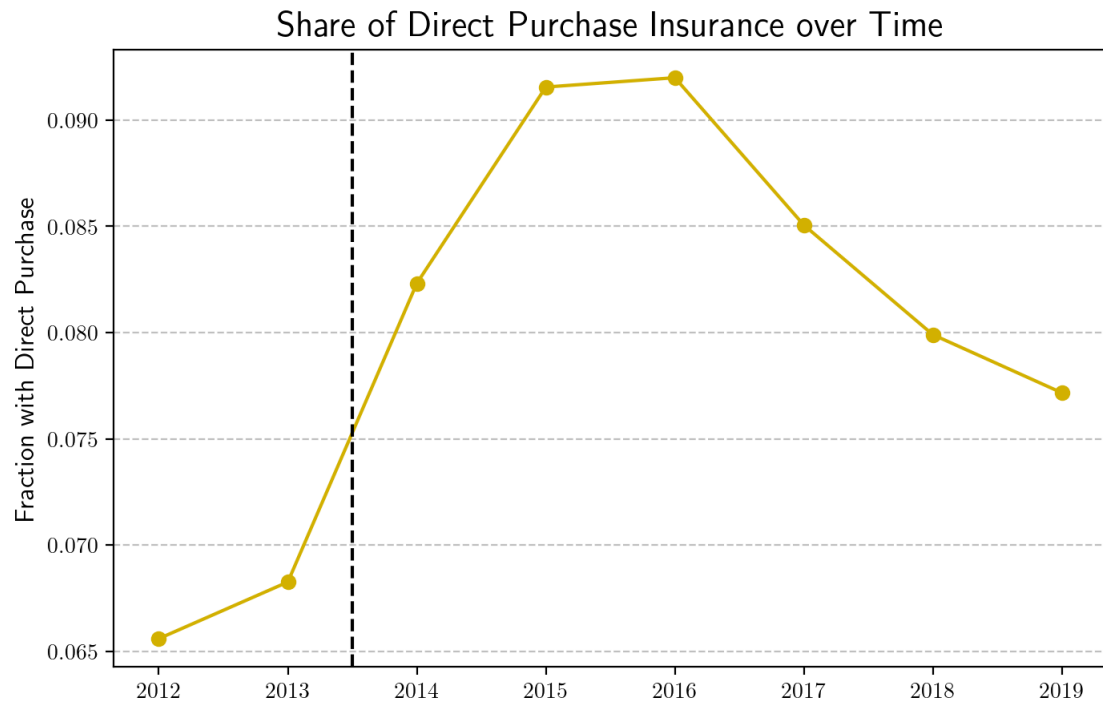# Homework 5

April 15, 2025

Research Methods, Spring 2025
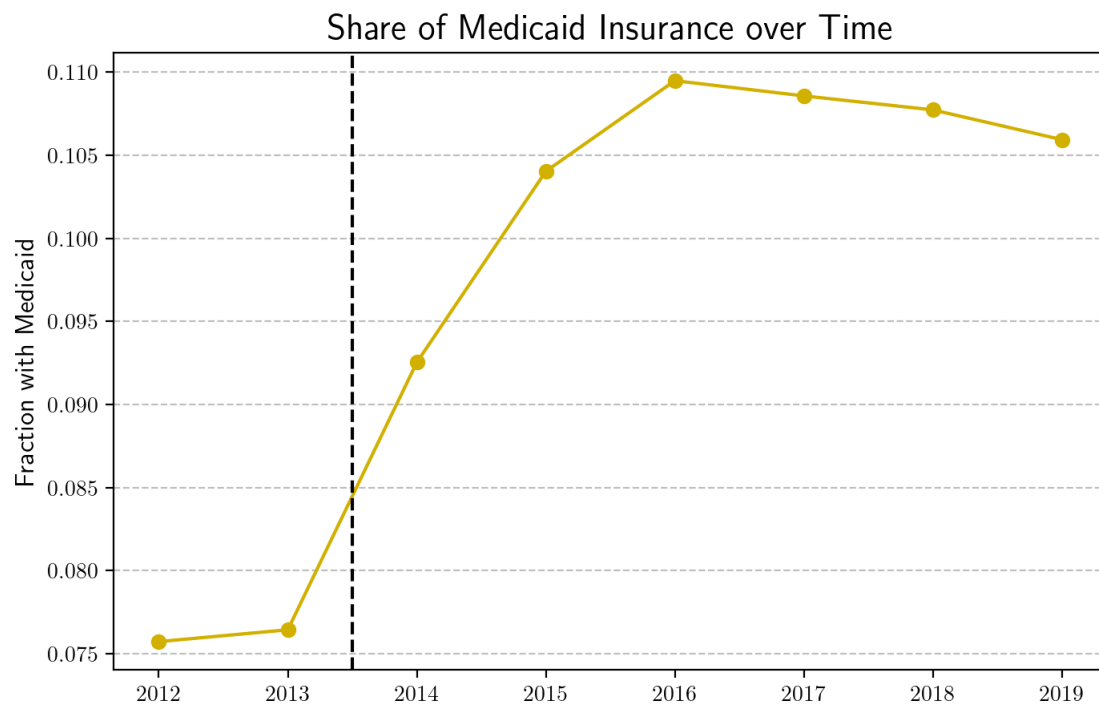
Author: Pablo Estrada

