Assignment 3

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1. The descriptive statistics are given in Table 1

	2006	2007	2008	2009	2010
Mean monthly premium	37.00	40.00	35.00	30.00	32.00
sd_premium	12.00	17.00	19.00	5.00	9.00
Mean deductible	92.00	114.00	146.00	253.00	118.00
sd_deductible	115.00	127.00	124.00	101.00	138.00
Fraction enhanced benefit	0.43	0.43	0.58	0.03	0.69
...in the U.S.	0.00	0.76	0.98	1.00	0.97
...in the same state	0.00	0.76	0.98	1.00	0.97
N Unique Firms	51.00	38.00	16.00	5.00	6.00
N Plans	1429.00	658.00	202.00	68.00	107.00

Table 1: Descriptive Statistics

2. Figure 1 shows a RD plot of monthly premium and logged enrollment state in 2006.

3. The RD plot using different number of partitions are given in Figure 2. I am not sure if the figures convey different information. They all seem to show sharp discontinuity around the benchmark.

4. The RD plot with the optimal number of partition is presented in Figure 3. The optimal numbers of bins were $J_- = 15$ and $J_+ = 17$.

5. The figure of the density of the running variable is displayed in Figure 4. The density of the left limit was higher than the density of the right limit, but the difference was not statistically significant.

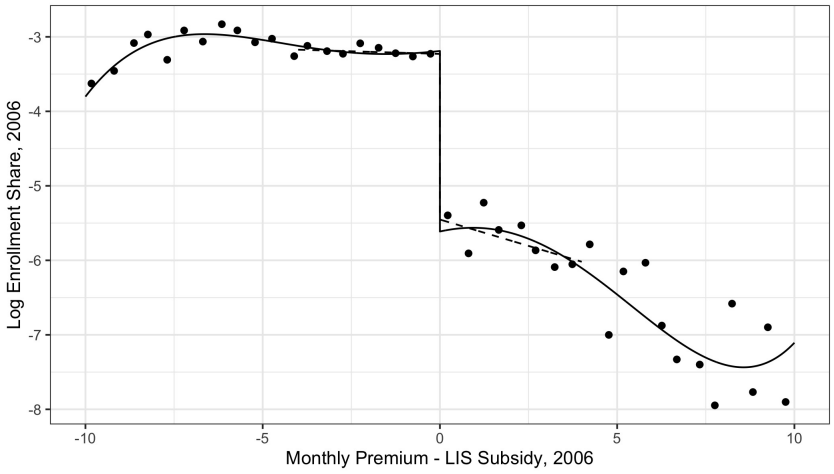


Figure 1: The Effect of 2006 Benchmark Status on 2006 Enrollment

6. The regression results are presented in Table 2 and 3. Table 3 shows the result of local quadratic regression.

7. The regression result using the CE-optimal bandwidth (Calonico et al., 2020) is given in Table 4 and Table 5 The bandwidth in question 6 was uniformly 4. However, the CE-optimal bandwidth was by far smaller than 4. Overall coefficients didn't change much in year 2006, 2007, and 2008, but the coefficients were significantly different in year 2009, 2010.

8. Table 6 shows the 2SLS result. The result implies that the premium does not become higher as the plan becomes market dominant.

9. The results were robust to the choice of bandwidth. Table 4 in Ericson (2014) shows the plan that survived longer has higher premium, suggesting that insurers might exploit profit from consumer inertia. However, the IV results of question 8 shows market share in fact has no effect on premium, where it should have had a positive correlation if the invest-then-harvest were true.

10. While RD was intuitively straightforward, the theory and coding behind was quite invovled to me. However, I don't actually see there is much gain in using more sophisticated technique. I am not sure how much they can improve empirical findings.

	2006	2007	2008	2009	2010
Below Benchmark, 2006	2.224***	1.332***	0.902***	0.803**	0.677
	(0.283)	(0.267)	(0.248)	(0.362)	(0.481)
... Below Benchmark	−0.014	−0.077	−0.073	−0.170	−0.215**
	(0.032)	(0.088)	(0.116)	(0.105)	(0.088)
... Above Benchmark	−0.142*	−0.033	0.049	0.074	0.049
	(0.078)	(0.110)	(0.163)	(0.170)	(0.202)
Num.Obs.	306	299	298	246	212
R2	0.576	0.325	0.131	0.141	0.124

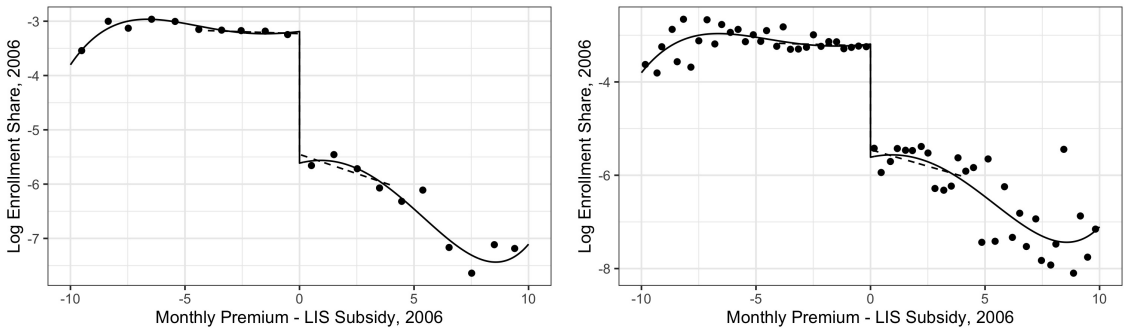
* p < 0.1, ** p < 0.05, *** p < 0.01

Table 2: Effect of LIS Benchmark Status in 2006 on Plan Enrollment, Panel 1

	2006	2007	2008	2009	2010
Below Benchmark, 2006	2.349***	1.206***	0.697*	0.238	0.152
	(0.279)	(0.387)	(0.394)	(0.516)	(0.633)
Num.Obs.	306	299	298	246	212
R2	0.577	0.327	0.137	0.163	0.140

