Econometrics II
Panel Data III
May 2019

Data

We will use a panel on log hourly wages and other variables for 595 individuals over the seven years 1976–1982 (mus08psidextract.dta; Cameron & Trivedi, 2010). We are interested in the following model:

$$\ln wage_{it} = \gamma_1 \ln wage_{it-1} + \gamma_2 \ln wage_{it-2} + \beta_1 wks_{it} + \beta_2 wks_{it-1} + \beta_3 ms_{it} + \beta_4 union_{it} + +\beta_5 occ_{it} + \beta_6 south_{it} + \beta_7 smsa_{it} + \beta_8 ind_{it} + \alpha_i + \varepsilon_{it}$$

Questions

1. Provide description and summary statistics of the data.

2. We want to show how individuals' wages change over time. Create a time-series plot of `lwage` for first 20 individuals in the sample.

3. Can we use FE estimator to estimate our model? Explain.

4. Using appropriate estimator, estimate AR(2) model for `lnwage` with no other regressors. List instruments that were used in the estimation.

5. Restrict the number of instruments: use only one, two or three lags as instruments. Observe how results change.

6. Fit a model with additional regressors.

7. Are errors serially uncorrelated?

8. Are instruments valid?