ECON 470 Homework 5-2 Answers

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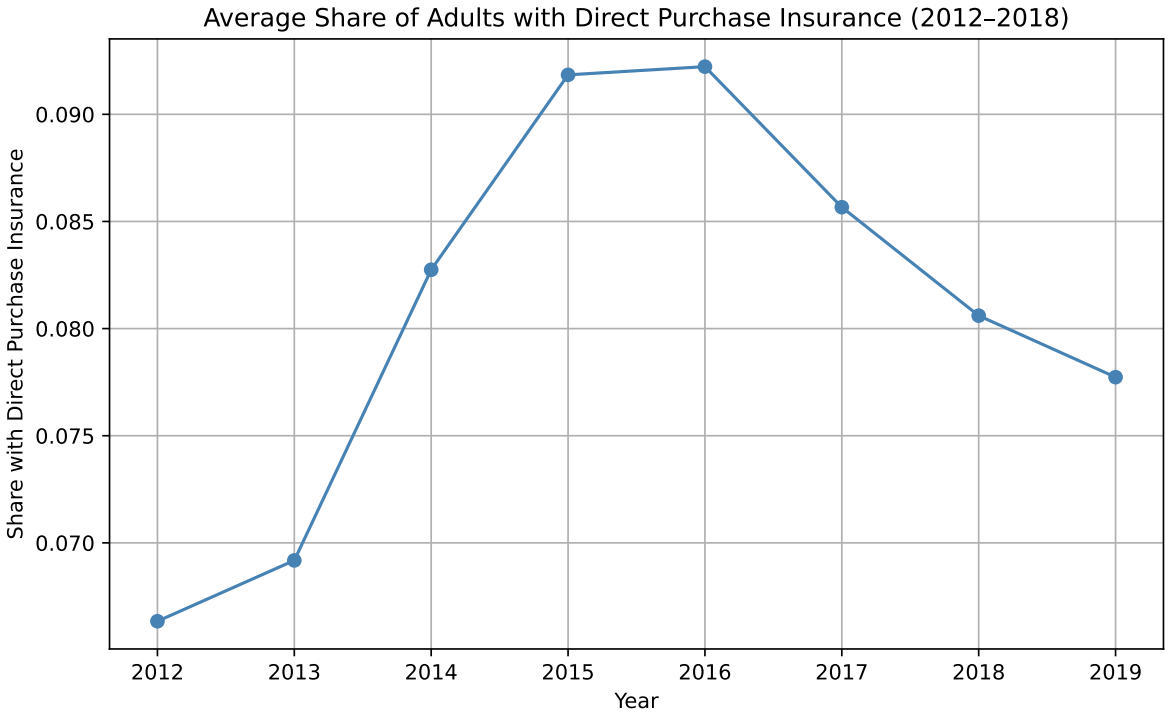
Github Repository: https://github.com/ilsenovis18/ECON470HW5

Summary Statistics

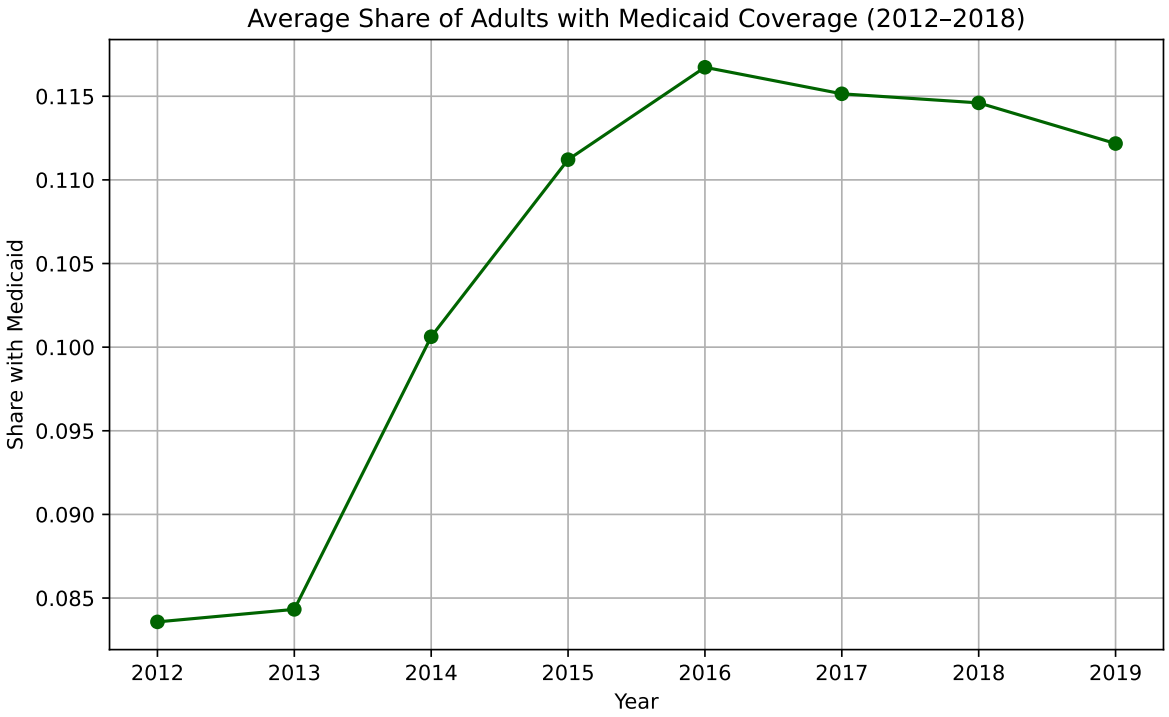
Question 1: Plot the share of the adult population with direct purchase health insurance over time.



