Shift-Share Designs: Theory and Inference

Matlab Codes

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1) Data. It contains the datasets used to generate all results in the paper.

a) endog_var_cz_all.mat. Dataset with all variables in the replication package of Autor, Dorn, and Hanson (2013).

b) data_input_empADH.mat: Stacked vector of sector-level employment shares in each US CZ in 1980, 1990, and 2000. We constructed variables using the codes in the replication package of Autor, Dorn, and Hanson (2013) (available in David Dorn's website). We use as primary data source the county-level data of the County Business Patterns downloaded from https://www.icpsr.umich.edu/icpsrweb/.

c) data_Bartik.mat: Data for application in Section 7.2. We construct sector-level employment in each US CZ in 1990, 2000, and 2010. We then construct the following variables: (i) 10-year percent growth in employment in each sector-CZ pair (variable changeYYYY for years YYYY and YYYY+10); (iii) the initial sector-level employment share for each CZ (variable share_emp_manuf_indYYYY for year YYYY); and the initial share of each CZ in the national sector-level employment (variable share_emp_sectorYYYY for year YYYY). We constructed variables using the codes in the replication package of Autor, Dorn, and Hanson (2013) (available in David Dorn's website). We use as primary data source the county-level data of the County Business Patterns downloaded from https://www.icpsr.umich.edu/icpsrweb/.

2) Functions. It contains all the auxiliary functions used to produce the results in the paper. Every code has a description of the inputs and outputs of the function.

a) OLS

1. SEusual.m: Compute confidence intervals under homoscedasticity
2. SErobust.m: Compute EWH heteroscedasticity-robust confidence intervals
3. SEcluster.m: Compute cluster-robust confidence intervals
4. SEakm.m: Compute AKM confidence intervals for shift-share specifications
5. SEakm0.m: Compute AKM0 confidence intervals for shift-share specifications
6. SEakmM.m: Compute AKM confidence intervals for shift-share specifications (leave-one-out)
7. SEakmM0.m: Compute AKM0 confidence intervals for shift-share specifications (leave-one-out)

b) IV

1. SEIVusual.m: Compute confidence intervals under homoscedasticity
2. SEIVrobust.m: Compute EWH heteroscedasticity-robust confidence intervals
3. SEIVcluster.m: Compute cluster-robust confidence intervals
4. SEIVakm.m: Compute AKM confidence intervals for shift-share specifications
5. SEIVakm0.m: Compute AKM0 confidence intervals for shift-share specifications

6. SEIVakmM.m: Compute AKM confidence intervals for shift-share specifications (leave-one-out)
7. SEIVakmM0.m: Compute AKM0 confidence intervals for shift-share specifications (leave-one-out)

c) licols.m: Compute linearly independent columns of matrix

3) Table 1_2. Replication code for simulations in Tables 1 and 2.

a) simulation_tab1_2.m: simulation code for Tables 1 and 2

b) simul_placebo_baseline_tab1.mat: simulation output for Tables 1 and 2.

4) Table 3. Replication code for simulations in Table 3.

a) simulation_tab3XX.m: simulation code for panel XX of Table 3.

b) simul_placebo_baseline_tab3XX.mat: simulation output for panel XX of Table 3.

5) Table 4. Replication code for simulations in Table 4.

a) simulation_tab4XX.m: simulation code for panel XX of Table 4.

b) simul_placebo_baseline_tab4XX.mat: simulation output for panel XX of Table 4.

6) Table 5. Replication code for estimates in Table 5.

a) estimation_ADH_Table5.m: estimation code for Table 5.

b) ADHapplicationIV.mat: estimation output for Table 5.

6) Table 6. Replication code for estimates in Table 6.

a) estimation_laborsup_ADH.m: estimation code for Panel C of Table 6.

b) LaborSupIV_6C.mat: estimation output for Panel C of Table 6.

c) estimation_laborsup_Bartik.m: estimation code for Panels A/B of Table 6.

d) LaborSupIV_6AB.mat: estimation output for Panel A/B of Table 6.