

Homework 4 - Submission 1

ECON 470

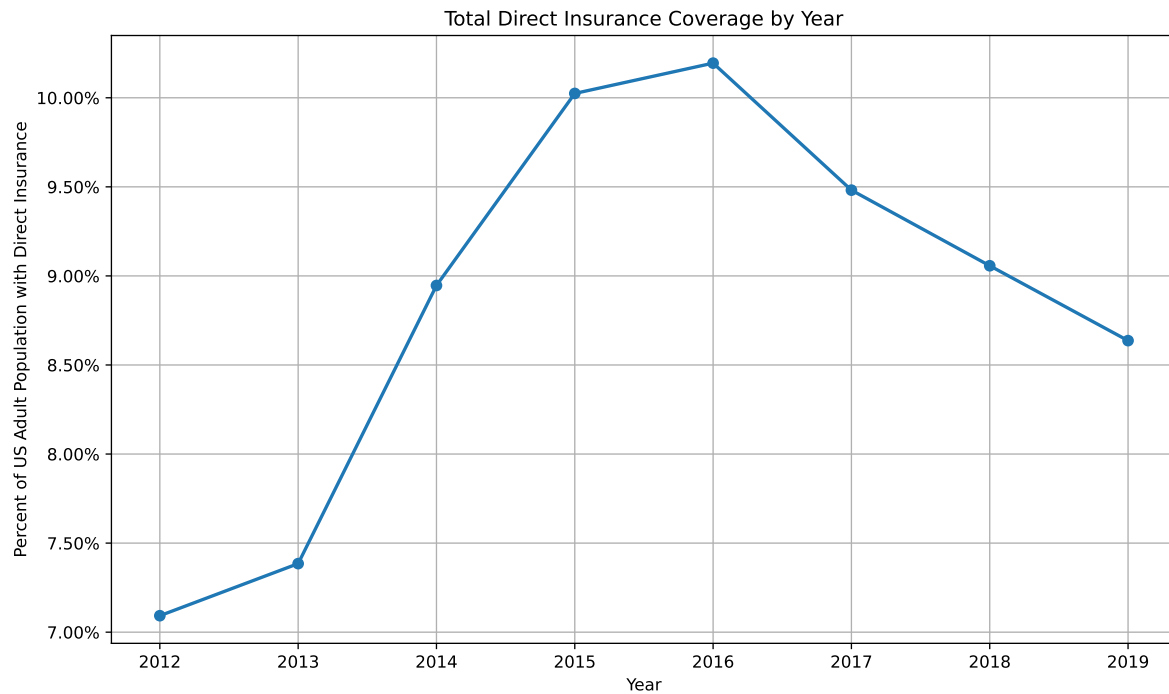
Baran Pasa

Homework 5

[Link to Github](#)

Summarizing the Data:

1.

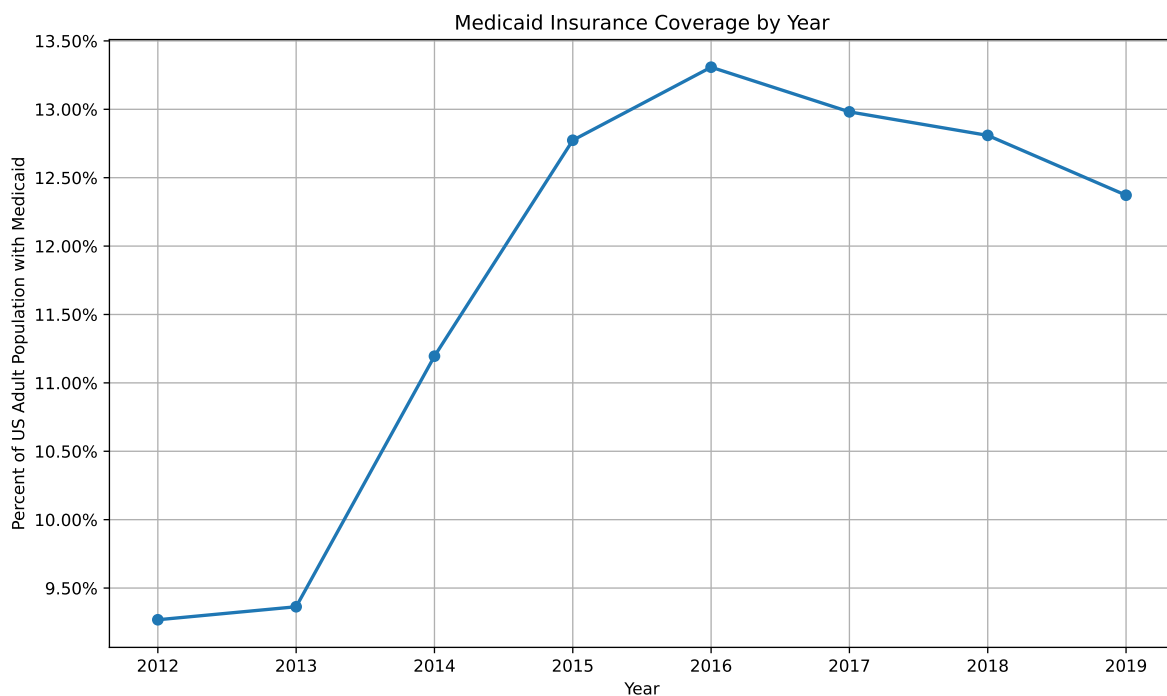


2.