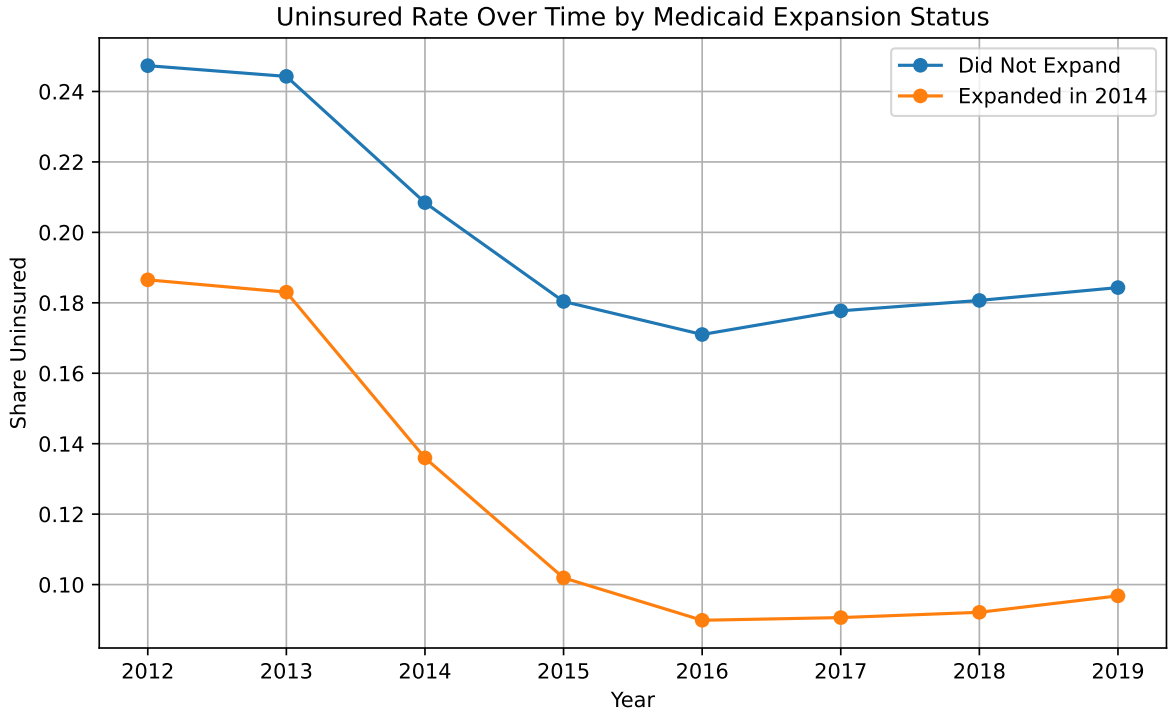
Question 2: Discuss the reduction in direct purchase health insurance in later years. Can you list a couple of policies that might have affected the success of the direct purchase insurance market?

1. Repeal of the Individual Mandate Penalty (Effective 2019)
    - Though passed in late 2017 (Tax Cuts and Jobs Act), anticipation of the penalty's removal may have influenced enrollment decisions in 2018.
    - Without a tax penalty, some healthy individuals likely opted out of buying coverage, causing a decline in enrollment and rising premiums for those who remained.
2. Cutbacks in ACA Outreach and Enrollment Support
    - The federal government significantly reduced funding for advertising and navigator programs during Open Enrollment periods (starting in 2017).
    - This made it harder for new enrollees to access information or get assistance, particularly impacting low-income or tech-averse individuals.
3. Expansion of Non-ACA-Compliant Plans
    - In 2018, the Trump administration expanded the availability of short-term, limited-duration insurance plans.
    - These plans are often cheaper but lack essential health benefits and consumer protections, drawing healthier individuals away from ACA-compliant markets and increasing risk-pooling issues.