The answers to the homework questions using `Python` are described below. Note that I follow closely the analysis from professor McCarthy and his `R` script. My analysis file is also available in the analysis folder.

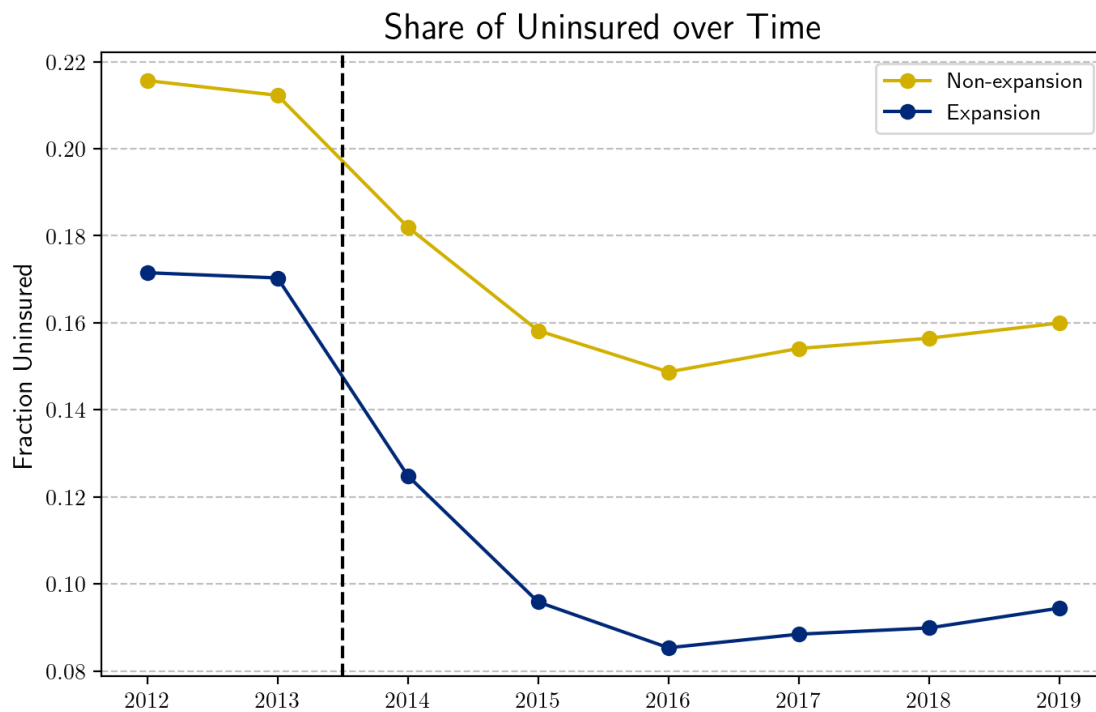**1. Plot the share of the adult population with direct purchase health insurance over time.**

Share of Direct Purchase Insurance over Time

3. Plot the share of the adult population with Medicaid over time.

Share of Medicaid Insurance over Time

4. Plot the share of uninsured over time, separately by states that expanded Medicaid in 2014 versus those that did not.

Drop all states that expanded after 2014.

Share of Uninsured over Time

5. Calculate the average percent of uninsured individuals in 2012 and 2015, separately for expansion and non-expansion states.

