GEAR: GNU Econometric Analysis with R*

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The GEAR project aims at providing a free, advanced and extensible set of standardized R packages for econometric analysis that can be used as: (i) a GUI (*i.e.* Graphical User Interface) program (when performing standard tasks) in the spirit of EViews (see `http://www.eviews.com`) and GiveWin/PcGive (see `http://www.oxmetrics.com`); (ii) a set of libraries oriented towards econometrics (for more advanced analysis) in the spirit of the routines availables in Gauss (see `http://www.aptech.com`) and Ox (see `http://www.doornik.com`).

GEAR is entirely written in R (except for computer-intensive tasks which are coded as DLL's). Obviously, R can already be used for econometrics (for a review, see Cribari-Neto and Zarkos, 1999, Racine and Hyndman, 2002, Farnsworth, 2006 and A. Zeileis' CRAN task view for computational econometrics). However, only a partial list of methods has already been implemented (moreover by independent authors so that many econometric methods are lacking whilst others are redundant). The GUI of GEAR is implemented using the `tcltk` package of P. Dalgaard and some well-known Tk extensions (especially BWidgets and TkTable) that can be found in the ActiveTcl bundle and are also available separately. Even if Tk is not the most modern and pleasant-looking available GUI tool, it allows GEAR to be a really cross-platform application that requires very little configuration on the part of the user. GEAR has been tested on several MS Windows and Linux/Unix versions and Mac OS X (both with X11 and Aqua).

GEAR is organized in a modular way. Each module (which in practice takes the form of an R package) is meant to correspond to a particular class of econometric models (*e.g.* linear regression, univariate time series, VAR, panel data, etc.) and is constructed around the same steps (*i.e.* model definition, model estimation, display of the output, diagnostic tests and graphics). This helps the user find his way through the model-elaboration strategy.

The main package `gear-main` has already been implemented. It features a tabbed output window, a calculator and a spreadsheet. The cross-section regression package `gear-crossreg` has already been written too. It features estimation, tests and graphical output. More packages (in particular advanced cointegration analysis) are under active development.

*Further information and screenshots are available from the authors.

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