

Assigned: Mar 2, 2016  
Due: March 13, 2016

## Midterm Project Part 2

This is the second half of your midterm project and requires that you use Stata commands that you have already learned (e.g., `tsset`, `rank`, `label`, `export excel`) to automate the creation of reports in Excel using **putexcel**. You will also use your knowledge of Stata thus far (e.g., `xtset`, `xtreg`, `encode`, `reshape`) to estimate a model and determine if you should be using OLS, Random Effects, or Fixed Effects.

### Part 2A

1. Your assignment is to replicate your assigned summary file using the dataset *long\_nyfed.dta*
  - a. This is an annual report that takes 10-year change information
    - Be sure to use a loop, `tsset` (hint: `delta`)
  - b. The information contained in each Excel worksheet is:
    - Table:
      - 10-year percent change information for: population, auto, credit card, mortgage, student loan, total, auto delinquency, credit card delinquency, mortgage delinquency, student loan delinquency (You must match everything including the number format)
      - Rank of 10-year % change in descending delinquency (i.e., highest delinquency rate state = 1, smallest delinquency rate state = last)
      - Include top 10 states by this rank
      - Current year of report (note: the Excel worksheet should be labeled with the year, too)
      - State information
    - Pie graph:
      - For the state with the highest 10-year change in delinquent student loan rate. Include the make-up of debt balances 10 years ago and the current year.
        - Emphasize the student loan balance portion (hint: `explode(5)`)
    - Map:
      - Use `state_db` and `state_coord` to make a map of the 10-year change in delinquent loans for all states.
        - Small detail: For the legend I multiplied the percent change in student delinquency to get a better looking graphic. That is 0.0104 turned to 1.04. Do that as well for your map.
  - c. Run your program to get 2014 and 2015 reports. It should match exactly with your assigned excel file.
  - d. If I gave you a different year to analyze, your do file should be able to create a worksheet tab with information for it.
  - e. Include your full name in a text box with the same text I have regarding academic dishonesty and cheating.
    - This is done by using `putexcel` and merging multiple cells together.
  - f. Include the time and date you ran your file (hint: `c(return)` and `date()`) Must match same font and number format

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### Part 2B

1. Bring in the *crime.dta* and *income\_state.dta* datasets and combine it with the *long\_nyfed.dta*.
2. Estimate the following models for the dependent variable: *studentloan\_delinq*. The independent variables are: *inc*, *propertycrimetotal*, *studentloan*
  - a. Run OLS, Random Effects, and Fixed Effects models and be sure to include the following tests in the correct order such that you end up with the best type of model for your panel data. (That may mean (not) using robust standard errors, if so explain why (not)).
    - `xttest0` (Breush-Pagan)
    - `xttest3` (Wald Test)
    - `hausman` (Hausman Test)

To submit:

- Your code. (I should be able to run your `do` file to get the same exact excel file you submit to me. If your resulting excel file does not match the Excel file you turned in, you will lose points. Do not do anything to manually change your Excel file.)
- Your log file (especially for part 2B)
- Your final excel file
  - Font colors, fonts, borders, graphics, should match. See details below:

Name	Files to Replicate	Colors used
Bilal, Chris, Dan	Summary_BCD.xlsx	<ul style="list-style-type: none"><li>• Pie: red green blue orange</li><li>• Map: Blues</li><li>• Excel colors: lightgreen, red, darkgreen, white</li></ul>
Jessica, Jugal	Summary_J.xlsx	<ul style="list-style-type: none"><li>▪ Pie: red green blue orange</li><li>▪ Map: BuRd</li><li>▪ Excel colors: lightskyblue, red, white, blue, lightgray</li></ul>
Martin, Susan	Summary_MS.xlsx	<ul style="list-style-type: none"><li>▪ Pie: pink green eltblue orange</li><li>▪ Map: Greens</li><li>▪ Excel colors: darkblue, red, lightgray, white, lightgray</li></ul>