Present your results in a basic 2x2 DD table.

Group	Pre	Post
Non-expansion	0.216	0.158
Expansion	0.172	0.096

6. Estimate the effect of Medicaid expansion on the uninsurance rate using a standard DD regression estimator, again focusing only on states that expanded in 2014 versus those that never expanded.

	Standard DD
Post 2014	-0.054*** (0.008)
Expand	-0.043*** (0.009)
Post x Expand	-0.020* (0.010)
Num. Obs.	344
R2	0.508

7. Include state and year fixed effects in your estimates.

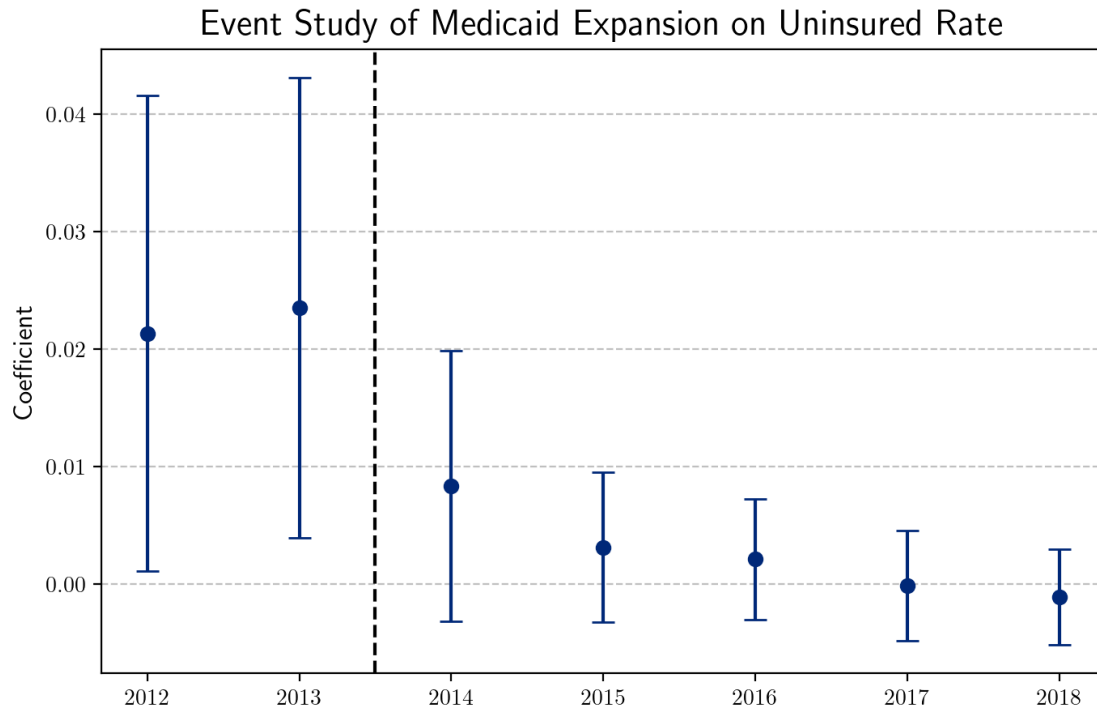|	Standard DD	TWFE
Post 2014	-0.054*** (0.008)	
Expand	-0.043*** (0.009)	
Post x Expand	-0.020* (0.010)	-0.020** (0.007)
Num. Obs.	344	344
R2	0.508	0.952

8. Repeat the analysis in question 7 but include all states (even those that expanded after 2014).

Are your results different? If so, why?

	Standard DD	TWFE	Time-varying Treatment
Post 2014	-0.054*** (0.008)		
Expand	-0.043*** (0.009)		
Post x Expand	-0.020* (0.010)	-0.020** (0.007)	-0.023*** (0.005)
Num. Obs.	344	344	400
R2	0.508	0.952	0.950

9. Provide an "event study" graph showing the effects of Medicaid expansion in each year. Use the specification that includes state and year fixed effects, limited to states that expanded in 2014 or never expanded.

Event Study of Medicaid Expansion on Uninsured Rate

10. Repeat part 9 but again include states that expanded after 2014.

Event Study of Medicaid Expansion on Uninsured Rate (Time-Varying)