

Documentation of programs and data for 'The Consumption-Income Ratio, Entrepreneurial Risk and the US Stock Market' (JMCB MS 10-056)

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Description

Unpack the zip-archive into a folder on your MATLAB path (eg. 'CPY'). By invoking the individual top level routines below, you can replicate the results in the paper. If you use the programs for your own research purposes, please cite the paper.

The description of files is structured into five categories:

1. Top level MATLAB routines that directly produce the output (tables and figures) in the paper
2. Main MATLAB programs that are called by the top level routines
3. Auxiliary MATLAB functions (such as a cointegration test or an OLS routine)
4. data files .
5. The README.txt file (this file), containing instructions.

1 Top level routines.

Tables1234.m

runs the programs and produces Tables 1-4 as output

Tables 567.m

runs the long-horizon regressions and produces Tables 5-7 as output

Tables910.m

runs the LH regressions with interaction terms for banking redelegation and participation and produces Tables 9 and 10 as well as Figure 6 as output.

Figures12345.m

Generates figures 1-5. Figure 6 is generated as a by-product of Tables910.m, see above.

Other Tables and Figures:

Figure A1 in the online technical appendix is generated by the script 'Bankruptcies.m'. Table 8 is generated directly by OoScpy.m. See below for instructions.

2 Main programs

CPYmain.m

is the main program that loads and prepares the data for c,p and y, identifies the cointegrating relation and runs the VECM.

LHBattery2.m

is the program that loads the various dp-ratios, excess returns and earnings and runs the LH regressions underlying the results in Tables 5-7.

CumDereg.m

is the program that loads the state-level deregulation and the participation data and runs the LH regressions with interaction terms in Tables 9-10.

Bootstrap_CPY.m

is the program that bootstraps the VECM estimation. This is only needed for the bootstrap confidence intervals of the variance decomposition in Table 4 (Table1234.m does not produce these by default). The 10% critical values of the simulated distribution of variance shares at horizons 1...h is stored in the 2xh array SortVD. After running Bootstrap_CPY.m, the command SortVD(:,hh) will issue the bootstrap confidence intervals at the horizons used e.g. for the Table 4.

GenerateValkanovCVs.m

This script generates the small sample critical values for the LH regressions in the paper (these are not generated by the Tables1234, Tables567 and Tables910 scripts above). For each LH regression at each of the horizons indicated by the

vector `hh`, the script prints a matrix of zeros and ones, indicating whether the respective coefficient is significant

OoScpy.m

This script generates the out of sample comparisons in Table 8. In the script's header, set the flag 'ReestimateCIVector' to 0 or 1 and set the Indicator 'Which-NonNestedTest' to 'DMW' or 'MDM' to generate the various results in the Table. (To get correct results, it is advisable to first 'clear' the workspace and re-run CPYmain on the sample period 1952:1-1980:4).

3 Auxiliary functions

adjrange.m a function that adjusts a time series for a given sample range to a desired subsample (`XploreRange`). The frequency can be quarterly (4), monthly (12) or annual (1). The sample and sub sample ranges are then defined as a matrix [subperiod in start year, start year; subperiod in end year, end year];

newols.m a function that runs an OLS regression and returns a structure with the regression parameters and residuals.

joh_proc.m an implementation of Johansen's procedure for the estimation of cointegration vectors. There is also a version **new_joh_proc.m** that returns a structure with the results but is otherwise identical. `joh_proc.m` makes use of the function **geigvec.m** that solves the generalized eigenvalue problem.

joh_test.m Johansen's trace and maximum Eigenvalue statistics.

RVECM.m estimates a restricted (i.e. fixed cointegrating vector) VECM by OLS

LHreg.m a function performing the long horizon regressions given data and the vector of horizons.

DieboldMarianoTest.m

This function performs the Diebold Mariano test. It is written by Semin Ibisevic and available from the MATLAB Central file exchange.¹

ModifiedDieboldMariano.m This function performs the Modified Diebold Mariano Test.

¹<http://www.mathworks.com/matlabcentral/fileexchange/33979-diebold-mariano-test-statistic>

Other functions

VAR / VECM functions There are several functions that convert between various representations of the VECM model: **VECM2VAR.m** transforms from a VECM to a VAR representation in levels. **Comp_mat.m** generates a companion form representation. **varsetup.m** generates the regressor matrix for a VAR.

Functions from Le Sage's econometrics toolbox: The programs also make use of and extend some auxiliary functions from John Le Sage's MATLAB econometrics Toolbox (available at spatialeconometrics.com). These are: **tsplot.m** (time series plot), **nwest.m** (newey west standard errors), **cal.m** (calendar structure for tsplot.m).

4 Data files

Data files are generally in *.xls-format but should be readable using the **xlsread** function in MATLAB even on systems that do not have MS Excel installed, since only the basic functionality of **xlsread** is made use of:

PropIncCPYDataUpdated.xls

contains the NIPA data on consumption and various forms of income as well as the PCE deflator and population data. The file also contains most of the financial price data as (stock prices, earnings, dividends etc) described in the data appendix.

FinancialAssetOwnershipByOwnerType.xls

contains the data on ownership of equity by pension funds used in the construction of the participation measure.

cay update: an updated version of cay is stored as ASCII text in the code of **MyUpdateLLData_Till_1Q2011.m**

State-level data

Banking Deregulation Data These are stored as ASCII in the code of **CumDereg.m**

ProprietaryIn1948Q12011Q1.xls and population19292007.xls contain respectively the state-level personal income data and population used in the generation of the plot of *cpy* vs. background risk in Figure 3.