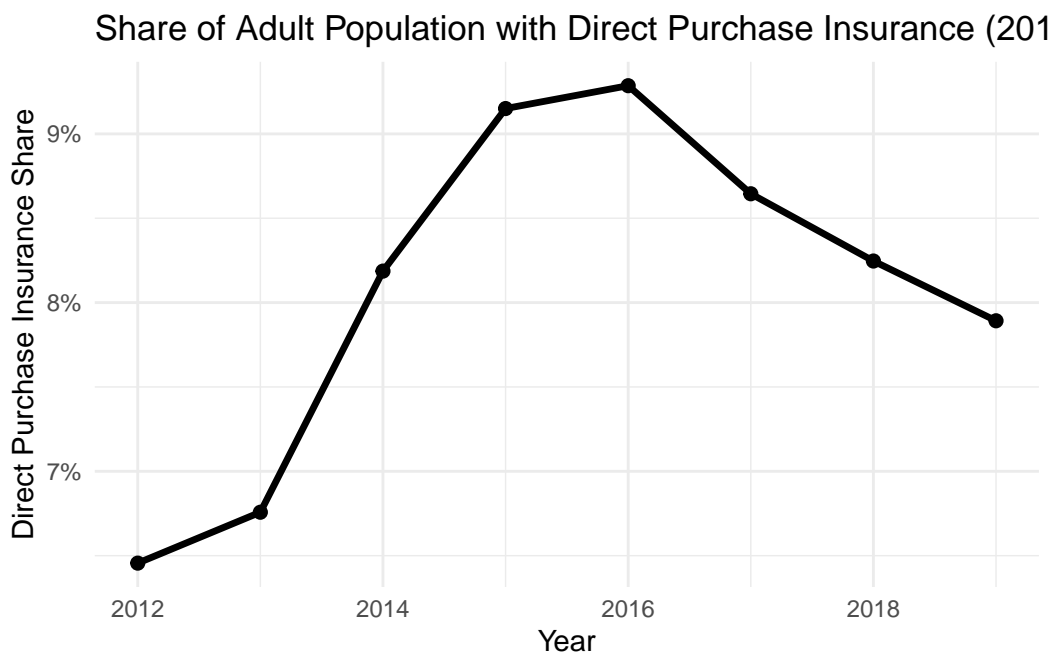


Homework 5

Research Methods, Spring 2025

Answer Key

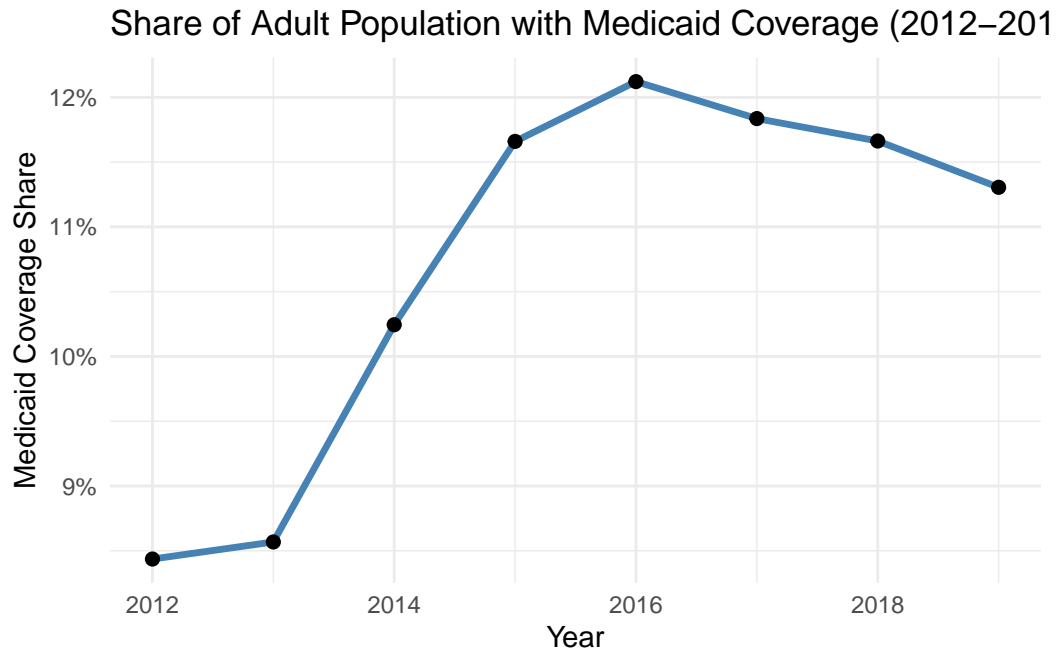
1. Plot the share of the adult population with direct purchase health insurance over time.



