

Advanced Econometrics: Homework

- Deadline: October 18, 2023 -

Warning! The writing is entirely part of the work required: it must be personal. Projects are analyzed by anti-plagiarism software. Please note that any evidence of plagiarism, or identical sentences in several projects, will result in a mark zero:

This homework should be done by groups of 3 individuals. You first need to register to one group on the AMETICE website.

Find some data and an econometric application. You can use a previously studied exercise in tutorials, or an application in a textbook. It must contain one dependent variable and more than 3 regressors.

1. In a first part, you will present the application, based on standard parametric econometric models: (1) explain what is your study about ; (2) which regression model is used ; (3) show estimation results ; and (4) make interpretation and draw conclusion.
2. In a second part, you will present the application in a similar way, but based on non-parametric econometric models. You may use Generalized Additive Models (GAM), based on kernel or spline methods.
3. In a last part, you will compare the results between the two approaches. In particular, you will explain if some nonlinearities were missed in the parametric approach and you will then try to find another parametric model that would be more appropriate.

You can use any statistical software. The homework can be written in English or in French. It must be saved in a Pdf file and uploaded with your datafile on the platform's course AMETICE before the deadline. Please give the following names to your files:

`homework-M2-groupname-report.pdf`

`homework-M2-groupname-data.txt`

where *groupname* is your group name, and *txt* is the appropriate extension of your data file format. Take care that I should be able to replicate all your results.

For any question, you can contact me by email, emmanuel.flachaire@univ-amu.fr.