Homework 5

ECON 470, Spring 2025

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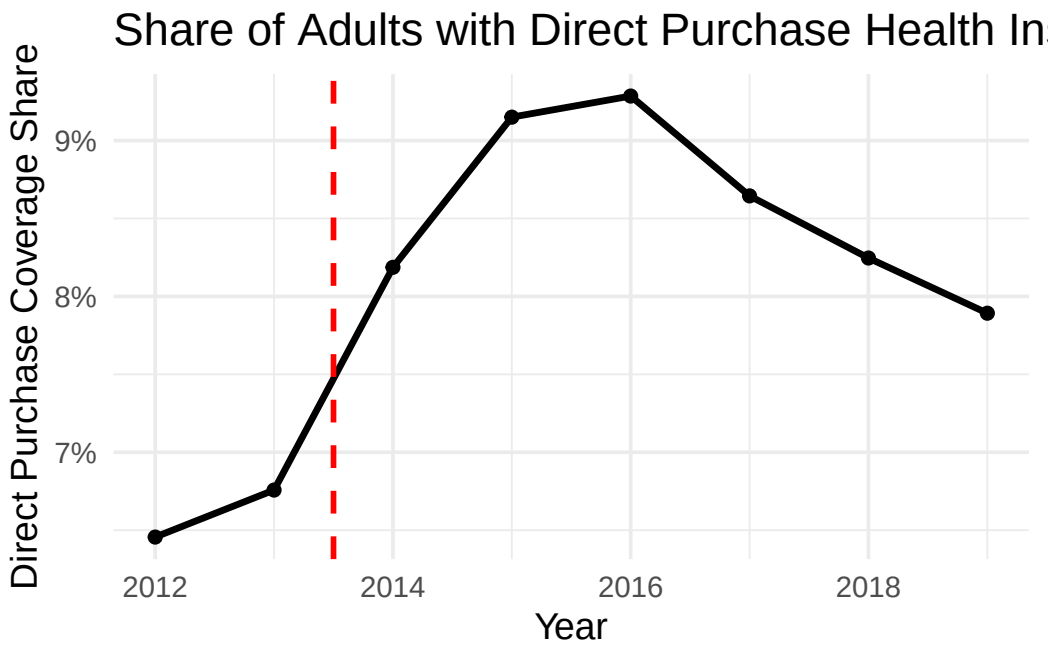
Here is a link to my repository: {https://github.com/bemur3/hwk5}

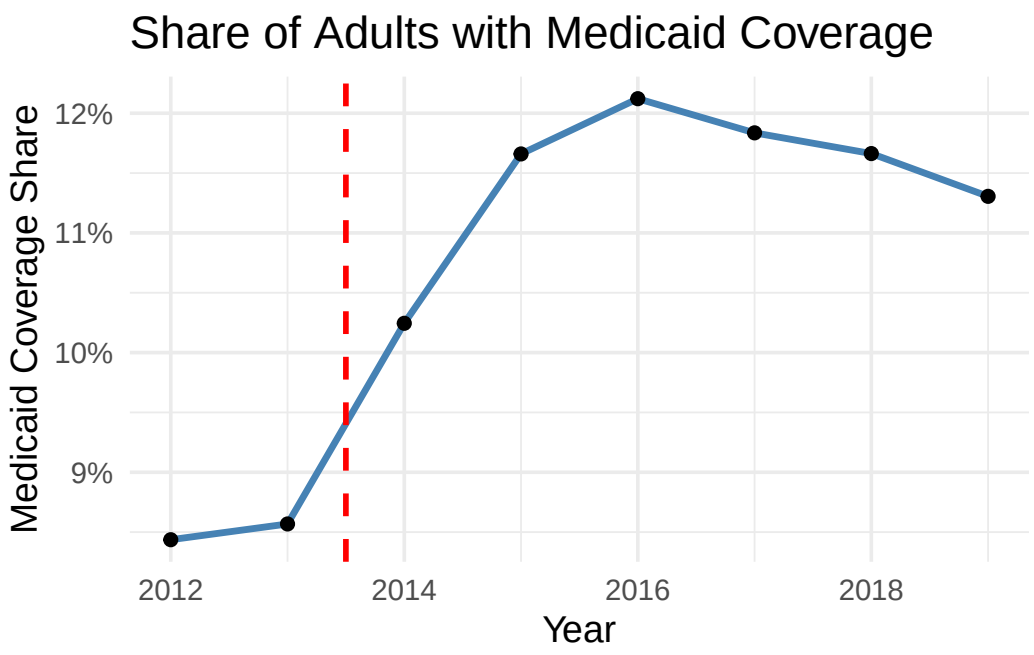
1. Plot the share of the adult population with direct purchase health insurance over time.



