Homework 5

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Here is the link to my GitHub Repository: https://github.com/kpollard8/Homework5

Here are my answers for Homework 5. I do the coding in a separate `R` script, but here is the cleaned-up version. I run the analysis separately, save the workspace with only the summary stats, figures, and tables that I need, and then load the workspace in the final qmd. My analysis file with answers and code to all the questions is available in the analysis folder.

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

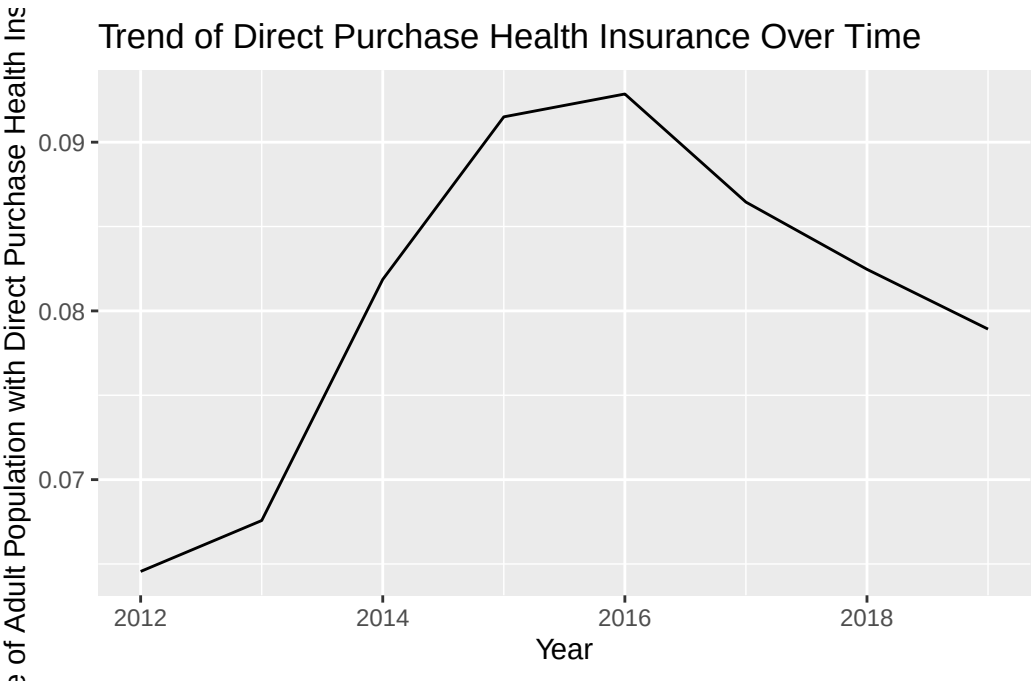

Figure 1: Question 1 Graph

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?

After 2016, it seems that direct purchase health insurance declined. The policy changes deal with the attempt to restrict the Affordable Care Act (ACA) in 2017 under the Trump administration. Enrollment in exchange plans dropped from 2016 to 2017 and continued to decline after. Two policies that the Trump administration has implemented are: denying funding to navigators and for marketing and not enforcing the failure to pay the individual mandate.