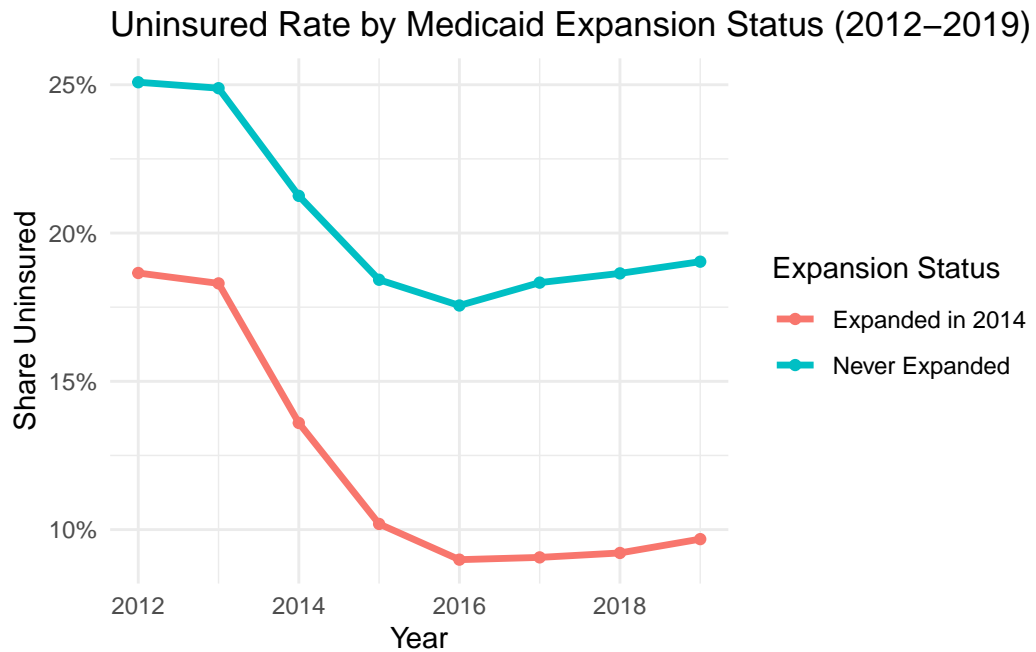
2. Discuss the reduction in direct purchase health insurance in later years. Can you list a couple of policies that might have affected the success of the direct purchase insurance market?

Since 2016, the share of adults with direct purchase insurance has decreased. The Tax Cuts and Jobs Act of 2017 eliminated the penalty for not having insurance starting in 2019. Without this mandate, fewer healthy individuals opted into coverage because there was no penalty.

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: Table 1: Difference-in-Differences Table of Average Uninsured Rate

Group	Pre	Post
Expanded in 2014	0.19	0.10
Never Expanded	0.25	0.18

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.

```

OLS estimation, Dep. Var.: uninsured_rate
Observations: 304
Standard-errors: IID
      Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.211360    0.009350  22.60651  < 2.2e-16 ***
treat        -0.043721    0.011092  -3.94177  1.0070e-04 ***
post         -0.051750    0.010796  -4.79351  2.5832e-06 ***
treat:post   -0.021149    0.012808  -1.65124  9.9735e-02 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
RMSE: 0.043564  Adj. R2: 0.44941

```

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.

The variables 'treat' and 'post' have been removed because of collinearity (see \$collin.var)

```

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 *
... 2 variables were removed because of collinearity (treat and post)
---
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?

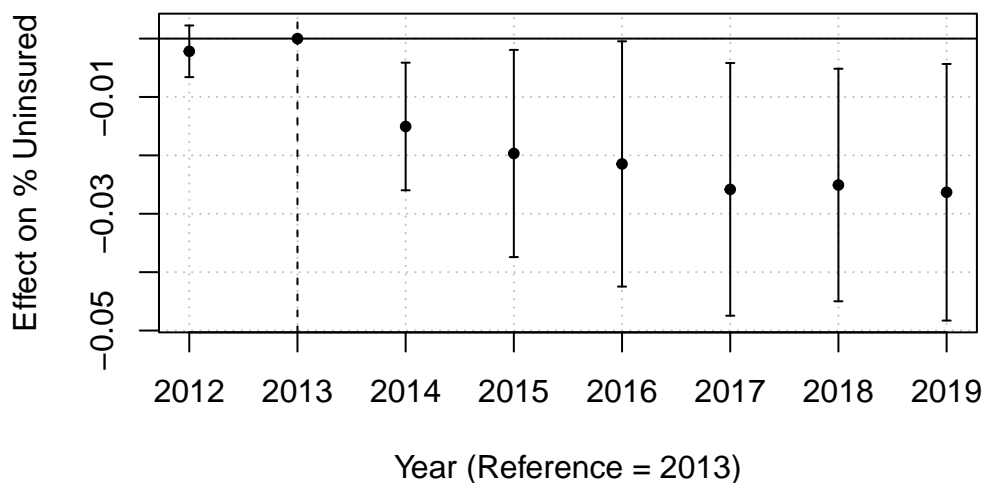
```

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.

Event Study: Effect of Medicaid Expansion on Uninsurance



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.

