ECON 470 Homework 5-3

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The link to my repository: https://github.com/ellenwu-git/homework5

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

**Average Share of Adults with Direct Purchase Insurance (2012–2019)**
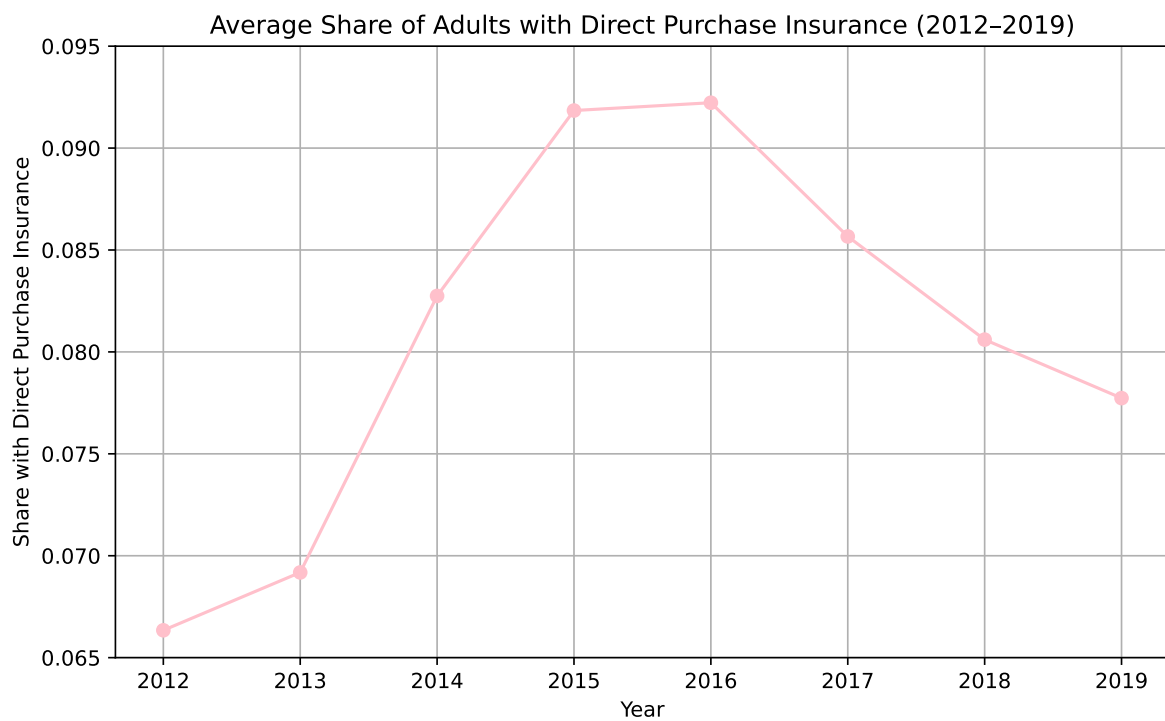
2. Discuss the reduction in direct purchase health insurance in later years. Can you list a couple of policies that might have affected the success of the direct purchase insurance market?

In later years, the share of adults with direct-purchase health insurance declined after peaking during the initial rollout of the ACA exchanges. Two major policy changes likely contributed to this drop. First, the repeal of the individual mandate penalty in 2019 reduced the incentive for healthy individuals to purchase insurance, weakening risk pools. Second, the termination of cost-sharing reduction payments in 2017 led insurers to raise premiums, making plans less affordable for many. These shifts undermined the stability of the individual market and reduced participation.

