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Fall 2002, Intermediate Macroeconomics, section 3

ECON 219 Data problem

General recommendations:

- Read questions thoroughly and answer each.
- Work individually.
- There is one page.
- Document your work.
- It is due September 26, 2002, in class. No late entries!

The goal of this problem is to establish whether the fact that prices are countercyclical is robust across US states. Each student works on a different state. Your assigned state is communicated to you through email.

1. Find data for the gross state product (GSP), real and nominal. Compute the implicit deflator. Note that a good place to find such data is the Economagic website, <http://www.economagic.com/>. UConn has a site licence valid if you connect to it from a campus computer. Most likely, you will only find annual series.
2. Compute the rate of change of GSP and its deflator. Why do you do this?
3. Draw a scatter plot for the two series just computed. What do you conclude?
4. Draw a line diagram with the two series. Any more conclusions you can draw?
5. Compute the correlation between the two series. How does this compare to the correlation for the US, as seen in class? How could you explain the difference, if any, or the lack thereof?

The formula for the correlation of two series y_t and x_t :

$$\text{Corr}(x_t, y_t) = \frac{1}{n} \frac{\sum_{t=1}^n (x_t - \bar{x})(y_t - \bar{y})}{\sigma_x \sigma_y},$$

where n is the number of observations, \bar{x} is the average of x_t , and σ_x is the standard deviation of x_t :

$$\sigma_x = \frac{1}{n} \sqrt{\sum_{t=1}^n (x_t - \bar{x})^2}.$$