

ADVANCED TIME-SERIES ECONOMETRICS (ECO3/4ATE)

ASSIGNMENT 3

SPECIAL NOTES

- i) This assignment contributes 35% to the total mark of this subject.
- ii) Due date: Friday 15 June 2012.
- iii) Write your report with a word processor. Present your paper on A4 paper, in one-sided format. Staple the sheets in the top left corner. You can hand in your paper in a plastic pocket, but no fancy binding, folder or plastic envelope, please. Make sure that you keep a copy of your paper.
- iv) All calculations have to be performed with *EViews*. Relevant *EViews* computer printouts must be inserted or attached to the paper. Key statistics in the printout should be highlighted. Notes may be neatly hand written onto the computer printout.
- v) Do not hand in your diskette or memory stick with your assignment. Later, however, you might be asked to present it in order to verify some details.
- vi) You are encouraged to discuss the case study with your fellow students. The final submission, however, must be your own work.

The data required for this assignment are saved in the *cs3e1.xls* Excel file. You can download it from the subject's website.

This assignment requires undertaking the following tasks:

Q1. (10 marks)

The *cs3e1* file contains annual Greek data from 1960 to 1995 on the following variables:

PriCon: private consumption at constant market prices of year 1970 (million drachmas);

PerDisInc: personal disposable income at constant market prices of year 1970 (million drachmas);

CPI: consumer price index (1970 = 1).

- a) Import this data set to *EViews*. Compute the inflation rate (*Inf*) as the first difference of the logarithm of *CPI*. Plot the levels and first differences of *PriCon*, *PerDisInc* and *Inf*, and briefly comment on the graphs.
- b) Perform various unit root tests on *PriCon*, *PerDisInc* and *Inf*. What do you conclude?

Q2. (10 marks)

- a) Perform the Engle-Granger test for cointegration on *PriCon* and *PerDisInc*. What do you conclude?
- b) If you concluded in part (a) above that the two variables are $CI(1,1)$, estimate the long-run equilibrium relationship between *PriCon* and *PerDisInc* by the DOLS and FMOLS methods. Briefly comment on the results.

Q3. (15 marks)

- a) Perform the Johansen cointegration tests on *PriCon*, *PerDisInc* and *Inf*. First use the *Summary* option of *EViews* and then the default option (Case 3). Briefly interpret the results.
- b) If you concluded in part (a) above that the three variables are $CI(1,1)$, estimate the long-run equilibrium relationship between them by Johansen's ML method. Briefly comment on the results.