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

Average Share of Adults with Medicaid Coverage (2012–2018)
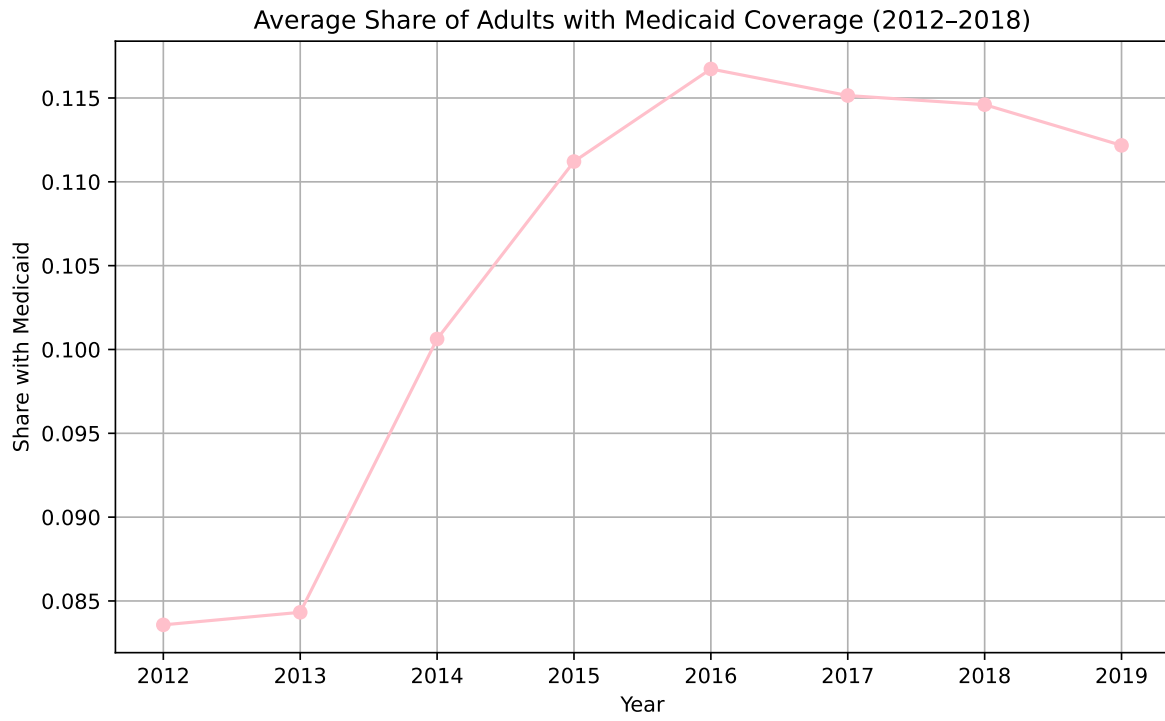
4. Plot the share of uninsured over time, separately by states that expanded Medicaid in 2014 versus those that did not. Drop all states that expanded after 2014.

Uninsured Rate Over Time by Medicaid Expansion Status
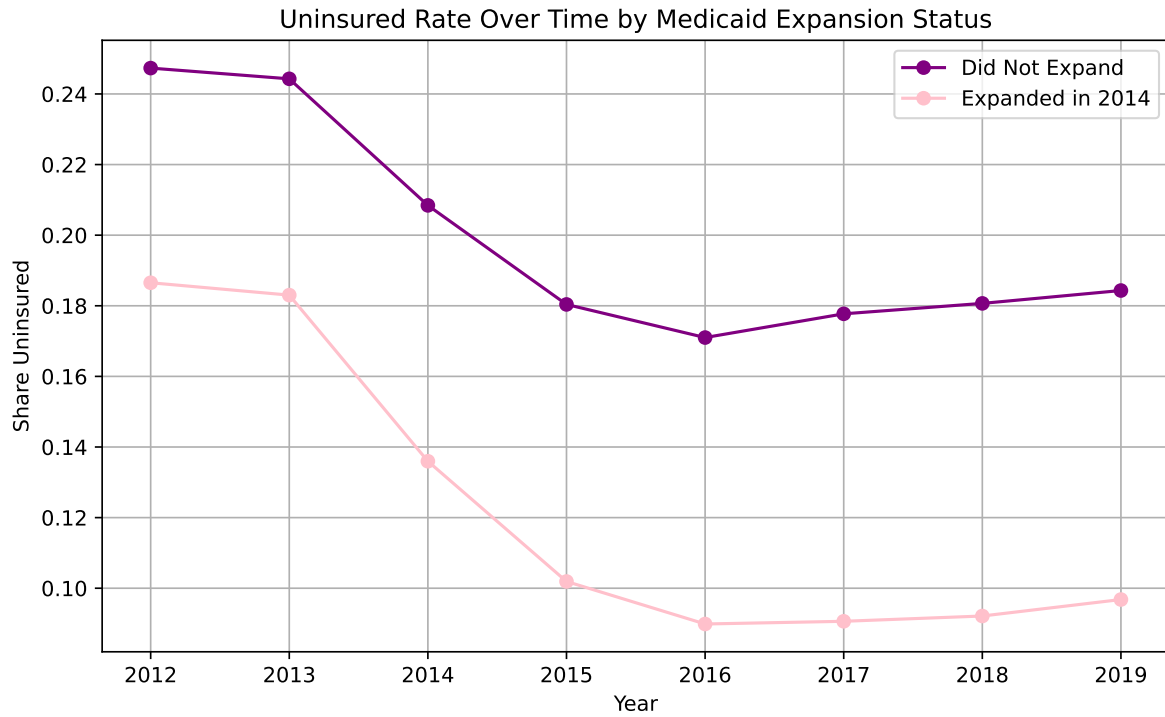
5. Calculate the average percent of uninsured individuals in 2012 and 2015, separately for expansion and non-expansion states. Present your results in a basic 2x2 DD table.