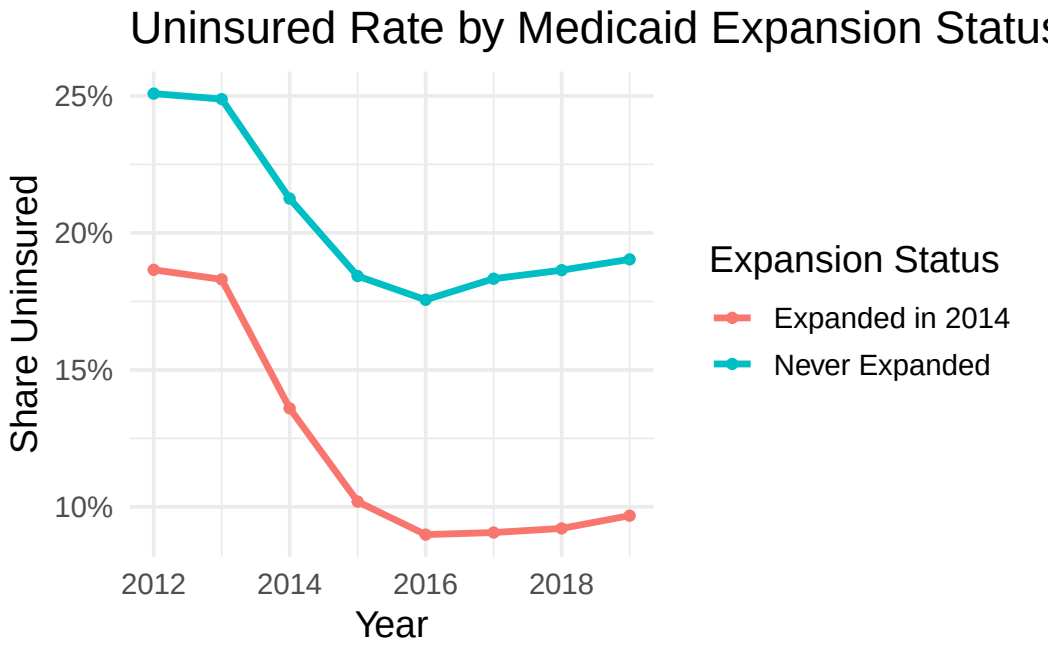
2. Discuss the reduction in direct purchase health insurance in later years. Can you list a couple of policies that might have affected the success of the direct purchase insurance market?

The decline in direct purchase health insurance in later years can largely be attributed to federal policy changes that weakened support for the Affordable Care Act (ACA) marketplace. Two major policies that likely contributed to this reduction were the elimination of funding for ACA outreach and enrollment assistance programs, such as navigator services, and the effective repeal of the individual mandate penalty starting in 2019, which reduced incentives for healthy individuals to purchase insurance on the exchanges. These actions decreased marketplace visibility and lowered enrollment among individuals who might have otherwise participated in the direct purchase market.

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



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: DD Table for Medicaid Expansion

Group	Pre	Post
Expanded in 2014	0.17	0.09
Never Expanded	0.21	0.16

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.

```
Call:
lm(formula = uninsured_rate ~ treat * post, data = dd_data)

Residuals:
      Min        1Q    Median        3Q       Max
-0.120827 -0.026406 -0.005254  0.027983  0.117597

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.21136    0.00935  22.607  < 2e-16 ***
treat       -0.04372    0.01109  -3.942 0.000101 ***
post        -0.05175    0.01080  -4.794 2.58e-06 ***
treat:post  -0.02115    0.01281  -1.651 0.099735 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.04385 on 300 degrees of freedom
Multiple R-squared:  0.4549,    Adjusted R-squared:  0.4494
F-statistic: 83.44 on 3 and 300 DF,  p-value: < 2.2e-16
```

