EEPS 502 /Econ 301 Lab Session # 2

Hakan Berument

Name:

ID:

Find a data file Bogazlar.xlsx. It contains data for various statistics on Istanbul Strait Ship traffic and oil prices.

Part A:

1. Create an EViews file and import the data set.

Assume that there is a linear relationship between real Ural oil prices and OPEC Production

*Ural/cpi = β1+β2 OPEC\_Production + u*

1. Run a regression of oil prices *(Ural/CPI)* on OPEC Production *(OPEC\_Production).* What is the estimated intercept? What is the estimated slope? Use the estimated regression to answer this question: How much do real Ural prices increase as OPEC Production increases by one unit (one million barrel)?
2. How can you interpret the estimated coefficient for OPEC Production?
3. Does OPEC Production account for a large fraction of the variance in real Ural prices? Explain.
4. If OPEC Production is 10 (Million Barrel). Predict Real Ural Prices using the estimated regression.
5. If OPEC Production is 15 (Million Barrel). Predict Real Ural Prices using the estimated regression.

Assume that there is a double log-linear relationship between real Ural oil prices and OPEC Production

*Log(Ural/cpi) = β1+β2 log(OPEC\_Production) + u*

1. How can you interpret the estimated coefficient for OPEC Production?

**Let’s assume that the above equation is right**

1. Is the estimated regression slope coefficient statistically significant? That is, can you reject the null hypothesis *Ho:β2* = 0 versus a two-sided alternative at the 10%,5%, or 1% significance level? What is the *p*-value associated with coefficient's t-statistic?
2. What is the test statistics for *Ho:β2* = -4.0 versus *Ha: not Ho* What can you conclude at the 10%,5%, or 1% significance level?
3. Construct a 95% confidence interval for the slope coefficient.
4. Assume the model as

*Log(Ural/cpi) = β1+β2 (OPEC\_Production) + u*

Then, what is the interpretation of *β2*?

1. Assume the model as

*(Ural/cpi) = β1+β2 log (OPEC\_Production) + u*

Then, what is the interpretation of *β2*?

Consider the following equation to be estimated

*Log(Ural/cpi) = β1+β2 log(OPEC\_Production) + β3 log(Tanker) + β4 log(ships) + u*

1. What is the interpretatation of β3?
2. What is the interpretatation of β4?
3. Test the null hypothesis (Ho) β3 = β4 = 0 verus Ha: Not Ho
   1. What is the test statistics?
   2. What do you conclude?
4. Test the null hypothesis (Ho) β3 = -1 and β4 = 1 verus Ha: Not Ho
   1. What is the test statistics?
   2. What do you conclude?
5. Test the null hypothesis (Ho) β3 +β4 = 0 verus Ha: Not Ho
   1. What is the test statistics?
   2. What do you conclude?
6. Test the null hypothesis (Ho) β3 +β4 = -0.5 verus Ha: Not Ho
   1. What is the test statistics?
   2. What do you conclude?
7. Test the null hypothesis (Ho) 2β3 +3β4 = -0.5 verus Ha: Not Ho
   1. What is the test statistics?
   2. What do you conclude?

Do send the word file to [berument@bilkent.edu.tr](mailto:berument@bilkent.edu.tr) at the end of lecture.