categorical Dependent Variables Using Stata, Third EditionStata Press

This pocket guide provides a concise, practical, and economical introduction to four procedures for the analysis of multiple dependent variables: multivariate analysis of variance (MANOVA), multivariate analysis of covariance (MANCOVA), multivariate multiple regression (MMR), and structural equation modeling (SEM).

Does the stability of personality vary by gender or ethnicity? Does a particular therapy work better to treat clients with one type of personality disorder than those with another? Providing a solution to thorny problems such as these, Aguinis shows readers how to better assess whether the relationship between two variables is moderated by group membership through the use of a statistical technique, moderated multiple regression (MMR). Clearly written, the book requires only basic knowledge of inferential statistics. It helps students, researchers, and practitioners determine whether a particular intervention is likely to yield dissimilar outcomes for members of various groups. Associated computer programs and data sets are available at the author's website (http://mypage.iu.edu/aguinis/amnr).

Interpretable Machine Learning

Predictive Modeling Applications in Actuarial Science

Analysis of Multiple Dependent Variables

Regression Models for Categorical Dependent Variables Using Stata, Second Edition

A Hands-On Guide

Logistic Regression

Provides an introduction to Stata with an emphasis on data management, linear regression, logistic modeling, and using programs to automate repetitive tasks. This book gives an introduction to the Stata interface and then proceeds with a discussion of Stata syntax and simple programming tools like for each loop.

Regression Models for Categorical Dependent Variables Using Stata, Third Edition shows how to use Stata to fit and interpret regression models for categorical data. The third edition is a complete rewrite of the book. Factor variables and the margins command changed how the effects of variables can be estimated and interpreted. In addition, the authors' views on interpretation have evolved. The changes to Stata and to the authors' views inspired the authors to completely rewrite their popular SPost commands to take advantage of the power of the margins command and the flexibility of factor-variable notation. The new edition will interest readers of a previous edition as well as new readers. Even though about 150 pages of appendices were removed, the third edition is about 60 pages longer than the second. Although regression models for categorical dependent variables are common, few texts explain how to interpret such models; this text fills the void. With the book, Long and Freese provide a suite of commands for model interpretation, hypothesis testing, and model diagnostics. The new commands that accompany the third edition make it easy to include powers or interactions of covariates in regression models and work seamlessly with models estimated with complex survey data. The authors' new commands greatly simplify the use of margins, in the same way that the marginsplot command harnesses the power of margins for plotting predictions. The authors discuss how to use margins and their new mchange, mtable, and mgen commands to compute tables and to plot predictions. They also discuss how to use these commands to estimate marginal effects, averaged either over the sample or at fixed values of the regressors. The authors introduce and advocate a variety of new methods that use predictions to interpret the effect of variables in regression models. The third edition begins with an excellent introduction to Stata and follows with general treatments of the estimation, testing, fit, and interpretation of this class of models. New to the third edition is an entire chapter about how to interpret regression models using predictions—a chapter that is expanded upon in later chapters that focus on models for binary, ordinal, nominal, and count outcomes. Long and Freese use many concrete examples in their third edition. All the examples, datasets, and author-written commands are available on the authors' website, so readers can easily replicate the examples with Stata. This book is ideal for students or applied researchers who want to learn how to fit and interpret models for categorical data.

This book is for actuaries and financial analysts developing their expertise in statistics and who wish to become familiar with concrete examples of predictive modeling.

The linear regression model is the most commonly used statistical method in the social sciences. This book considers regression models that are appropriate when the dependent variable is censored, truncated, binary, ordinal, nominal, or count. I refer to these variables as categorical and limited dependent variables (hereafter CLDV). Until recently, the greatest obstacle in using models for CLDVs was the lack of software that was flexible, stable, and easy to use. This limitation no longer applies since these models can be estimated routinely with standard software. Now, the greatest impediment is the complexity of the models and the difficulty in interpreting the results. The difficulties arise because most models for CLDVs are nonlinear.

