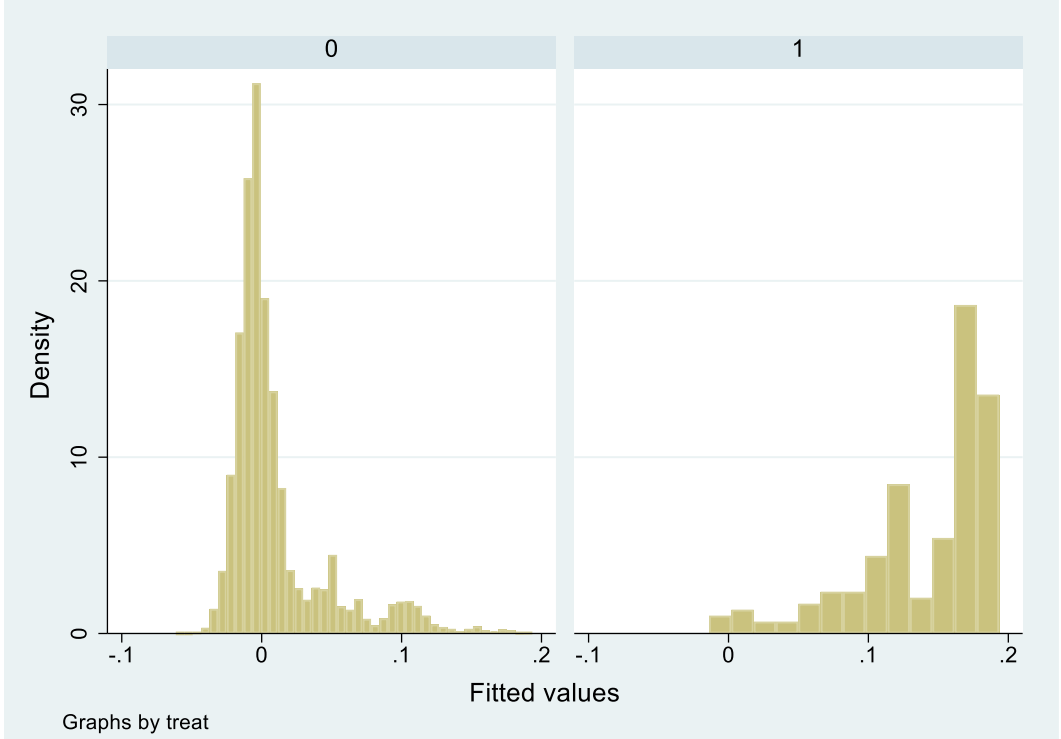
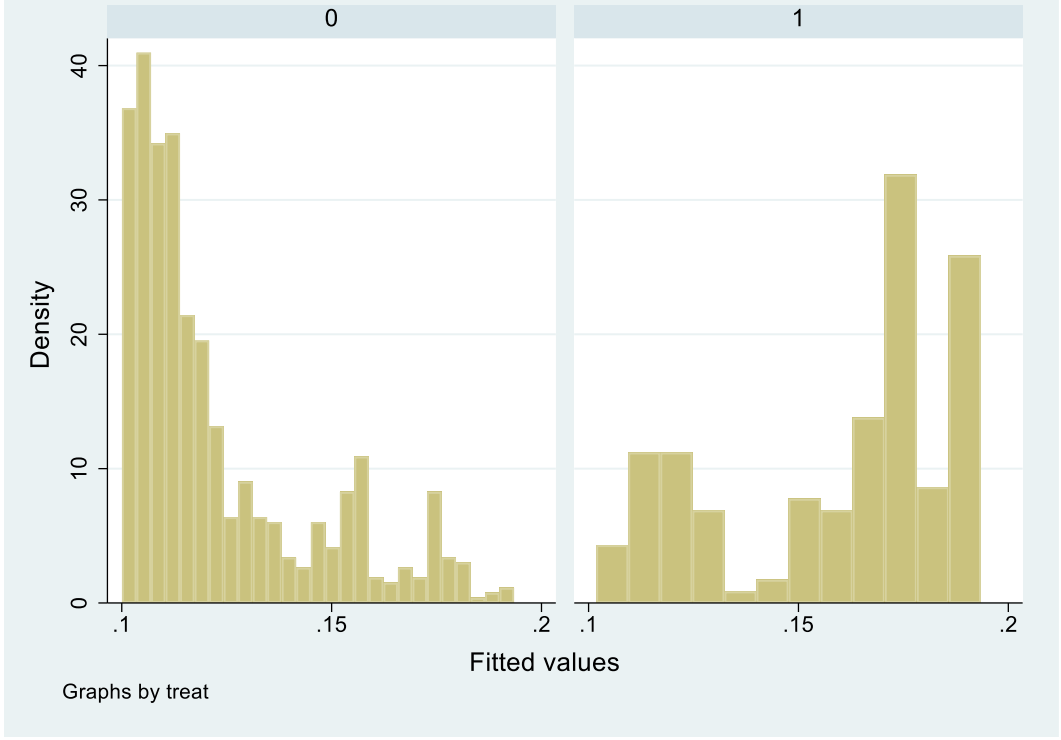
*————————————BEGIN Rep2_Evelyn.do————————————

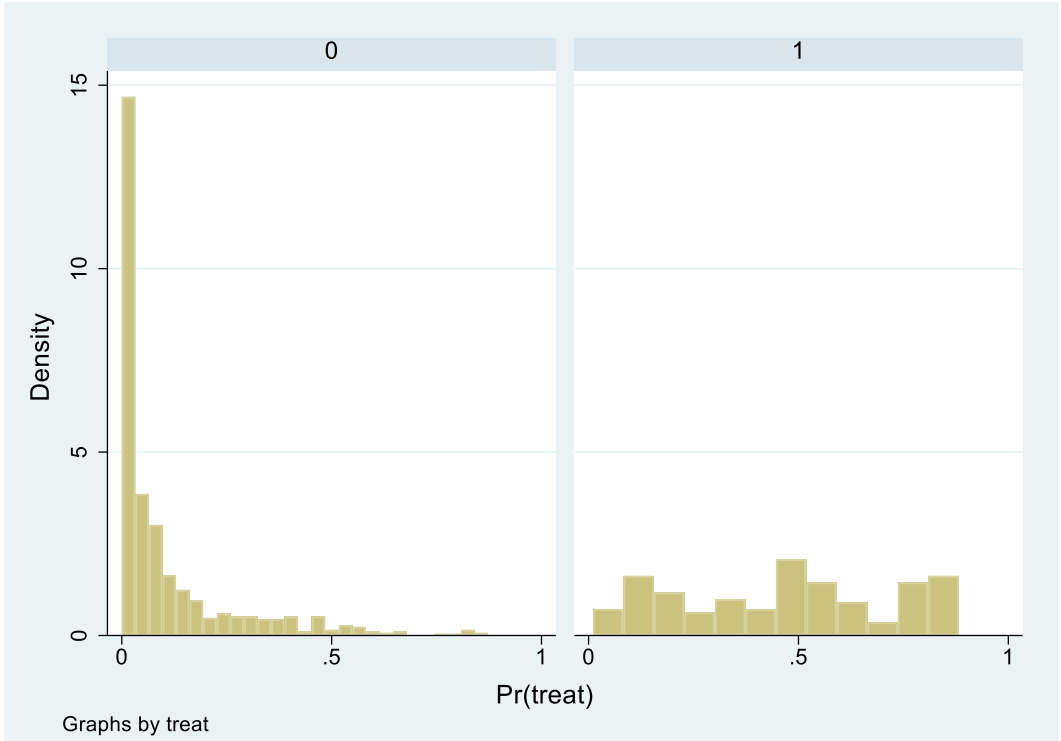
Replication 2: Abadie(2005)

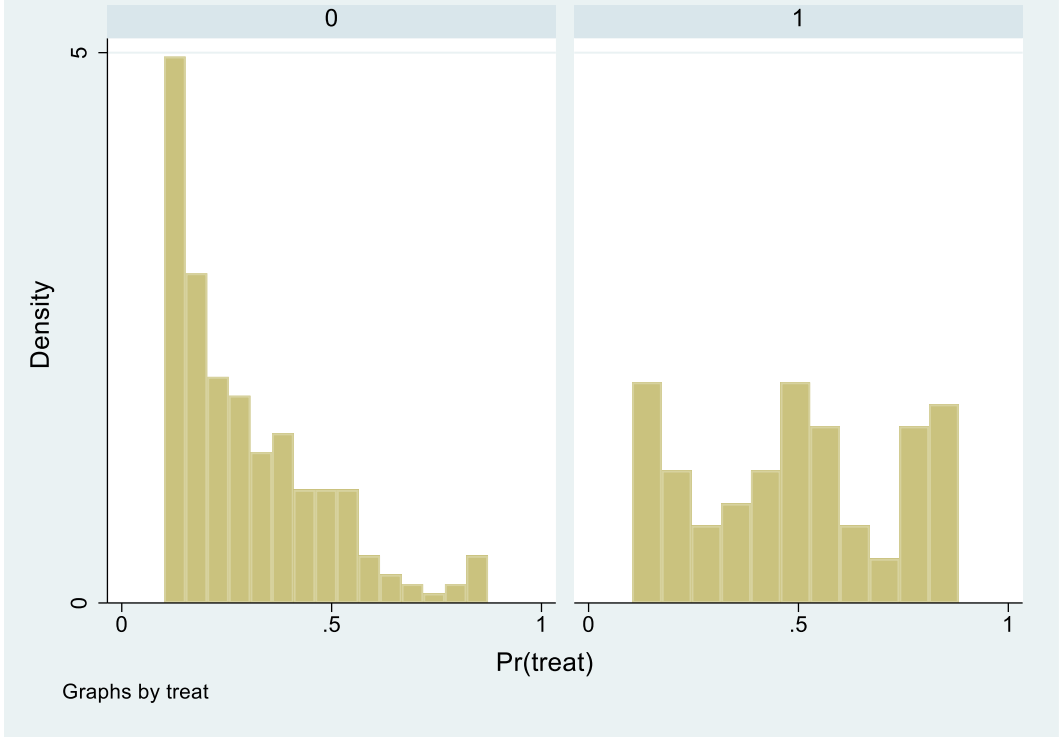
1. Calculate a propensity score