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

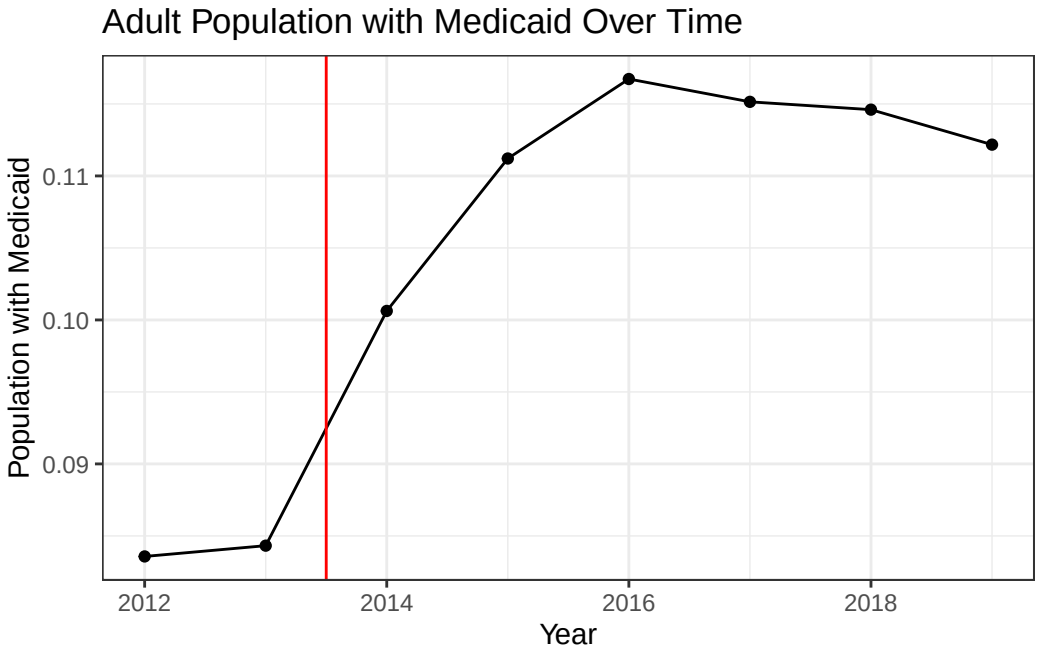

Figure 2: Question 3 Graph

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.

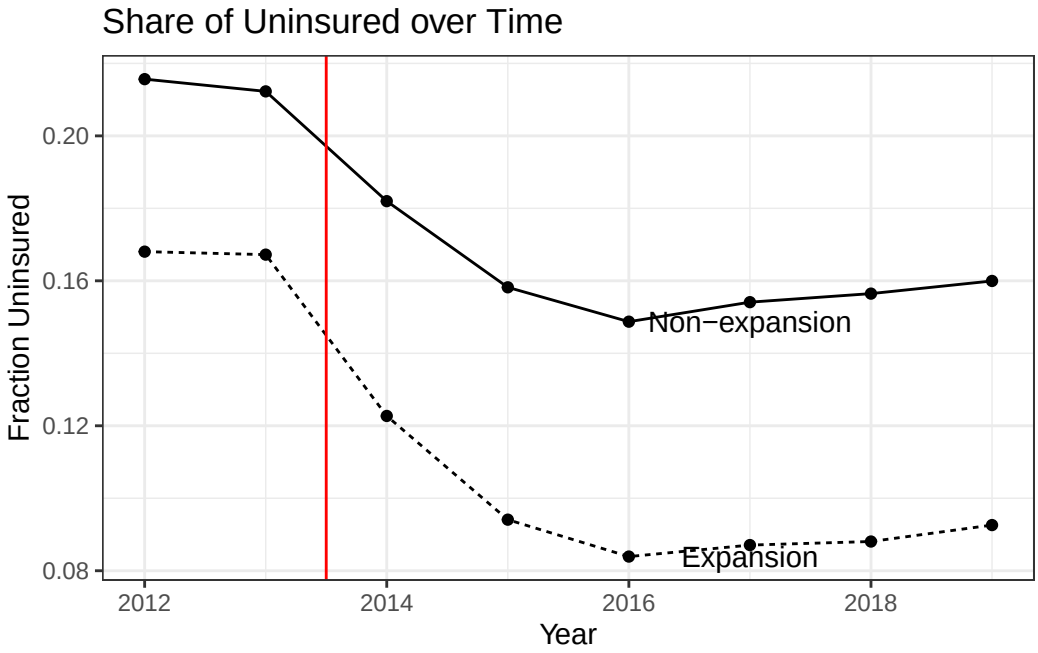

Figure 3: Question 4 Graph

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.

Table 1: Average Percent Uninsured in 2012 and 2015 for Expansion vs Non-Expansion

Group	Pre	Post
Non-expansion	0.22	0.16
Expansion	0.18	0.11

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.

Table 2: Effect of Medicaid Expansion on Uninsurance

	(1)
(Intercept)	0.214
	(0.007)
postTRUE	−0.054
	(0.008)
expand_everTRUE	−0.046
	(0.009)
postTRUE × expand_everTRUE	−0.019
	(0.010)
Num.Obs.	352
R2	0.506
RMSE	0.04

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.