* p < 0.1, ** p < 0.05, *** p < 0.01

Table 3: Effect of LIS Benchmark Status in 2006 on Plan Enrollment, Panel 2



(a) J=10 (b) J=30

Figure 2: Different bin size

	2006	2007	2008	2009	2010
coef	2.286	1.595	0.784	0.083	0.390
se	(0.502)	(0.634)	(0.568)	(0.65)	(0.831)
bw	0.748	0.675	0.964	0.770	0.771

Table 4: CE optimal bandwidth, Panel1

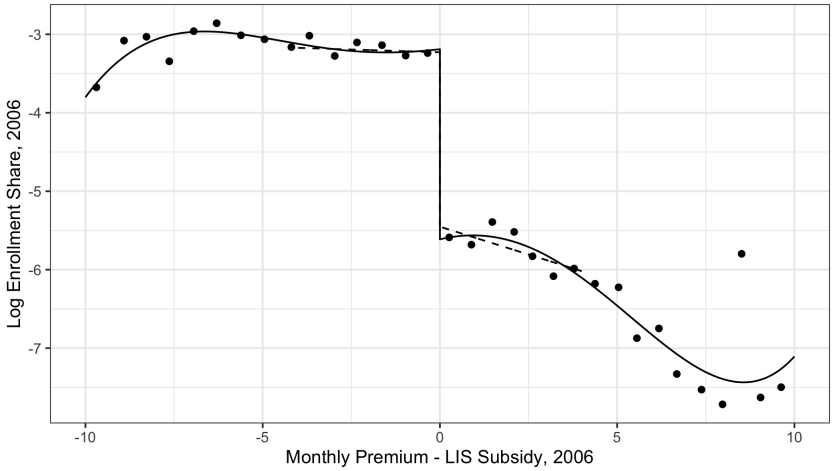


Figure 3: RD plot with the optimal number of partition ($J_- = 15$, $J_+ = 17$)

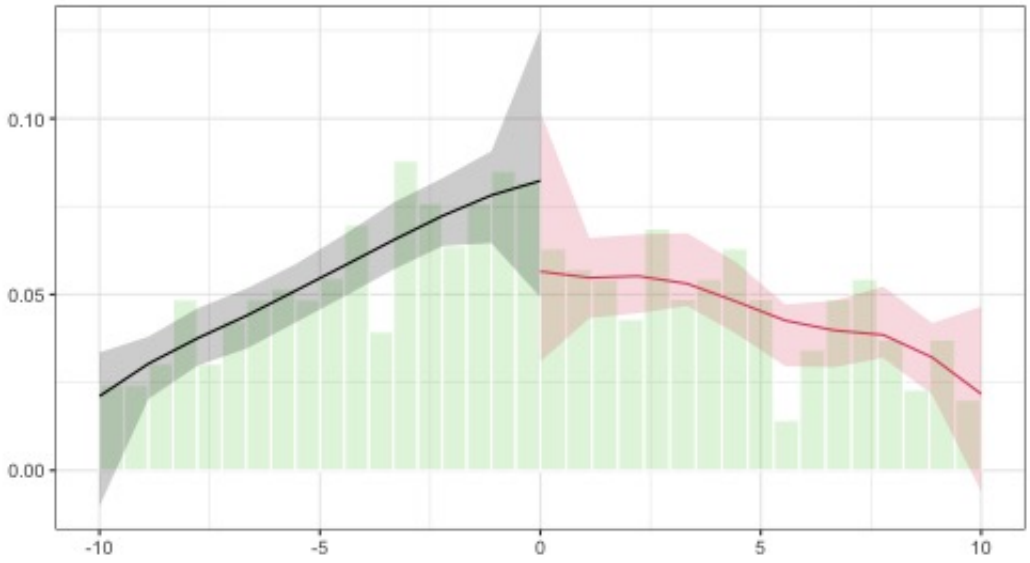


Figure 4: Probability density of the running variable

	2006	2007	2008	2009	2010
coef	2.576	1.849	1.057	0.015	0.652
se	(0.593)	(0.755)	(0.742)	(0.771)	(1.175)
bw	1.022	0.979	1.188	0.994	0.922

Table 5: CE optimal bandwidth, Panel2

Dependent Variable:	log_premium
Model:	(1)
Variables	
log($share$)	-0.0013
	(0.0056)
Fixed-effects	
state	Yes
year	Yes
Fit statistics	
Observations	1,361
R^2	0.30762
Within R^2	7.61×10^{-5}

Clustered (state) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table 6: The Effect of Enrollment Share on Premium