The Workflow of Data Analysis Using Stata

Regression & Linear Modeling

Multiple Regression with Discrete Dependent Variables

Regression Analysis for Categorical Moderators

Fixed Effects Regression Models

Statistical Inference Via Data Science

Most social work researchers are familiar with linear regression techniques, which are fairly straightforward to conduct, interpret, and present. However, linear regression is not appropriate for discrete dependent variables, and social work research frequently employs these variables, focusing on outcomes such as placement in foster care or not; level of severity of elder abuse or depression symptoms; or number of reoffenses by juvenile delinquents in the year following adjudication. This book presents detailed discussions of regression models that are appropriate for a variety of discrete dependent variables. The major challenges of such analyses lie in the non-linear relationships between independent and dependent variables, and particularly in interpreting and presenting findings. Clear language guides the reader briefly through each step of the analysis, using SPSS and result presentation to enhance understanding of the important link function. The book begins with a brief review of linear regression; next, the authors cover basic binary logistic regression, which provides a foundation for the other techniques. In particular, comprehension of the link function is vital in order to later interpret these methods' results. Though the book assumes a basic understanding of linear regression, reviews and definitions throughout provide useful reminders of important terms and their meaning, and throughout the book the authors provide detailed examples based on their own data, which readers may work through by accessing the data and output on companion website. Social work and other social sciences faculty, students, and researchers who already have a basic understanding of linear regression but are not as familiar with the regression analysis of discrete dependent variables will find this straightforward pocket guide to be a terrific boon to their bookshelves. For additional resources, visit http://www.oup.com/us/pocketguides.

SPSS Statistical Approach introduces and illuminates the statistical reasoning used in modern research throughout the natural and social sciences, medicine, government, and commerce. It emphasizes the use of models to untangle and quantify variation in observed data. By a deft and concise use of computing coupled with an innovative geometrical presentation of the relationship among variables. A Fresh Approach reveals the logic of statistical inference and empowers the reader to use and understand techniques such as analysis of covariance that appear widely in published research but are hardly ever found in introductory texts.-- book cover

A fundamental book for social researchers. It provides a first-class, reliable guide to the basic issues in data analysis. Scholars and students can turn to it for teaching and applied needs with confidence.

The Workflow of Data Analysis Using Stata, by J. Scott Long, is an essential productivity tool for data analysts. Long presents lessons gained from his experience and demonstrates how to design and implement efficient workflows for both one-person projects and team projects. After introducing workflows and explaining how a better workflow can make it easier to work with data, Long describes planning, organizing, and documenting your work. He then

introduces how to write and debug Stata do-files and how to use local and global macros. After a discussion of conventions that greatly simplify data analysis the author covers cleaning, analyzing, and protecting data.

SPSS Statistics for Data Analysis and Visualization

Explore, Explain, and Examine Predictive Models

SPSS for Starters and 2nd Levelers

Introduction to Factor Analysis

Doing Meta-Analysis with R

Effects on a Model of Student College Choice

Social science and behavioral science students and researchers are often confronted with data that are categorical, count a phenomenon, or have been collected over time. Sociologists examining the likelihood of interracial marriage, political scientists studying voting behavior, criminologists counting the number of offenses people commit, health scientists studying the number of suicides across neighborhoods, and psychologists modeling mental health treatment success are all interested in outcomes that are not continuous. Instead, they must measure and analyze these events and phenomena in a discrete manner. This book provides an introduction and overview of several statistical models designed for these types of outcomes—all presented with the assumption that the reader has only a good working knowledge of elementary algebra and has taken introductory statistics and linear regression analysis. Numerous examples from the social sciences demonstrate the practical applications of these models. The chapters address logistic and probit models, including those designed for ordinal and nominal variables, regular and zero-inflated Poisson and negative binomial models, exact history models, models for longitudinal data, multi-level models, and data reduction techniques such as principal components and factor analysis. Each chapter discusses how to utilize the models and test their assumptions with the statistical software Stata, and also includes exercise sets so readers can practice using these techniques. Appendices show how to the models in SAS, SPSS, and R; provide a review of regression assumptions using simulations; and discuss missing data. A companion website includes downloadable versions of all the data sets used in the book. Emphasizing conceptual understanding over mathematics, this user-friendly text introduces linear regression analysis to students and researchers across the social, behavioral, consumer, and health sciences. Coverage includes model construction and estimation, quantification and measurement of multivariate and partial associations, statistical control, group comparisons, moderation analysis, mediation and path analysis, and regression diagnostics, among other important topics. Engaging worked-through examples demonstrate each technique, accompanied by helpful advice and cautions. The use of SPSS, SAS, and STATA is emphasized, with an appendix on regression analysis using R. The companion website (www.afhayes.com) provides datasets for the book's examples as well as the RIM macro for SPSS and SAS. Pedagogical Features:
*Chapters include SPSS, SAS, or STATA code pertinent to the analyses described, with each distinctively formatted for easy identification.
*An appendix documents the RIM macro, which facilitates computations for estimating and probing interactions, dominance analysis, heteroscedasticity-consistent standard errors, and linear spline regression, among other analyses.
*Students are guided to practice what they learn in each chapter using datasets provided online.
*Addresses topics not usually covered, such as ways to measure a variable's importance, coding systems for representing categorical variables, causation, and myths about testing interaction.

