ECN 215: first regression exercise

For this exercise we'll use the Verbeek data file `housing.gdt`. Maybe you remember how I told you to install the Verbeek datafile collection, but if not you can download the file from

`http://ricardo.ecn.wfu.edu/~cottrell/ecn215/housing.gdt`

(*Tip*: if you just click on a gretl data file your browser might want to show you its content rather then letting you download it. In that case right-click on the file and select Save. It might help to visit the directory which contains the file:

`http://ricardo.ecn.wfu.edu/~cottrell/ecn215/`

After downloading it, open the file in gretl[1] and estimate via OLS a model which has `price` as the dependent variable and all the other series as independent ("regressors"). Then answer the following:

1. What is the predicted effect on price of having central air conditioning?
2. Draw up an approximate 95 percent confidence interval for this effect.
3. Select `price` in the gretl main window, and from the `Add` menu choose "Logs of selected variables". This will create the log of price under the name `l_price`.
4. Estimate a second model via OLS, with the same regressors as before but the log of price as the dependent variable. Can you interpret the coefficient on `airco` in this model? (Remember, the change in the log of a variable approximately equals the percentage change in the variable itself.) We'll talk about this model in class.
5. Back to the model with plain `price` as dependent variable. Do you find the coefficient on `bedrooms` surprising? If so, why? To investigate a little, run a regression with price as dependent but only `const` and `bedrooms` on the right hand side. Can you make any sense of the difference this makes to the estimate of the `bedrooms` effect?

Please use the "Command log" (under `Tools`) to make and save a script that does all the estimation called for above. We'll extend this script on Monday.

[1] You can do this under `File/Open data`. If you downloaded the file from the link above you need to keep track of where your browser put it, so you can find it in gretl's File Open dialog. You can also drag-and-drop files onto gretl.