coint2rec

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This package provides the three functions `coint2receig`, `coint2recbeta`, and `nyblom` for the statistical package Gretl. The first two functions perform recursive estimation of the eigenvalues and cointegration vectors of the Cointegrated Vector Autoregressive Model and the details of the procedures are in Hansen and Johansen (1999). The function `nyblom` simulates the asymptotic distribution of the test statistic for stability of the cointegration vectors.

The function `coint2eigrec` is similar to Gretl's `coint2` command and have as the first five arguments `order`, `ylist`, `xlist`, `rxlist` and `detspec`, which all behave as in `coint2` with one exception. The argument `detspec` specifies the deterministic components of the model and can either be `"nc"`, `"rc"` or `"crt"`. The theory is only derived for these three cases and hence the cases `"uc"` and `"ct"` are not available. The function `coint2recbeta` has arguments similar to Gretl's `vecm` because the test of beta constancy requires reduced rank. Both functions have a last arguments specifying the number of observations for the base sample to be estimated.

The sup-test statistics for eigenvalue and beta constancy tests are reported for both test functions. For `coint2receig` the log-odds of the eigenvalues and approximate confidence bounds are graphed and also a graph of the sup-test statistic over time is displayed. For `coint2recbeta` the sup-test statistic is graphed as a function of time.

The function `nyblom` takes four arguments: `p`, the number of endogenous variables in the model, `r`, the cointegration rank, `rxmat`, a matrix of restricted exogenous variables including restricted determistic terms, and `N`, the number of simulations.

References

Hansen, Henrik and Søren Johansen (1999). 'Some tests for parameter constancy in cointegrated VAR-models'. *Econometrics Journal* 2.2, p. 306.