Partial Exam 1. A. November 13th, 2014

Reply briefly and concisely all the questions. Once you have finished the exercise, rename the file as ex01bXXXX.doc, where XXXX is the corresponding NIA of each student. Then, send it to adeeconometrics@gmail.com, including ex01bXXXX (again substituting XXXX with the corresponding student NIA) in the subject.

The file pex02.wf1 includes information for a set of variables that cover the period 1970:1-2014:4. These variables are (all in logs):

PS = Public spending of the country (per capita)

GDP =Gross Domestic Product (per capita)

ir = interest rate

unempl = unemployment rate

tax = index that measures the fiscal pressure

1. Using the previous information, you should estimate a model with all the explanatory variables and answer the following questions:

1. Test for the single significance of the IR coefficient. (0.75 points)

|  |  |
| --- | --- |
| Null hypothesis  |  |
| Value of the statistic |  |
| Distribution followed by the statistic |  |
| Result of the test |  |

2. Test for the single significance of the GDP coefficient. (0.75 points)

|  |  |
| --- | --- |
| Null hypothesis  |  |
| Value of the statistic |  |
| Distribution followed by the statistic |  |
| Result of the test |  |

3. Test for the joint significance of the coefficients of all the explanatory variables. (0.75 points)

|  |  |
| --- | --- |
| Null hypothesis  |  |
| Value of the statistic |  |
| Distribution followed by the statistic |  |
| Result of the test |  |

4. Test whether the GDP coefficient is 1. (0.75 points)

|  |  |
| --- | --- |
| Null hypothesis  |  |
| Value of the statistic |  |
| Distribution followed by the statistic |  |
| Result of the test |  |

5. Which is the value of the coefficient of determination? Interpret it (0.5 points)

B. According to the previous information, you should estimate the best possible model

6. Copy the model you have finally selected (2 points)

7. Interpret this model in economic terms. (2.5 points)

C. Answer the following questions

 8. Argue about the veracity of this affirmation. “An unbiased estimator is always preferred to a biased estimator”. (1 point)

9. Argue about the veracity of this affirmation: “A consistent estimator can always be used instead of the true value of its corresponding parameter”. (1 point)