Homework 8

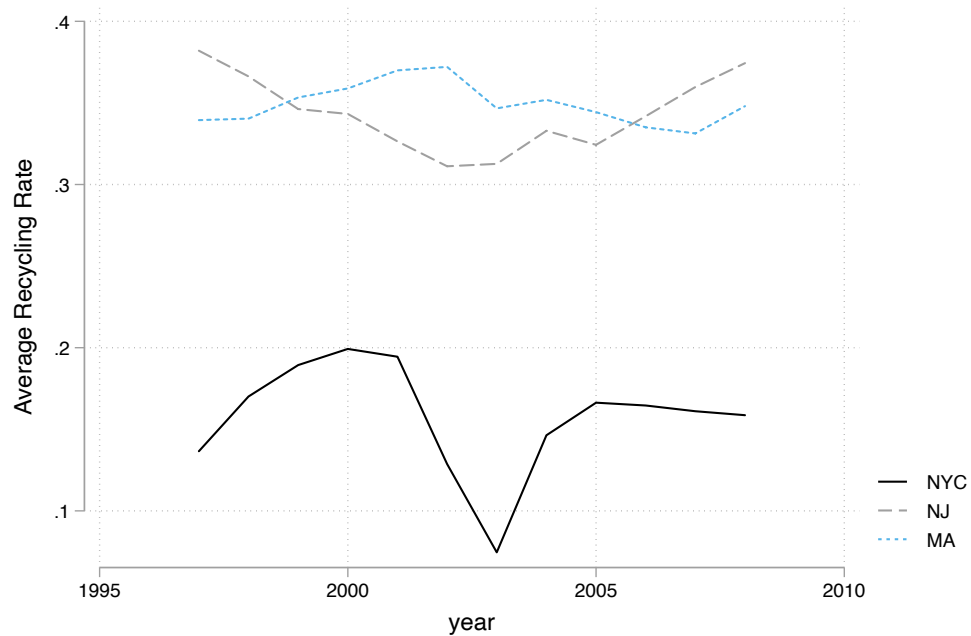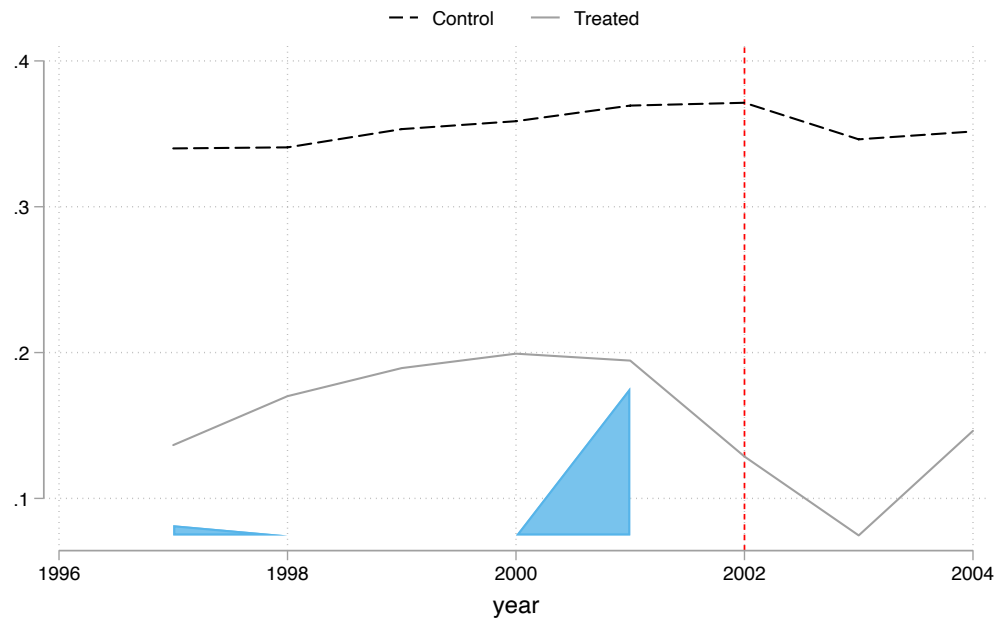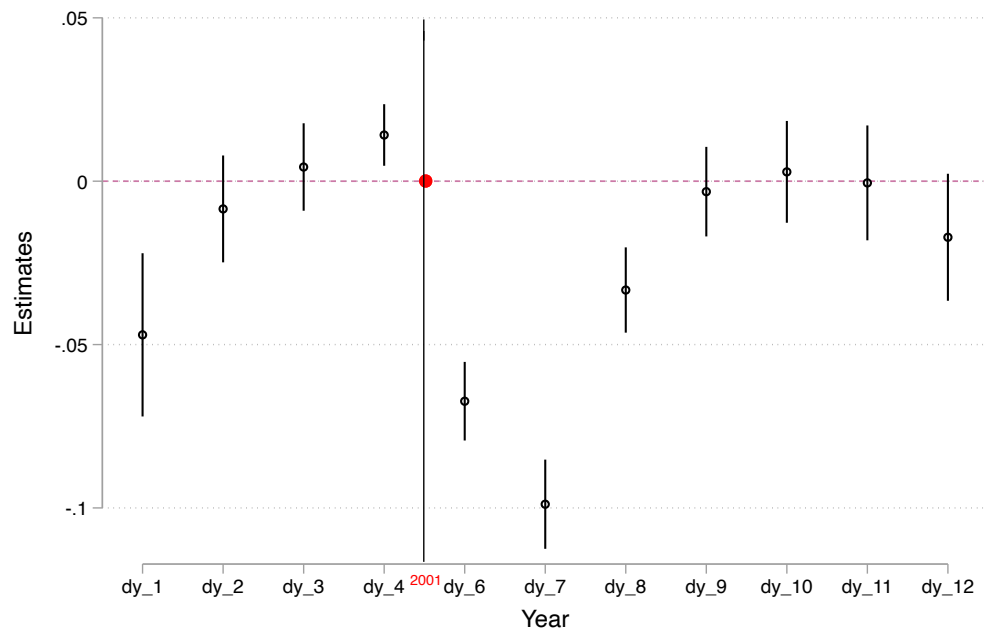## Lin Yang