Logistic Regression is designed for readers who have a background in statistics at least up to multiple linear regression, who want to analyze dichotomous, nominal, and ordinal dependent variables cross-sectionally and longitudinally.

Dive deeper into SPSS Statistics for more efficient, accurate, and sophisticated data analysis and visualization SPSS Statistics for Data Analysis and Visualization goesbeyond the basics of SPSS Statistics to show you advancedtechniques that exploit the full capabilities of SPSS. The authorexplain when and why to use each technique, and then walk youthrough the execution with a pragmatic, nuts and bolts example.Coverage includes extensive, in-depth discussion of advancedstatistical techniques, data visualization, predictive analytics, and SPSS programming, including automation and integration withother languages like R and Python. You'll learn the best methods topower through an analysis, with more efficient, elegant, andaccurate code. IBM SPSS Statistics is complex: true mastery requires a deepunderstanding of statistical theory, the user interface, andprogramming. Most users don't encounter all of the methods SPSSoffers, leaving many little-known modules undiscovered. This bookwalks you through tools you may have never noticed, and shows youhow they can be used to streamline your workflow and enable you toproduce more accurate results.

Conduct a more efficient and accurate analysis Display complex relationships and create bettervisualizations Model complex interactions and master predictive analytics Integrate R and Python with SPSS Statistics for more efficient,more powerful code These "hidden tools" can help you produce charts that simplywouldn't be possible any other way, and the support for otherprogramming languages gives you better options for solving complexproblems. If you're ready to take advantage of everything thispowerful software package has to offer, SPSS Statistics for DataAnalysis and Visualization is the expert-led training youneed.

An Introduction to Categorical Data Analysis

Tools, Concepts, and Asset Management Applications

Applied Logistic Regression

Data Analysis Using Stata

Regression Models for Categorical and Limited Dependent Variables

Best Practices and Modern Methods

It is often necessary for social scientists to study differences in groups, such as gender or race differences in attitudes, buying behavior, or socioeconomic characteristics. When the researcher seeks to estimate group differences through the use of independent variables that are qualitative, dummy variables allow the researcher to represent information about group membership in quantitative terms without imposing unrealistic measurement assumptions on the categorical variables. Beginning with the simplest model, Hardy probes the use of dummy variable regression in increasingly complex specifications, exploring issues such as: interaction, heteroscedasticity, multiple comparisons and significance testing, the use of effects or contrast coding, testing for curvilinearity, and estimating a piecewise linear regression.

Explanatory Model Analysis Explore, Explain and Examine Predictive Models is a set of methods and tools designed to build better predictive models and to monitor their behaviour in a changing environment. Today, the true bottleneck in predictive modelling is neither the lack of data, nor the lack of computational power, nor inadequate algorithms, nor the lack of flexible models. It is the lack of tools for model exploration (extraction of relationships learned by the model), model explanation (understanding the key factors influencing model decisions) and model examination (identification of model weaknesses and evaluation of model's performance). This book presents a collection of model agnostic methods that may be used for any black-box model together with real-world applications to classification and regression problems.

*Statistical Inference via Data Science: A ModernDive into R and the Tidyverse provides a pathway for learning about statistical inference using data science tools widely used in industry, academia, and government. It introduces the tidyverse suite of R packages, including the ggplot2 package for data visualization, and the dplyr package for data wrangling. After equipping readers with just enough of these data science tools to perform effective exploratory data analyses, the book covers traditional introductory statistics topics like confidence intervals, hypothesis testing, and multiple regression modeling, while focusing on visualization throughout"--

A unique point of this book is its low threshold, textually simple and at the same time full of self-assessment opportunities. Other unique points are the succinctness of the chapters with 3 to 6 pages, the presence of entire-commands-texts of the statistical methodologies reviewed and the fact that dull scientific texts imposing an unnecessary burden on busy and jaded professionals have been left out. For readers requesting more background, theoretical and mathematical information a note section with references is in each chapter. The first edition in 2010 was the first publication of a complete overview of SPSS methodologies for medical and health statistics. Well over 100,000 copies of various chapters were sold within the first year of publication. Reasons for a rewrite were four. First, many important contents from readers urged for a rewrite. Second, SPSS has produced many updates and upgrades, with relevant novel and improved methodologies. Third, the authors felt that the chapter texts needed some improvements for better readability: chapters have now been classified according the outcome data helpful for choosing your analysis rapidly, a schematic overview of data, and explanatory graphs have been added. Fourth, current data are increasingly complex and many important methods for analysis were missing in the first edition. For that latter purpose some more advanced methods seemed unavoidable, like hierarchical loglinear methods, gamma and Tweedie regressions and random intercept analyses. In order for the contents of the book to remain covered by the title, the authors renamed the book: SPSS for Starters and 2nd Levelers. Special care was, nonetheless, taken to keep things as simple as possible, simple menu commands are given. The arithmetic is still of a no-more-than high-school level. Step-by-step analyses of different statistical methodologies are given with the help of 60 SPSS data files available through the Internet. Because of the lack of time of this busy group of people, the authors have given every effort to produce a text as succinct as possible.

