

Assignment 1

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1. Provide and discuss a table of simple summary statistics showing the mean, standard deviation, min, and max of hospital total revenues and uncompensated care over time.

The summary statistics of hospital total revenues and uncompensated care over time are presented in Table 1 and 2, respectively. All of the statistics are scaled by million dollar.

year	mean	sd	min	max
2003	185.19	330.07	-1.76	4722.76
2004	204.75	370.17	0.15	5525.73
2005	224.37	409.97	0.00	6398.55
2006	247.69	453.57	-0.10	7784.09
2007	269.91	495.95	0.06	8577.05
2008	294.73	543.40	0.00	9293.79
2009	322.54	598.49	0.12	9846.46
2010	345.56	643.12	0.31	10185.42
2011	371.55	692.05	-27.58	10572.29
2012	394.66	744.85	-11.80	11865.32
2013	417.37	802.25	0.09	12751.71
2014	449.19	864.63	0.01	13376.35
2015	490.49	935.43	0.01	14143.53
2016	531.44	1022.78	0.08	15618.75
2017	571.88	1127.38	0.12	16863.43
2018	619.71	1247.63	0.28	18677.25
2019	672.38	1379.16	0.00	22000.93

Table 1: Summary statistics of hospital total revenue

year	mean	sd	min	max
2003	13.68	32.43	-0.13	777.99
2004	14.54	32.20	0.00	684.01
2005	16.68	31.98	0.00	427.70
2006	19.69	35.01	0.00	378.79
2007	22.91	44.86	0.00	736.39
2008	25.85	50.05	0.00	992.92
2009	27.72	48.80	0.00	583.98
2010	29.83	75.57	0.00	2793.92
2011	34.18	77.86	-17.19	2057.88
2012	37.00	89.18	-1.24	1881.08
2013	38.84	82.77	-0.12	1812.49
2014	37.12	92.37	0.01	1989.89
2015	34.21	91.02	-0.53	2037.43
2016	38.57	99.93	-0.04	2398.38
2017	42.49	108.52	-0.03	2746.88
2018	39.57	104.78	0.01	2596.87
2019	51.05	128.25	-97.79	2639.15

Table 2: Summary statistics of uncompensated care

2. Create a figure showing the mean hospital uncompensated care from 2003 to 2019. Show this trend separately by hospital ownership type (private not for profit and private for profit).

The mean hospital uncompensated care from 2003 to 2019 are shown in Figure 1. Not-for-profit: haha For-profit: haha

3. To estimate the effect of Medicaid expansion on hospital uncompensated care, I estimate the following two-way fixed effects (TWFE) model.

$$y_{it} = \alpha_i + \gamma_t + \delta D_{it} + \epsilon_{it} \quad (1)$$

where $D_{it} = 1(E_i \leq t)$, E_i is an expansion year, $1(\cdot)$ is an indicator function. γ_t denotes time fixed effects, α_i denotes hospital fixed effects, and y_{it} denotes the hospital i 's amount of uncompensated care in year t .

The estimation results are presented in Table 3. The first column is the result of the estimation using full sample. The coefficient suggests that the exansion of Medicade decreased hospital uncompensated care by 31 million dollars.

	Model 1	Model 2	Model 3	Model 4
expand	−31.388*** (2.815)	−38.359*** (3.858)	−38.090*** (5.077)	−39.504*** (4.332)
Num.Obs.	36 510	27 789	16 296	14 822

Each column shows the estimation results of (1) Full sample,
(2) Only 2014, (3) Only 2015, (4) Only 2016

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: The estimation results of TWFE

