

### ECN 207, fourth data exercise

[As before, refer back to <http://users.wfu.edu/cottrell/ecn207/data-ex1.pdf> for technical details if needed.]

Please write up a short document including the graphs that are called for and your comments.

In gretl, open the fedstl database and import the series fyfsd and gdpa. These represent, respectively, the Federal budget surplus (+) or deficit (-) and nominal GDP.

Create a time-series plot of fyfsd. How scary do the recent deficits look?

Now form a series that gives the Federal budget surplus/deficit as a percentage of GDP. Note that the budget number is in millions of dollars while GDP is in billions, so the formula should look like this:

$$\text{budgetpc} = 100 * \text{fyfsd} / (\text{gdpa} * 1000)$$

Do a time-series plot of the new variable. Does it look as scary as the first plot?

Right-click on the graph to get the plot editor and add NBER recession bars. What do you notice about the relationship between the Federal budget balance and recessions? Insofar as there's a pattern, can you see any noteworthy exceptions to it?