

Homework 5

Research in Health Economics, Spring 2024
<https://github.com/riadharnidharka/Econ470HW5>

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

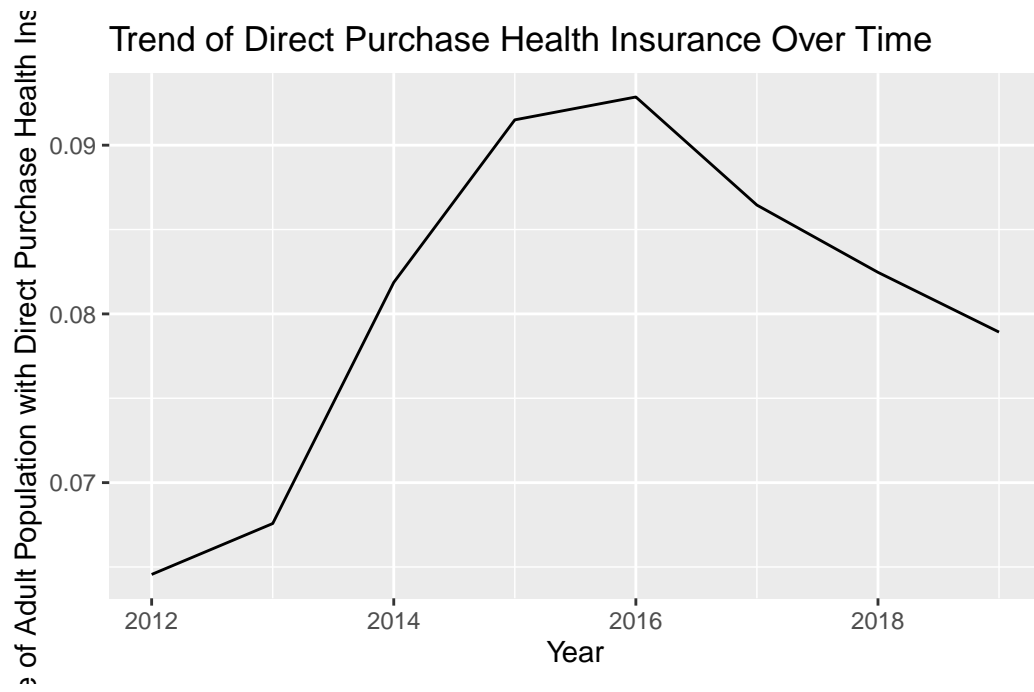


Figure 1: Population with Direct Purchase Health Insurance

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?

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

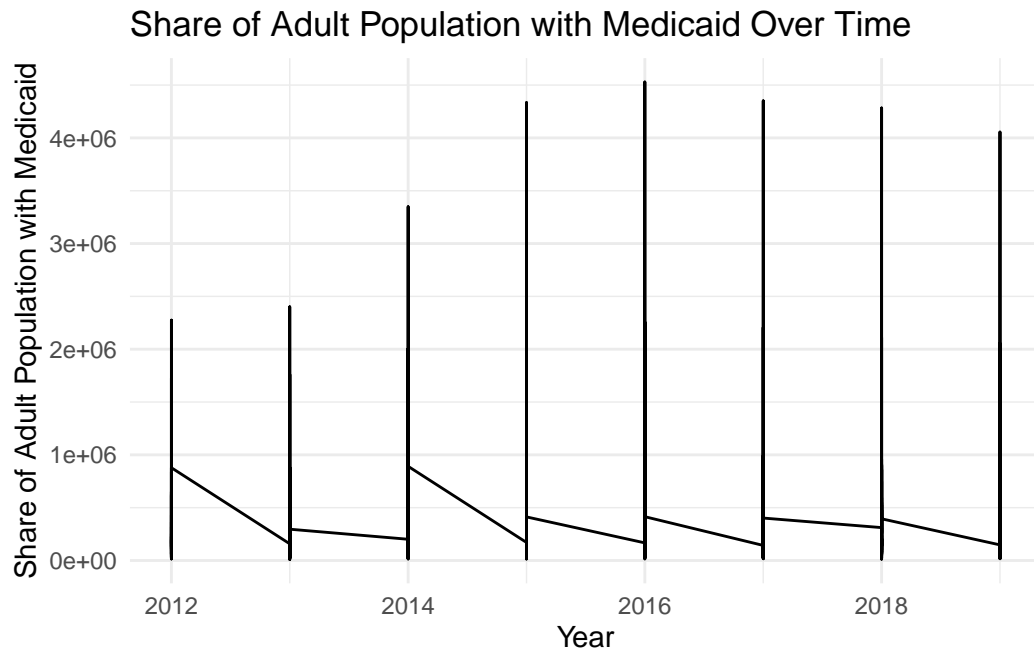


Figure 2: Population with Medicaid

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.