Here is the table for number 7. The results are identical to the standard DD estimate:

Table 3: Effect of Medicaid Expansion on Uninsurance with State and Year FE

	DID	TWFE
(Intercept)	0.214	
	(0.007)	
postTRUE	−0.054	
	(0.008)	
expand_everTRUE	−0.046	
	(0.009)	
treat	−0.019	−0.019
	(0.010)	(0.007)
Num.Obs.	352	352
R2	0.506	0.952
R2 Within		0.089
RMSE	0.04	0.01
Std.Errors		by: State

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

Here is my table for question 8:

Table 4: Effect of

	DID	TWFE	Time-varying Treatment
(Intercept)	0.214		
	(0.007)		
postTRUE	−0.054		
	(0.008)		
expand_everTRUE	−0.046		
	(0.009)		
treat	−0.019	−0.019	−0.024
	(0.010)	(0.007)	(0.006)
Num.Obs.	352	352	416
R2	0.506	0.952	0.946
R2 Within		0.089	0.156
RMSE	0.04	0.01	0.01
Std.Errors		by: State	by: State

The results are similar to when we did just states that expanded in 2014 versus those that never expanded. Including states that expanded after 2014 may have led to a slight difference of the time-varying treatment which means the estimated effect of state expansion including the time variation aspect on the outcome variable.

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.

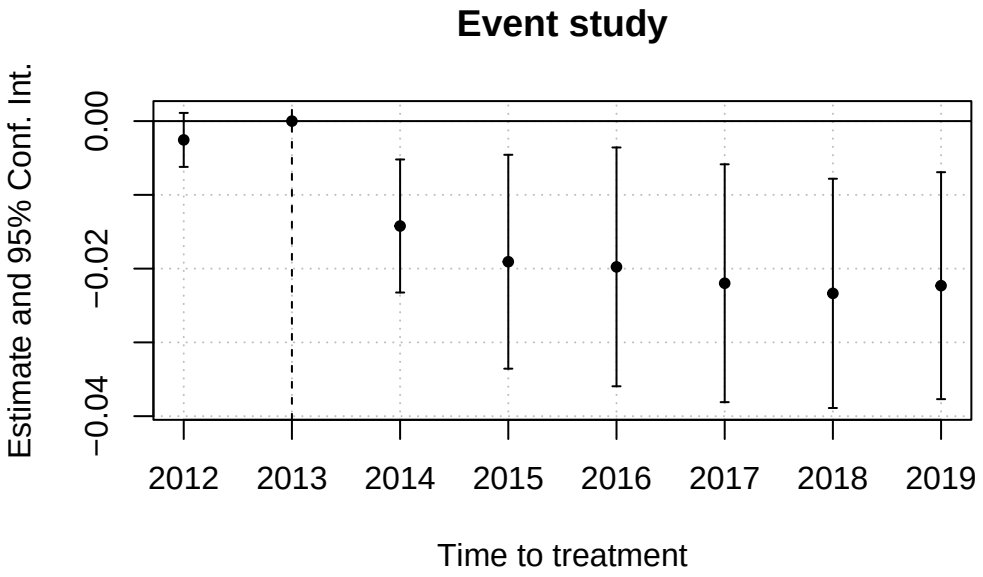

Figure 4: Question 9 Graph

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.

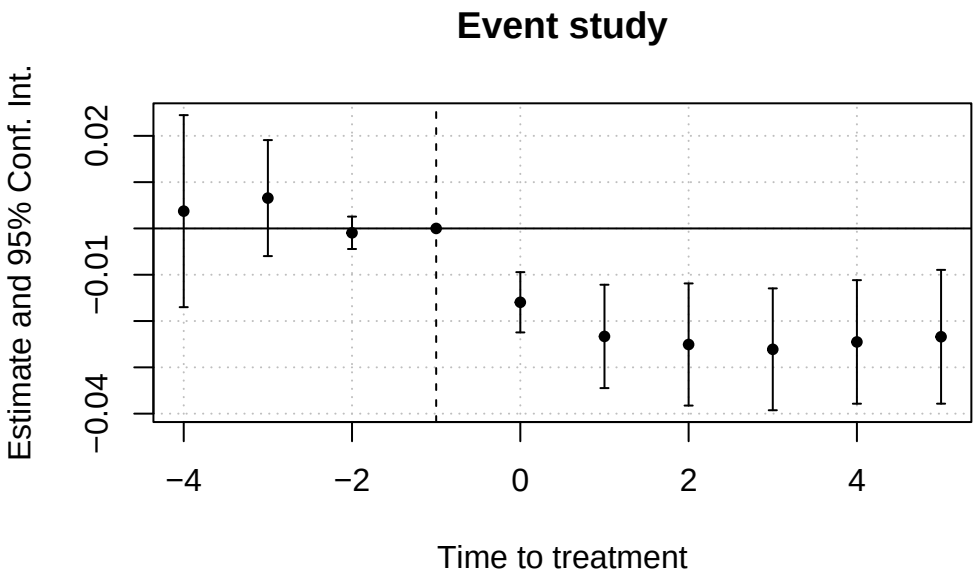

Figure 5: Question 10 Graph