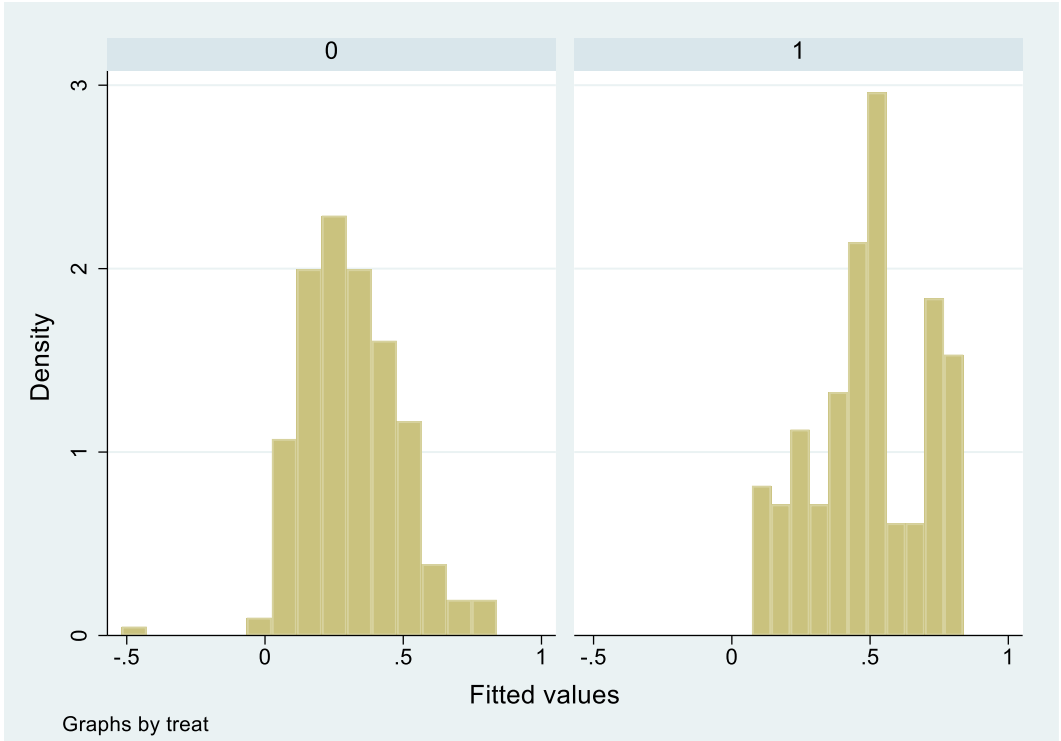
In quadratic OLS model, the min and max values of the propensity score for the treatment group is .1018124 and .1934806. And for the control group is .100047 and .1934767. In quadratic Logit model, the min and max values of the propensity