

**ECO 341, Fall 2017, Required Homework Assignment #4**  
**Due at 11 AM on November 9**

Construct a panel dataset with at least 100 observations and where  $N$  and  $T$  both equal at least 5.

1. Describe the basic economic question that you will answer with this dataset.
2. Report descriptive statistics.
3. Explain how you know that the variables in your specification are stationary.
4. Pick the best fixed effects specification and report results. Explain how you settled on your preferred types of fixed effects (*e.g.* time, cross-sectional, group).
5. Run hypothesis tests to determine if your specification from #3 is superior to pooled OLS.
6. Report results from a random effects specification.
7. Run a Hausman test to determine if random or fixed effects are preferable.