April 27, 2023

1 Stata

1. A yearly plot of the recycling rate for NYC and controls.
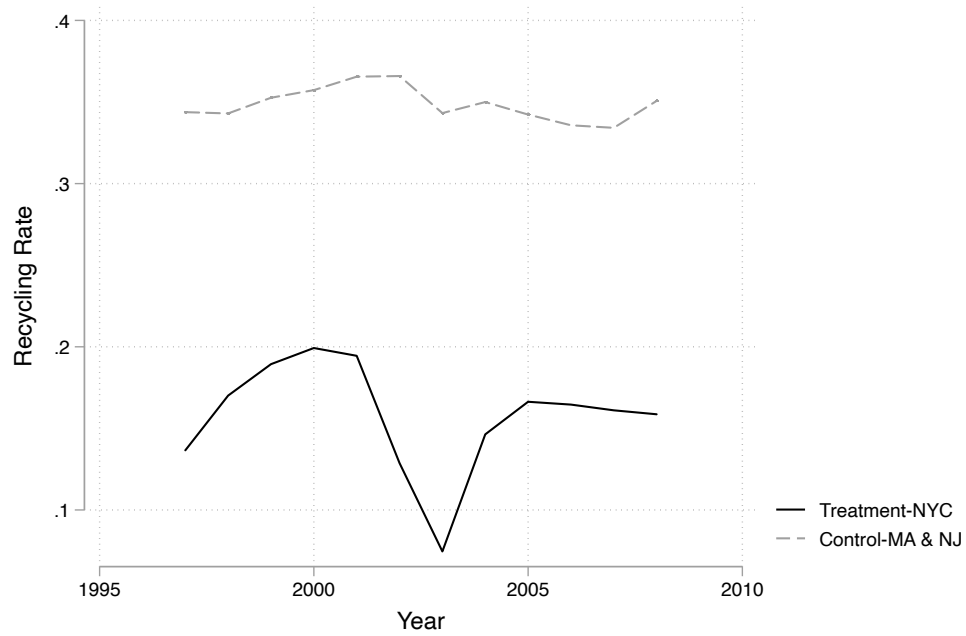

2. By using the TWFE regression, the average treatment effect estimate is -0.0619874 and the standard error is 0.0058239.