Concepts, Applications, and Implementation

Regression Modeling with Actuarial and Financial Applications

Regression and Mediation Analysis Using Mplus

Regression with Dummy Variables

Introductory Econometrics

From Introductory to Advanced Concepts and Applications

In a conversational tone, Regression & Linear Modeling provides conceptual, user-friendly coverage of the generalized linear model (GLM). Readers will become familiar with applications of ordinary least squares (OLS) regression, binary and multinomial logistic regression, ordinal regression, Poisson regression, and loglinear models. The author returns to certain themes throughout the text, such as testing assumptions, examining data quality, and, where appropriate, nonlinear and non-additive effects modeled within different types of linear models. Available with Perusall—an eBook that makes it easier to prepare for class Perusall is an award-winning eBook platform featuring social annotation tools that allow students and instructors to collaboratively mark up and discuss their SAGE textbook. Backed by research and supported by technological innovations developed at Harvard University, this process of learning through collaborative annotation keeps your students engaged and makes teaching easier and more effective. Learn more.

This book demonstrates how to estimate and interpret fixed-effects models in a variety of different modeling contexts: linear models, logistic models, Poisson models, Cox regression models, and structural equation models. Both advantages and disadvantages of fixed-effects models will be considered, along with detailed comparisons with random-effects models. Written at a level appropriate for anyone who has taken a year of statistics, the book is appropriate as a supplement for graduate courses in regression or linear regression as well as an aid to researchers who have repeated measures or cross-sectional data. Learn more about "The Little Green Book" - OASS Series! Click Here

"This entry-level text offers clear and concise guidelines on how to select, construct, interpret, and evaluate count data. Written for researchers with little or no background in advanced statistics, the book presents treatments of all major models using numerous tables, insets, and detailed modeling suggestions. It begins by demonstrating the fundamentals of linear regression and works up to an analysis of the Poisson and negative binomial models, and to the problem of overdispersion. Examples in Stata, R, and SAS code enable readers to adapt models for their own purposes, making the text an ideal resource for researchers working in public health, ecology, econometrics, transportation, and other related fields"--

*A valuable new edition of a standard reference The use of statistical methods for categorical data has increased dramatically, particularly for applications in the biomedical and social sciences. An Introduction to Categorical Data Analysis, Third Edition summarizes these methods and shows readers how to use them using software. Readers will find a unified generalized linear models approach that connects logistic regression and loglinear models for discrete data with normal regression for continuous data. Adding to the value in the new edition is:
• Illustrations of the use of R software to perform all the analyses in the book
• A new chapter on alternative methods for categorical data, including smoothing and regularization methods (such as the lasso), classification methods such as linear discriminant analysis and classification trees, and cluster analysis
• New sections in many chapters introducing the Bayesian approach for the methods of that chapter
• More than 70 analyses of data sets to illustrate application of the methods, and about 200 exercises, many containing other data sets
• An appendix showing how to use SAS, Stata, and SPSS, and an appendix with short solutions to most odd-numbered exercises Written in an applied, nontechnical style, this book illustrates the methods using a wide variety of real data, including medical clinical trials, environmental questions, drug use by teenagers, horseshoe crab mating, basketball shooting, correlates of happiness, and much more. An Introduction to Categorical Data Analysis, Third Edition is an invaluable tool for statisticians and biostatisticians as well as methodologists in the social and behavioral sciences, medicine and public health, marketing, education, and the biological and agricultural sciences.*

Applied Econometrics with R

What It Is and How To Do It

Regression Models for Categorical Dependent Variables Using Stata, Third Edition

Regression Models for Categorical, Count, and Related Variables

Generalized Linear Models for Categorical and Continuous Limited Dependent Variables

Regression Models for Categorical Dependent Variables Using Stata

This accessible textbook and supporting web site use Excel (R) to teach introductory econometrics.

Describes the mathematical and logical foundations at a level that does not presume advanced mathematical or statistical skills. It illustrates how to do factor analysis with several of the more popular packaged computer programs.

A ModernDive Into R and the Tidyverse