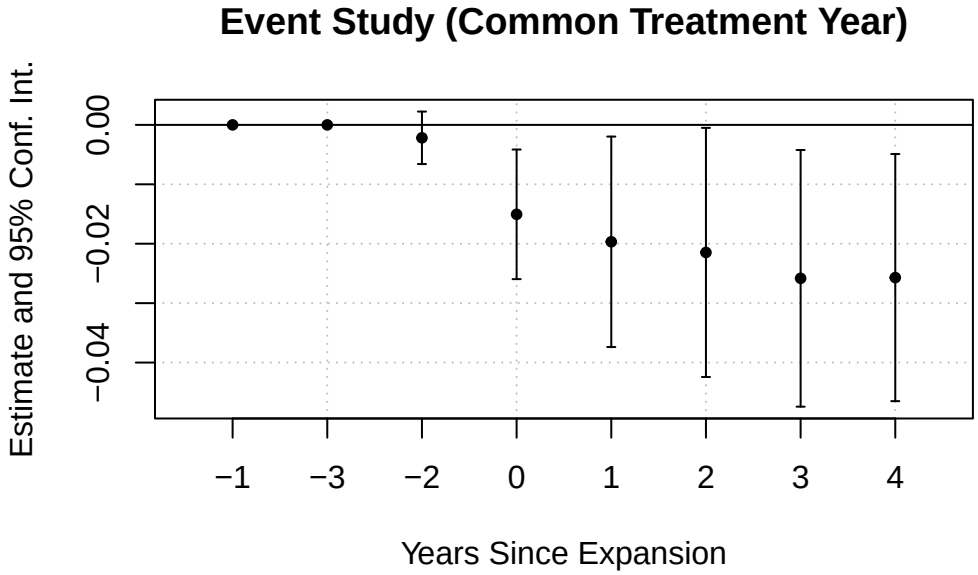
7. Include state and year fixed effects in your estimates. Try using the lfe or fixest package to estimate this instead of directly including the fixed effects.

```
OLS estimation, Dep. Var.: uninsured_rate
Observations: 304
Fixed-effects: State: 38,  year: 8
Standard-errors: Clustered (State)
            Estimate Std. Error  t value Pr(>|t|)
treat_post -0.021149   0.008934 -2.36732 0.023259 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
RMSE: 0.013938     Adj. R2: 0.934467
                 Within R2: 0.08155
```

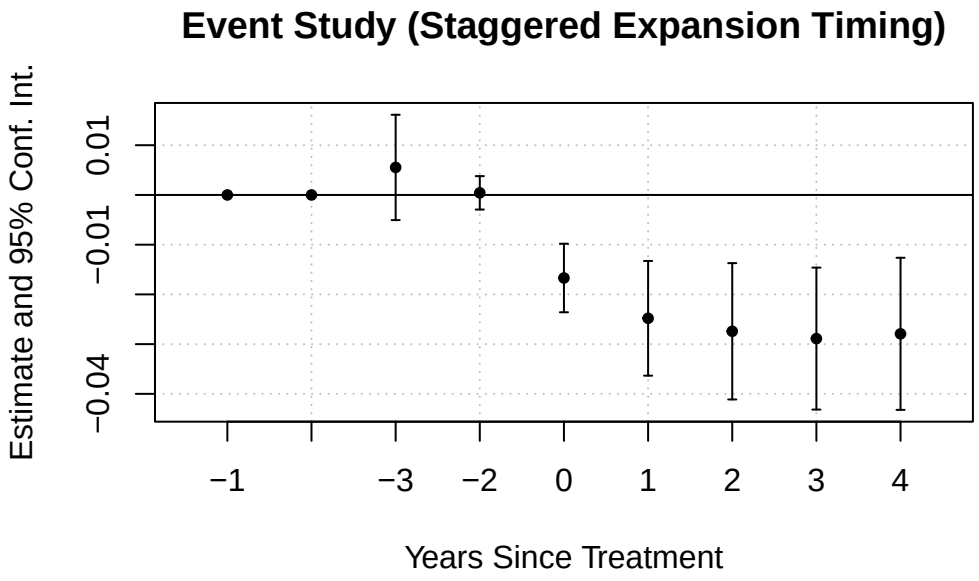
8. Repeat the analysis in question 7 but include all states (even those that expanded after 2014). Are your results different? If so, why?

```
OLS estimation, Dep. Var.: perc_unins
Observations: 416
Fixed-effects: State: 52,  year: 8
Standard-errors: Clustered (State)
       Estimate Std. Error t value   Pr(>|t|)
treat -0.023766   0.005602 -4.2423 9.3304e-05 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
RMSE: 0.013106     Adj. R2: 0.937003
                 Within R2: 0.155529
```

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.



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.




```
NULL
```