

**Project Guidelines:**  
**Macroeconometrics**

**Degree: Licenciatura en Economía (7 credits)**  
**Second Term (2007/08 Academic Year)**

**Professor: Genaro Sucarrat (gsucarra@eco.uc3m.es)**

**Teaching Assistant: Vanessa Berenguer (vberengu@eco.uc3m.es)**

**Coordinator: Juan J. Dolado (dolado@eco.uc3m.es)**

### **A. General**

These guidelines describes the steps, content and evaluation criteria of the study project part of the Macroeconometrics exam. The project is obligatory and consists of undertaking an empirical study of quarterly household consumption of a certain country (not Spain), with the object of analysing the impact on household consumption of a decrease in the private income tax-level. The study should be summarised or reported in the form of an essay with an introduction, argument and a conclusion. Choose a country and make sure that the consumption series is sufficiently long (minimum 70 observations), and then notify the Teaching Assistant (Vanessa) about your chosen country so that students do not choose the same country. The essay can be written in Spanish or English, and a paper copy is to be handed in to the Teaching Assistant at the day of the exam (27 June 2008) at the latest. An electronic copy of the essay together with a copy of the file containing the untransformed data should be sent to the professor (Genaro) by email at the day of the exam at the latest. Also, if a program (see C.3.i below) that runs the data-transformations, estimates and test have been made, then this program should be submitted too. As a source of inspiration of how the “professionals” do it, you may have a look at [http://folk.uio.no/rnymoen/fincage\\_afterproofs.pdf](http://folk.uio.no/rnymoen/fincage_afterproofs.pdf) (in particular table 3 on page 23), which is going to be published in Journal of Population Economics in 2008.

### **B. Steps**

In brief the project consists of the following steps:

1. Choose a country and obtain quarterly series of household consumption and disposable household income, making sure that the series contain a minimum of  $T = 70$  observations. You may choose to obtain additional explanatory variables (for example wealth, real interest rates, population structure and so on), but this is not recommendable unless you are already a very good modeller!
2. Determine the order of integration of the variables, and if it makes sense undertake a cointegration analysis.
3. Formulate a general unrestricted model (GUM).
4. Simplify and test the economic hypotheses contained in the GUM by means of general-to-specific (GETS) specification search.
5. Undertake an analysis of the impact of a 10% increase in the level of disposable income on

the last 4 observations of your sample, that is, for  $T$ ,  $T-1$ ,  $T-2$  and  $T-3$ . The 10% increase in disposable income is the estimated effect of a decrease in the personal income tax. Use the statistical analyses to address the following two questions: (1) Will the tax decrease lead to an increase in household consumption? (If yes, by how much?)

### C. Content and Evaluation

The maximum number of points is 30 and the study is evaluated according to the following criteria:

1. *Essay* [1 point]. Whether the study is summarised/reported in the form of an essay containing a frontpage (with title, name and date), bibliography (if the essay contains references), and relevant tables and graphs. Typically an essay is divided into four parts (introduction, data description and theoretical motivation, empirical results, conclusions), but the most appropriate solution may depend on the study and the investigator's personal taste. As an example you may have a look at [http://www.eco.uc3m.es/sucarrat/macroeconometria/2008/proyecto\\_ejemplo.doc](http://www.eco.uc3m.es/sucarrat/macroeconometria/2008/proyecto_ejemplo.doc)
2. *Conciseness and clarity* [4 points]. Whether the essay is written in a concise and clear manner, and whether the essay does not exceed 10 pages (everything included).
3. *Content* [15 points]. Whether the study contains:
  - a) an introduction that contains a brief outline of the essay and a conclusion that summarises the main findings of the study [1 point]
  - b) an economic motivation for the explanatory variable(s) [1 point]
  - c) a description of the data, including their source(s) [1 point]
  - d) an analysis of the order of integration of the variables [2 points]
  - e) cointegration analysis, for example using the Engle-Granger methodology [2 points]
  - f) a general unrestricted single equation model (GUM) with residual and parameter stability diagnostics, possibly containing Equilibrium Correction Terms (EqCT) if the cointegration analysis suggests the existence of cointegration relations [2 points]
  - g) a parsimonious single equation model obtained through general-to-specific (GETS) modelling and hypothesis testing, together with associated residual and parameter stability diagnostics [3 points]
  - h) an analysis of the impact of a decrease in the personal income tax [2 points]
  - i) a program that runs the estimates and tests [1 point]
4. *Overall statistical and economic quality* [10 points]. Whether the data and statistical analysis is appropriate, whether the interpretations of the statistical results are adequate, and whether the economic interpretations, implications and conclusions are sensible and convincing.