Homework Set #5

Due: Tuesday, March 8th by 5pm.

Do the following in Kmenta: 5-2, 5-3, 5-4, 5-8.

Question 1 (Do this one on your own.) Gender and Senate judiciary nominees. Make sure to state your hypotheses clearly and indicate your significance levels in advance.

1. Test whether female nominees for the judiciary are more or less likely to be rejected than male nominees. In 1997-1998, 167 out of 1094 male nominees and 34 out of 225 were not confirmed. Report the p-value of your test. (Use the combined estimate of the variance).

2. Test whether Senate action takes longer for female nominees. In 1997-1998 the average time between nomination and final action was 96 days for men ($s_M = 91$) and 123 days for women ($s_W = 118$). Perform your test for the separate and the pooled variance estimates and report the p-values for each test statistic.

Question 2 (Computer) I have prepared some data for you to do some t-tests with. It’s on the website and gives the number of interest groups registered lobby in a state in 1975, 1980 and 1990. I want you to use the ttest command in Stata (or you can select three types from the menus: Statistics > Parametric > t-test type) to test the following hypotheses. Make sure to set up your null and alternate hypotheses correctly, set a significance level and report the results of your test.

1. The number of interest groups in a state is equal to 425.

2. The number of interest groups does not increase over time. (you can do this a few ways, try this: ttest total if year==1975 | year==1980, by(year) to test whether the 1975 mean is the same as the 1980 mean. Do the same for 1980 and 1990 and 1975 and 1990.

3. Test whether the number of citizen groups is the same as the number of economic groups. There are two ways to this. First use the unpaired option, then try the paired difference between the results.

4. Test whether the number of interest groups in initiative states is the same as the number in non-initiative states. Note that you can not use the paired option for this test, but you can use the by(init) option. Repeat this test for the two subpopulations.