The Stata Journal

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The *Stata Journal* publishes reviewed papers together with shorter notes or comments, regular columns, book reviews, and other material of interest to Stata users. Examples of the types of papers include 1) expository papers that link the use of Stata commands or programs to associated principles, such as those that will serve as tutorials for users first encountering a new field of statistics or a major new technique; 2) papers that go "beyond the Stata manual" in explaining key features or uses of Stata that are of interest to intermediate or advanced users of Stata; 3) papers that discuss new commands or Stata programs of interest either to a wide spectrum of users (e.g., in data management or graphics) or to some large segment of Stata users (e.g., in survey statistics, survival analysis, panel analysis, or limited dependent variable modeling); 4) papers analyzing the statistical properties of new or existing estimators and tests in Stata; 5) papers that could be of interest or usefulness to researchers, especially in fields that are of practical importance but are not often included in texts or other journals, such as the use of Stata in managing datasets, especially large datasets, with advice from hard-won experience; and 6) papers of interest to those who teach, including Stata with topics such as extended examples of techniques and interpretation of results, simulations of statistical concepts, and overviews of subject areas.

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The Stata Journal Editors' Prize 2015: Richard Williams

1 Prize announcement

The editors of the *Stata Journal* are delighted to announce the award of the Editors' Prize for 2015 to **Richard Williams**.

The aim of the prize is to reward contributions to the Stata community in respect of one or more outstanding papers published in the *Journal* in the previous three calendar years. For the original announcement of the prize and its precise terms of reference, see Newton and Cox (2012), which is accessible at the following website: http://www.stata-journal.com/sjpdf.html?articlenum=gn0052. The prize recognizes the outstanding article "Using the margins command to estimate and interpret adjusted predictions and marginal effects" (Williams 2012) and also a body of most valuable other work, including the outstanding articles "Generalized ordered logit/partial proportional odds models for ordinal dependent variables" (Williams 2006a) and "Fitting heterogeneous choice models with oglm" (Williams 2010). On October 12, 2015, Google Scholar reported a total of over 1,000 references to these three papers alone.

Richard Allen Williams was born in 1955 and grew up in Omaha, Nebraska. He received his bachelor's degree in political science from Creighton University in Omaha in 1977 and his master's degree and PhD in sociology from the University of Wisconsin–Madison in 1981 and in 1986, respectively.

Williams is now on the faculty and is a former Chairman of the Department of Sociology at the University of Notre Dame in Indiana, where he has taught and researched since 1986. His interests include methods and statistics, demography, and urban sociology. His more sociological work has appeared in the *American Sociological Review*, *Social Forces*, *Social Problems*, *Demography*, *Sociology of Education*, *Journal of Urban*

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Affairs, *Cityscape*, *Journal of Marriage and the Family*, and *Sociological Methods and Research*. His work on home mortgage lending in the United States has been funded by grants from the National Science Foundation and the Department of Housing and Urban Development.

Williams's more statistical work has focused mostly on issues involving the analysis of categorical data. He notes that assumptions of heterogeneity and proportionality are often violated in commonly used logit and ordered logit models. He discusses how heterogeneous choice models and generalized ordered logit models provide potential solutions to these problems. He is the author of the commands `gologit2` and `oglm`, which make the estimation of these models possible. In his work, he also shows how the use of adjusted predictions and marginal effects can be major aids in interpreting the results from categorical models. In more recent research, Paul Allison and Williams have begun collaborating on superior methods for the analysis of dynamic panel models. Williams has also been working on extending his techniques to the analysis of fractional response models.

He has long been a stalwart of the Stata user community—as the author of much downloaded programs, a frequent speaker at Stata conferences in the United States, a member of the organizing committee for the 2008, 2011, and 2016 Chicago meetings, and a very frequent contributor to Statalist (over 1,800 posts from April 2014 to October 2015 alone).

The 2012 article honored here (Williams 2012) is an excellent expository article, widely appreciated as a detailed guide to some highly versatile, but also highly complex, commands, namely, `margins` and `marginsplot`. As Williams explains, many researchers and journals emphasize the sign and statistical significance of effects but often less emphasize the substantive and practical significance of the findings. Yet results can often be made more tangible by computing predicted or expected values for hypothetical or prototypical cases. Stata 11 introduced new tools for making such calculations: factor variables and the `margins` command. These can do most of the things that were previously done by Stata's own `adjust` and `mfx` commands, and much more. Unfortunately, the complexity of the `margins` syntax, the daunting 50-page reference manual entry that describes it, and a lack of understanding about what `margins` offers over older commands that have been widely used for years may have dissuaded some researchers from examining how the command could benefit them.

The article therefore explains what adjusted predictions and marginal effects are and how they can contribute to the interpretation of results. Further, it explains why older commands, like `adjust` and `mfx`, can often produce incorrect results and how factor variables and the `margins` command can avoid these errors. The relative merits of different methods for setting representative values for variables in the model (marginal effects at the means, average marginal effects, and marginal effects at representative values) are considered. Last, but not least, Williams shows how the `marginsplot` command (introduced in Stata 12) provides a graphical and often much easier means for presenting and understanding the results from `margins` and explains why `margins` does not present marginal effects for interaction terms.

The 2010 article also honored here (Williams 2010) addresses a common and major problem in modeling a categorical response. When a binary or ordinal regression model incorrectly assumes that error variances are the same for all cases, the standard errors are wrong and (unlike the case in regression using ordinary least squares) the parameter estimates are biased. Heterogeneous choice models (also known as location-scale models or heteroskedastic ordered models) explicitly specify the determinants of heteroskedasticity to try to correct for it. Such models are also useful when the variance itself is of substantive interest. This article illustrates how the author's command `oglm` (for ordinal generalized linear models) can be used to fit heterogeneous choice and related models. It shows that two other models that have appeared in the literature (Allison's [1999] model for group comparisons and Hauser and Andrew's [2006] logistic response model with proportionality constraints) are special cases of a heterogeneous choice model and alternative parameterizations of it. Williams's article further argues that heterogeneous choice models may sometimes be an attractive alternative to other ordinal regression models, such as the generalized ordered logit model fit by `gologit2`. Finally, the article offers guidelines on how to interpret, test, and modify heterogeneous choice models.

Finally, the 2006 article also honored here is to date Williams's most cited publication (Williams 2006a). This article describes the `gologit2` program for generalized ordered logit models. `gologit2` is inspired by Vincent Fu's (1998) `gologit` routine and is backward compatible with it, but `gologit2` offers several additional powerful options. A major strength of `gologit2` is that it can fit three special cases of the generalized model: the proportional odds/parallel-lines model, the partial proportional odds model, and the logistic regression model. Hence, `gologit2` can fit models that are less restrictive than the parallel-lines models fit by the official Stata command `ologit` (whose assumptions are often violated) but more parsimonious and interpretable than those fit by a nonordinal method, such as multinomial logistic regression (that is, the official Stata command `mlogit`). Other key advantages of `gologit2` include support for linear constraints, survey data estimation, and the computation of estimated probabilities with the `predict` command.

In summary, we salute Richard Williams for outstanding contributions to the Stata community, especially through publications in the *Stata Journal*, based on exemplary clarity and care in exposition and on excellent programs in a key sector of statistical science greatly extending the functionality available to users.

As editors, we are indebted to the awardee for biographical material and to a necessarily anonymous nominator for a most helpful appreciation. We include below a full bibliography of Richard's publications in the *Stata Journal*.

H. Joseph Newton and Nicholas J. Cox
Editors, *Stata Journal*

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