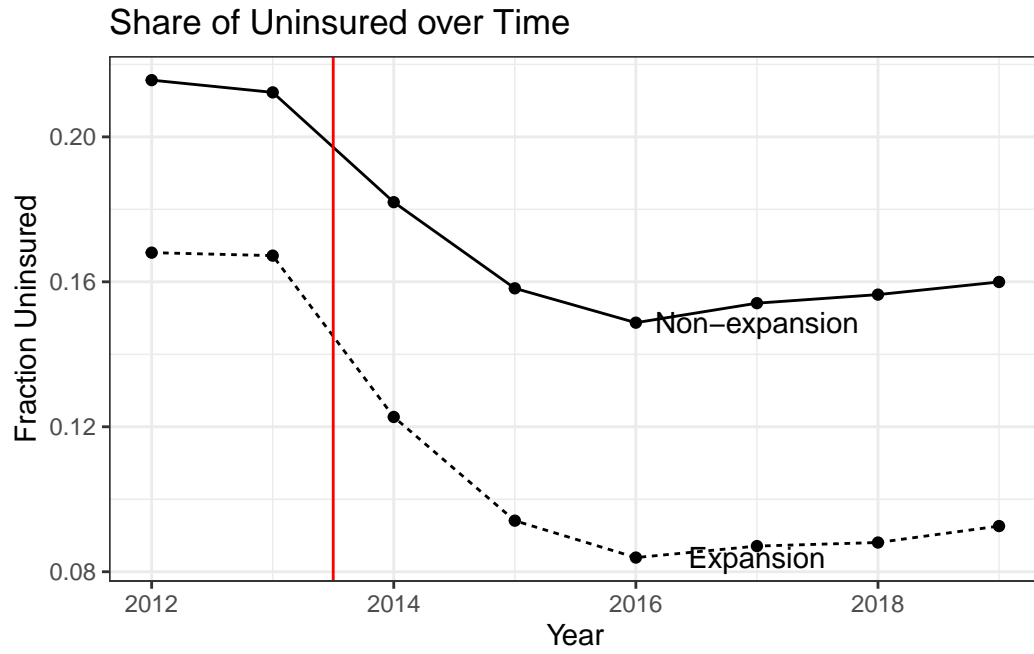


Figure 3: Uninsured Population

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: Uninsured Individuals in 2012 and 2015

expand_ever	avg_diff_uninsured
FALSE	-0.0574455
TRUE	-0.0710971
0	-0.0181021

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.

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.

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

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.

```
$prms
      estimate      ci_low      ci_high estimate_names
2012 -0.002549676 -0.00620864  0.001109289      2012
2013  0.000000000  0.00000000  0.000000000      2013
2014 -0.014222032 -0.02323993 -0.005204130      2014
2015 -0.019066532 -0.03356407 -0.004568998      2015
2016 -0.019764584 -0.03595107 -0.003578099      2016
2017 -0.021979736 -0.03809985 -0.005859617      2017
2018 -0.023354738 -0.03889677 -0.007812704      2018
2019 -0.022310721 -0.03769216 -0.006929284      2019
      estimate_names_raw is_ref    x id      y
2012 year::2012:expand_ever FALSE 2012  1 -0.002549676
2013 year::2013:expand_ever  TRUE 2013  1  0.000000000
2014 year::2014:expand_ever FALSE 2014  1 -0.014222032
2015 year::2015:expand_ever FALSE 2015  1 -0.019066532
2016 year::2016:expand_ever FALSE 2016  1 -0.019764584
2017 year::2017:expand_ever FALSE 2017  1 -0.021979736
2018 year::2018:expand_ever FALSE 2018  1 -0.023354738
2019 year::2019:expand_ever FALSE 2019  1 -0.022310721

$is_iplot
[1] TRUE

$at
[1] 2012 2013 2014 2015 2016 2017 2018 2019

$labels
[1] 2012 2013 2014 2015 2016 2017 2018 2019
```

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.

```
$prms
      estimate      ci_low      ci_high estimate_names
-3  0.0052773986 -0.009772221  0.020327018          -3
-2 -0.0009035645 -0.004528807  0.002721678          -2
-1  0.0000000000  0.000000000  0.000000000          -1
 0 -0.0159056883 -0.022463288 -0.009348089           0
 1 -0.0233619575 -0.034416674 -0.012307241           1
 2 -0.0252718493 -0.038131161 -0.012412537           2
 3 -0.0262515983 -0.039220641 -0.013282555           3
 4 -0.0246711317 -0.037870990 -0.011471273           4
 5 -0.0235248081 -0.037858803 -0.009190813           5

      estimate_names_raw is_ref  x id          y
-3 time_to_treat::-3:expand_ever FALSE -3  1  0.0052773986
-2 time_to_treat::-2:expand_ever FALSE -2  1 -0.0009035645
-1 time_to_treat::-1:expand_ever  TRUE -1  1  0.0000000000
 0  time_to_treat::0:expand_ever FALSE  0  1 -0.0159056883
 1  time_to_treat::1:expand_ever FALSE  1  1 -0.0233619575
 2  time_to_treat::2:expand_ever FALSE  2  1 -0.0252718493
 3  time_to_treat::3:expand_ever FALSE  3  1 -0.0262515983
 4  time_to_treat::4:expand_ever FALSE  4  1 -0.0246711317
 5  time_to_treat::5:expand_ever FALSE  5  1 -0.0235248081

$is_iplot
[1] TRUE

$at
[1] -3 -2 -1  0  1  2  3  4  5

$labels
[1] -3 -2 -1  0  1  2  3  4  5
```