Computer Homework 2

This homework is concerned with application of F-tests in linear regression models. Use the data in the *Stata* data file mls.dta to estimate the following model.

 $\ln(sp) = \alpha + \beta \ln(age) + \delta \ln(lot) + \theta \ln(sqft) + \gamma \ln(mfi) + \rho [\ln(mfi) \cdot \ln(trav)] + \tau \ln(trav) + \eta fin + \lambda gar + \varepsilon$

The observational subscript has been omitted to simplify notation. Conduct all tests at the 5 percent level. Clearly state the null and alternative hypotheses in each question.

- 1. Test the significance of the regression.
- 2. Use an F test to determine if the estimate of $\delta + \theta$ is significantly different than one?
- 3. Use an F test to jointly test for the exclusion of ln(*age*), *fin*, and *gar*.
- 4. Test for the pooling of the vacant (*vac*=1) and occupied (*vac*=0) samples.

Stata Tip

The **global** command my be used to construct a short-hand notation for long strings of regressor names. For example, assuming that an L prefix assigned to a variable name denotes the natural log transformation, the following *Stata* commands could be used to estimate the model at the top of the page.

global var1 "lage llot lsqft lmfi" global var2 "fin vac ltrav" reg sp \$var1 \$var2

Note the locations of the double quotes and the dollar sign. This command is particularly useful when you wish to estimate several different models using the same block of regressors.