Group	Pre	Post
Non-expansion	0.216	0.158
Expansion	0.168	0.094

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	-0.046*** (0.009)
Post x Expand	-0.019* (0.010)
Num. Obs.	352
R2	0.506

7. Include state and year fixed effects in your estimates. Try using the lfe or fixest package to estimate this instead of directly including the fixed effects.

|	TWFE
Post 2014	-0.045*** (0.003)
Expand	-0.035*** (0.006)
Post x Expand	-0.022*** (0.004)
Num. Obs.	360
R2	0.947

8. Repeat the analysis in question 7 but include all states (even those that expanded after 2014). Are your results different? If so, why?

	Time-varying Treatment
Time-varying Treat	-0.024*** (0.003)
Num. Obs.	416
R2	0.946

Yes, the results differ slightly. In question 7, the estimate is based only on states that expanded in 2014, isolating a cleaner treatment effect with Post $\times$ Expand = -0.022. In question 8, by including all expansion states (even those that expanded later), the analysis uses a time-varying treatment and yields an estimate of -0.024. This difference arises because the second model averages treatment effects across states and years, introducing more heterogeneity and potentially weaker assumptions about parallel trends.

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 with Common Treatment Time
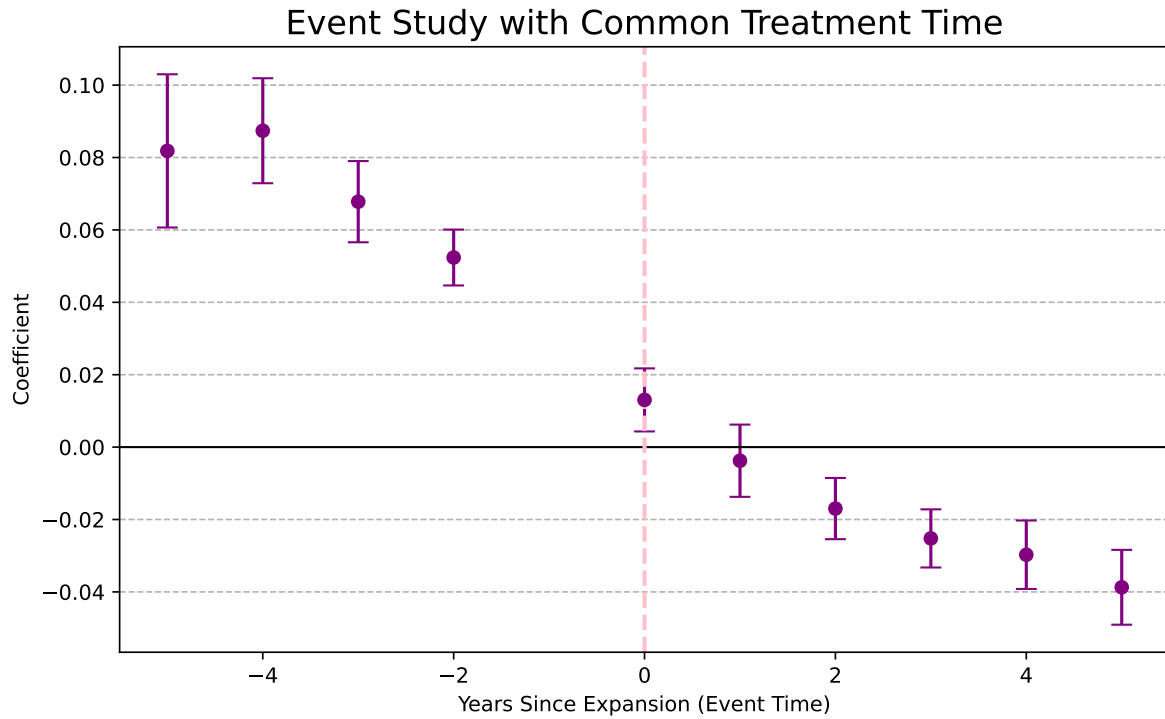
10. Repeat part 9 but again include states that expanded after 2014. Note: this is tricky...you need to put all states onto "event time" to create this graph.

Event Study with Staggered Treatment