3. By using synthetic DID, the average treatment effect estimate is -0.06310 and the standard error is 0.03776. The synthetic DID plot is listed below.
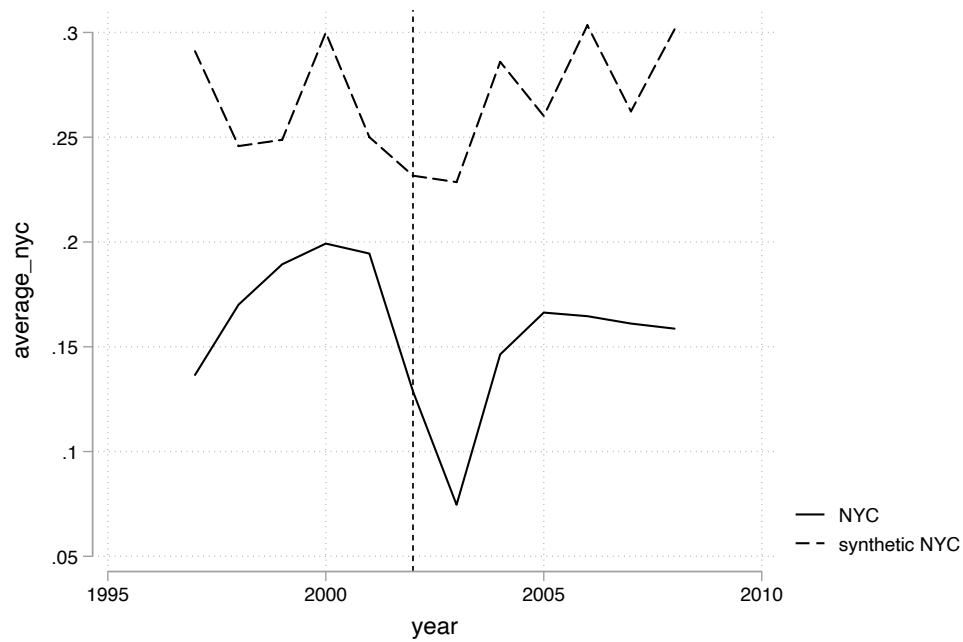
4. Compared to the year 2001, the average recycling rate decreased by 0.0661686 in year 2002 with standard error of 0.0073971. The event study plot is listed below.
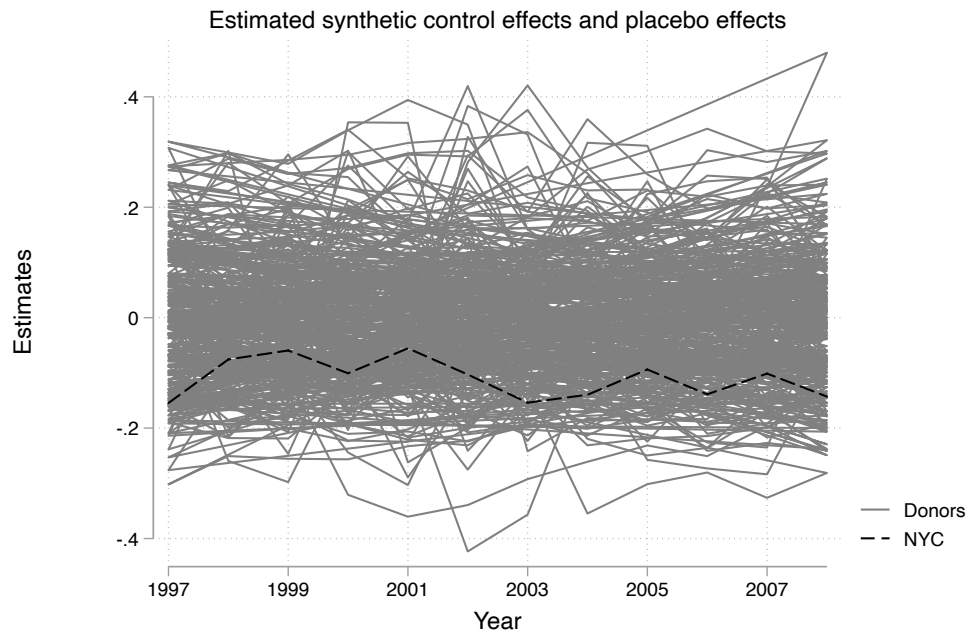

5. (a) The plot of raw outcomes for treated and control groups over time is listed below.

(b) The plot of raw outcomes for treated group and synthetic group over time is listed below.

(c) The plot of estimated synthetic control effects and placebo effects over time is listed below.

Estimated synthetic control effects and placebo effects

(d) The plot of final synthetic control estimates over time is listed below.