Following Medicaid expansion in 2014, there was a decline in the rate of direct purchase health insurance in many states. This drop may be partly attributed to the increased availability and generosity of Medicaid coverage, which provided a free or low-cost alternative to plans purchased on the individual market.

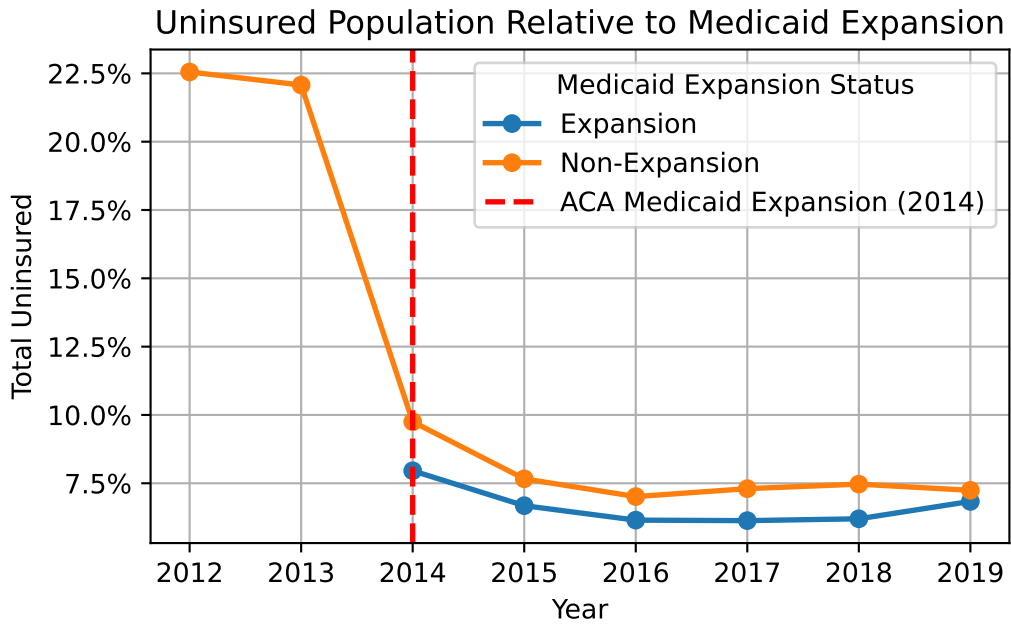
Additionally, changes in federal policies, such as the reduction of outreach funding and the repeal of the individual mandate penalty in 2017, may have discouraged enrollment in marketplace plans. The shrinking pool of healthy individuals likely increased premiums, further destabilizing the direct purchase market.

3.



4.

<Figure size 3000x1800 with 0 Axes>



Estimating ATEs

5.

expanded	Expansion	Non-Expansion
2012	17.09	20.84
2015	9.81	15.26

6.

OLS Regression Results			
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Dep. Variable:	uninsured_rate	R-squared:	0.950
Model:	OLS	Adj. R-squared:	0.941
Method:	Least Squares	F-statistic:	90.90
Date:	Wed, 23 Apr 2025	Prob (F-statistic):	1.88e-27
Time:	09:28:36	Log-Likelihood:	1147.9
No. Observations:	391	AIC:	-2176.
Df Residuals:	331	BIC:	-1938.
Df Model:	59		
Covariance Type:	cluster		