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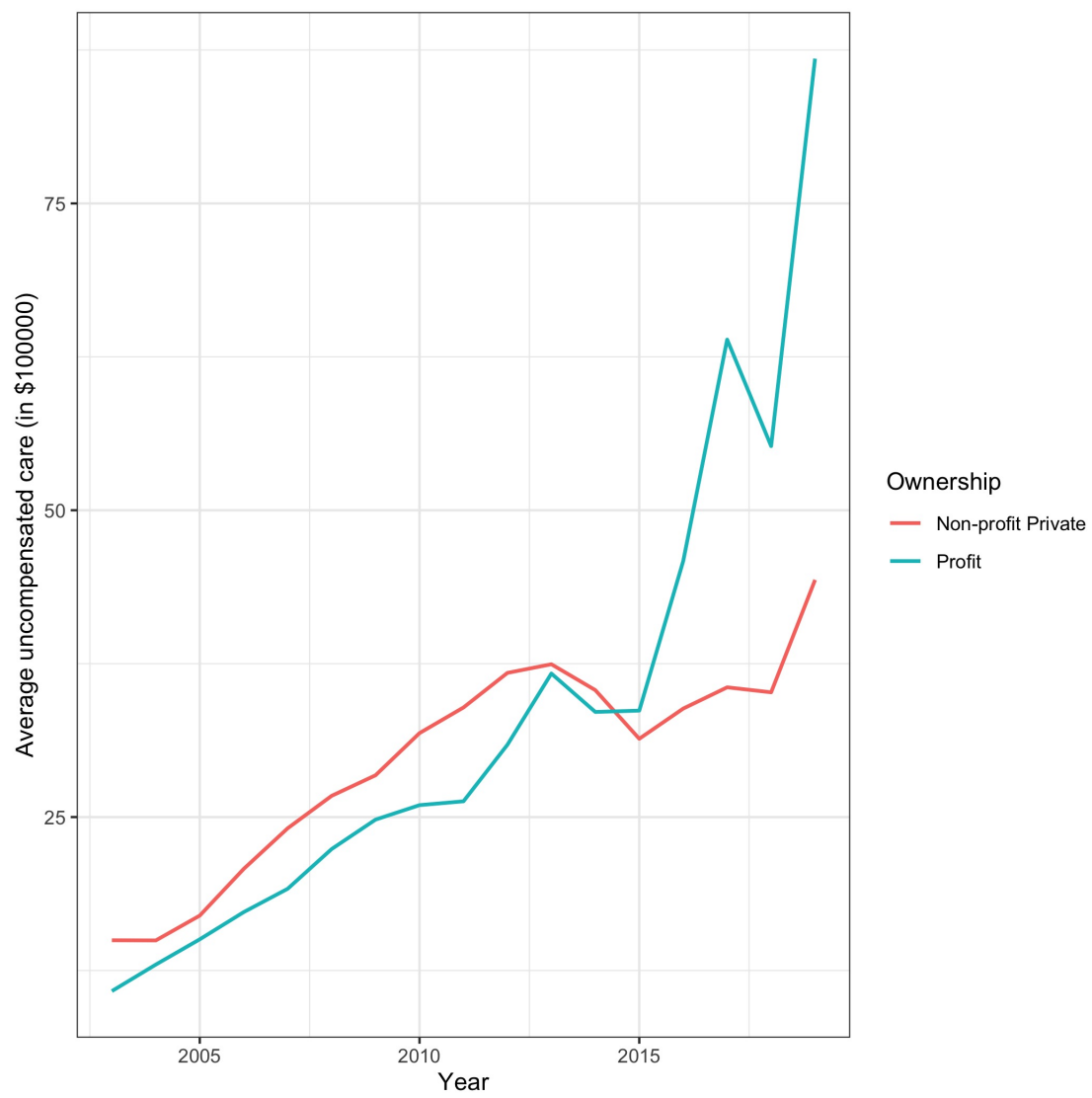


Figure 1: dd

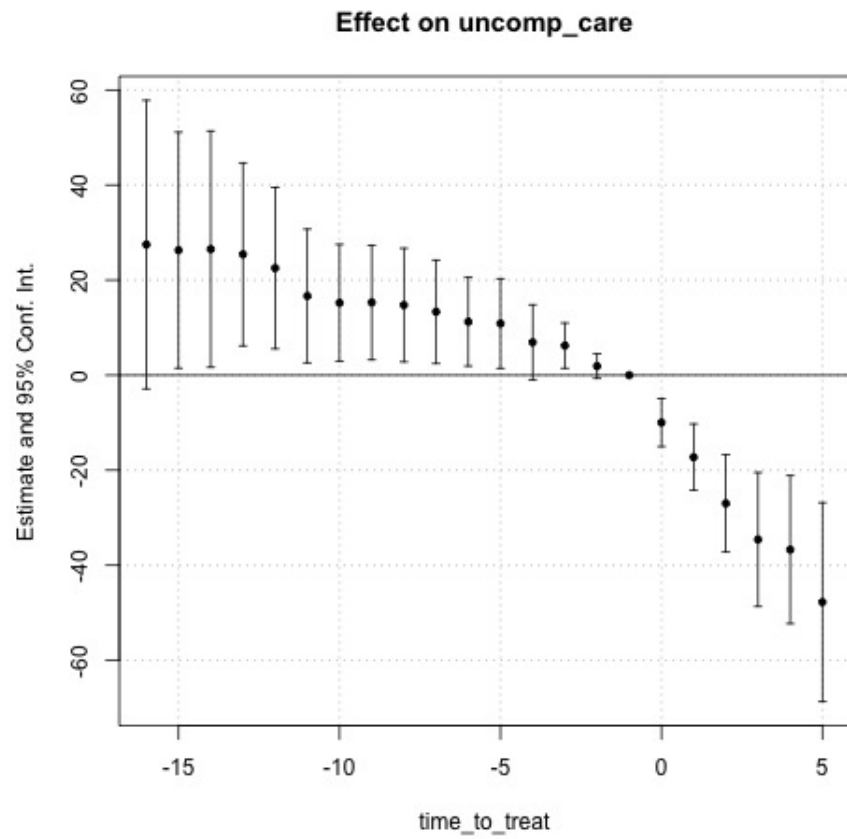


Figure 2: dd