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



Question 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.



Estimate ATEs

Question 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: Difference-in-Differences Table for Uninsurance Rates (2012–2015)

Group	2012	2015	Change
Expanded	0.1865	0.1019	-0.0846
Not Expanded	0.2473	0.1804	-0.0669

Estimated Average Treatment Effect (DiD): -0.0177

Question 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.

Question 7: Include state and year fixed effects in your estimates.

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

Table 2: ATE Estimates from Difference-in-Differences Models (Q6–Q8)

	Q6: OLS DiD	Q7: DiD w/ FE (2014 vs. Never)	Q8: DiD w/ FE (All States)
Interaction (ATE)	-0.0188	-0.0188	-0.0204
Standard Error	(0.0103)	(0.0035)	(0.0035)
P-value	0.069	0.000	0.000
R^2	0.506	0.252	0.279
Observations	352	352	416
States	44	44	52
Time Effects	Yes	Yes	Yes
State Effects	No	Yes	Yes

Are the results of Question 8 different from Question 7? If so, why?

Yes, the estimated average treatment effect (ATE) changed slightly when all states were included. In Question 7, the ATE from the DiD model with state and year fixed effects was –**0.0188**, using only states that expanded Medicaid in 2014 or never expanded. In Question 8, after including **all states**—including those that expanded after 2014—the ATE became slightly larger in magnitude at –**0.0204**.

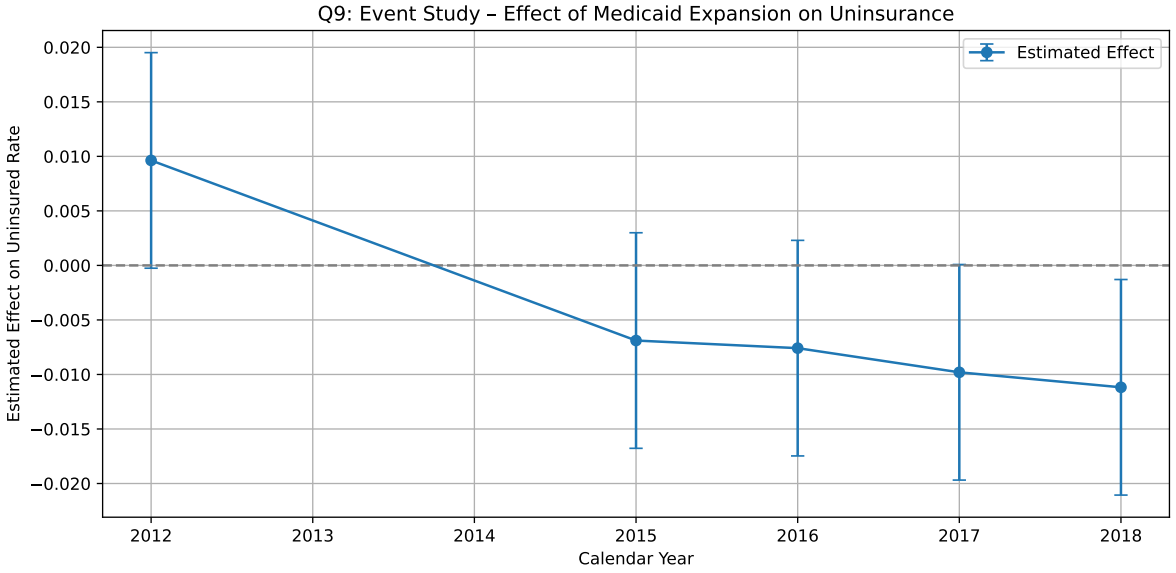
Why did this happen?

- **States that expanded after 2014** (e.g., Louisiana, Virginia, Montana) were counted as untreated in the earlier years but began contributing to the treated group later in the 2012–2018 window.
- These **late adopters introduce additional post-treatment variation**, reinforcing the observed decline in uninsured rates associated with Medicaid expansion.
- Including these states **strengthens the estimated treatment effect**, as it captures more within-state changes due to expansion during the sample period.

Summary

The inclusion of all states resulted in a **more negative ATE** (–0.0204 vs. –0.0188), indicating a slightly stronger effect of Medicaid expansion. This is likely because **late-expanding states began to experience coverage gains** during the observation period, which further supports the expansion's impact on reducing uninsurance.

Question 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.



Question 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.