	coef	std err	z	P> z	[0.025
Intercept	0.2046	0.003	65.301	0.000	0.198
C(State) [T.Alaska]	0.0432	0.002	19.826	0.000	0.039
C(State) [T.Arizona]	0.0577	0.000	280.751	0.000	0.057
C(State) [T.Arkansas]	0.0457	0.000	222.417	0.000	0.045
C(State) [T.California]	0.0355	0.000	172.776	0.000	0.035
C(State) [T.Colorado]	0.0166	0.000	80.564	0.000	0.016
C(State) [T.Connecticut]	-0.0219	0.000	-106.473	0.000	-0.022
C(State) [T.Delaware]	-0.0179	0.000	-87.188	0.000	-0.018
C(State) [T.District of Columbia]	-0.0564	0.000	-274.471	0.000	-0.057
C(State) [T.Florida]	0.0558	6.05e-16	9.22e+13	0.000	0.056
C(State) [T.Georgia]	0.0441	4.25e-16	1.04e+14	0.000	0.044
C(State) [T.Hawaii]	-0.0462	0.000	-224.636	0.000	-0.047
C(State) [T.Idaho]	0.0159	4.61e-16	3.44e+13	0.000	0.016
C(State) [T.Illinois]	0.0116	0.000	56.623	0.000	0.011
C(State) [T.Indiana]	-0.0109	0.002	-4.990	0.000	-0.015
C(State) [T.Iowa]	-0.0318	0.000	-154.583	0.000	-0.032
C(State) [T.Kansas]	-0.0236	4.75e-16	-4.98e+13	0.000	-0.024
C(State) [T.Kentucky]	0.0008	0.000	4.008	0.000	0.000
C(State) [T.Louisiana]	0.0373	0.001	25.630	0.000	0.034
C(State) [T.Maine]	-0.0367	0.000	-145.405	0.000	-0.037
C(State) [T.Maryland]	-0.0122	0.000	-59.368	0.000	-0.013
C(State) [T.Massachusetts]	-0.0710	0.000	-345.314	0.000	-0.071
C(State) [T.Michigan]	-0.0087	0.000	-42.195	0.000	-0.009
C(State) [T.Minnesota]	-0.0401	0.000	-195.267	0.000	-0.041
C(State) [T.Mississippi]	0.0402	2.98e-16	1.35e+14	0.000	0.040
C(State) [T.Missouri]	-0.0145	4.15e-16	-3.49e+13	0.000	-0.014
C(State) [T.Montana]	0.0268	0.001	18.401	0.000	0.024
C(State) [T.Nebraska]	-0.0353	4.98e-16	-7.09e+13	0.000	-0.035
C(State) [T.Nevada]	0.0775	0.000	377.017	0.000	0.077
C(State) [T.New Hampshire]	-0.0062	0.000	-30.087	0.000	-0.007
C(State) [T.New Jersey]	0.0207	0.000	100.916	0.000	0.020
C(State) [T.New Mexico]	0.0673	0.000	327.251	0.000	0.067
C(State) [T.New York]	-0.0087	0.000	-42.178	0.000	-0.009
C(State) [T.North Carolina]	0.0152	5.42e-16	2.8e+13	0.000	0.015
C(State) [T.North Dakota]	-0.0132	0.000	-63.991	0.000	-0.014
C(State) [T.Ohio]	-0.0066	0.000	-32.333	0.000	-0.007
C(State) [T.Oklahoma]	0.0509	5.18e-16	9.83e+13	0.000	0.051
C(State) [T.Oregon]	0.0177	0.000	86.326	0.000	0.017
C(State) [T.Pennsylvania]	-0.0651	0.002	-29.868	0.000	-0.069
C(State) [T.Puerto Rico]	-0.0701	6.58e-16	-1.06e+14	0.000	-0.070

C(State) [T.Rhode Island]	-0.0215	0.000	-104.820	0.000	-0.022
C(State) [T.South Carolina]	0.0172	4.9e-16	3.51e+13	0.000	0.017
C(State) [T.South Dakota]	-0.0225	5e-16	-4.51e+13	0.000	-0.023
C(State) [T.Tennessee]	-0.0039	4.63e-16	-8.5e+12	0.000	-0.004
C(State) [T.Texas]	0.0897	5.85e-16	1.53e+14	0.000	0.090
C(State) [T.Utah]	-0.0215	4.97e-16	-4.33e+13	0.000	-0.022
C(State) [T.Vermont]	-0.0432	0.000	-210.228	0.000	-0.044
C(State) [T.Virginia]	-0.0265	0.000	-104.880	0.000	-0.027
C(State) [T.Washington]	0.0078	0.000	38.169	0.000	0.007
C(State) [T.West Virginia]	0.0121	0.000	58.655	0.000	0.012
C(State) [T.Wisconsin]	-0.0738	4.82e-16	-1.53e+14	0.000	-0.074
C(State) [T.Wyoming]	0.0039	4.07e-16	9.57e+12	0.000	0.004
C(year) [T.2013]	-0.0025	0.001	-2.394	0.017	-0.005
C(year) [T.2014]	0.0174	0.002	10.085	0.000	0.014
C(year) [T.2015]	-0.0092	0.001	-9.885	0.000	-0.011
C(year) [T.2016]	-0.0180	0.001	-15.724	0.000	-0.020
C(year) [T.2017]	-0.0139	0.001	-11.259	0.000	-0.016
C(year) [T.2018]	-0.0126	0.001	-11.609	0.000	-0.015
C(year) [T.2019]	-0.0083	0.001	-5.929	0.000	-0.011
treated	-0.0345	0.006	-6.210	0.000	-0.045
post	-0.0446	0.004	-12.537	0.000	-0.052
did	-0.0221	0.008	-2.886	0.004	-0.037

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Omnibus:                13.583    Durbin-Watson:                1.823
Prob(Omnibus):           0.001    Jarque-Bera (JB):         29.552
Skew:                    0.003    Prob(JB):                 3.83e-07
Kurtosis:                4.347    Cond. No.                  3.94e+15
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Notes:

- [1] Standard Errors are robust to cluster correlation (cluster)
- [2] The smallest eigenvalue is 5.94e-29. This might indicate that there are strong multicollinearity problems or that the design matrix is singular.

/opt/anaconda3/lib/python3.11/site-packages/statsmodels/base/model.py:1888: ValueWarning:

covariance of constraints does not have full rank. The number of constraints is 61, but rank