Spatial Econometrics Lab Exercises

Essex Summer School 2024

Day 08

Task 1

Let's first continue with the US states education spending data used in the tutorial session.

1. Create a temporally lagged spatial lag (TLSL) of the dependent variable;
2. Estimate the TLSL model (pure space recursive model) with state fixed-effects;
3. Update 2 by adding year fixed-effects – do the updated results make sense to you?

Task 2

Data: `2-1_AFDC_1981_1990_completeT.csv`; $\mathbf{W}$: `1-2_W_CONUS.csv`. *Pay extra attention to the ordering.*

1. Estimate the STAR model with state fixed effects (the time-lagged dependent variable is already there with no missing value at $t = 1$ – hence the data file name "`completeT`"):
   `ben95` $\sim$ `ben95t1 + rskpovpc + wage95 + instcoad + ipcfold + teitrend + match`
2. Calculate the long-run steady-state indirect effect of `wage95` with 95% confidence interval.