score for the treatment group is .1036141 and .8819596. And for the control group is .1006786 and .8727123. In cubic OLS model, the min and max values of the propensity score for the treatment group is .1173034 and .8369712. And for the control group is .101212 and .8387136. In cubic Logit model, the min and max values of the propensity score for the treatment group is .1118508 and .8651757. And for the control group is .1000519 and .8518736.

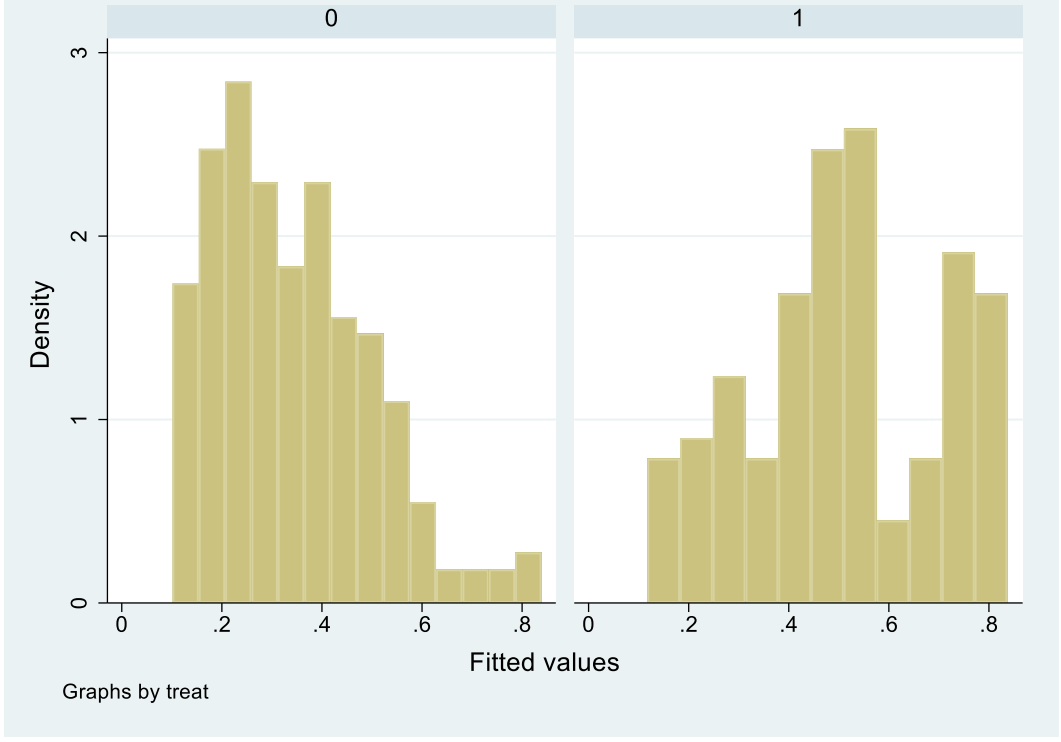

0
1
Density
0
10
20
30
-.1
0
.1
.2
Fitted values
Graphs by treat

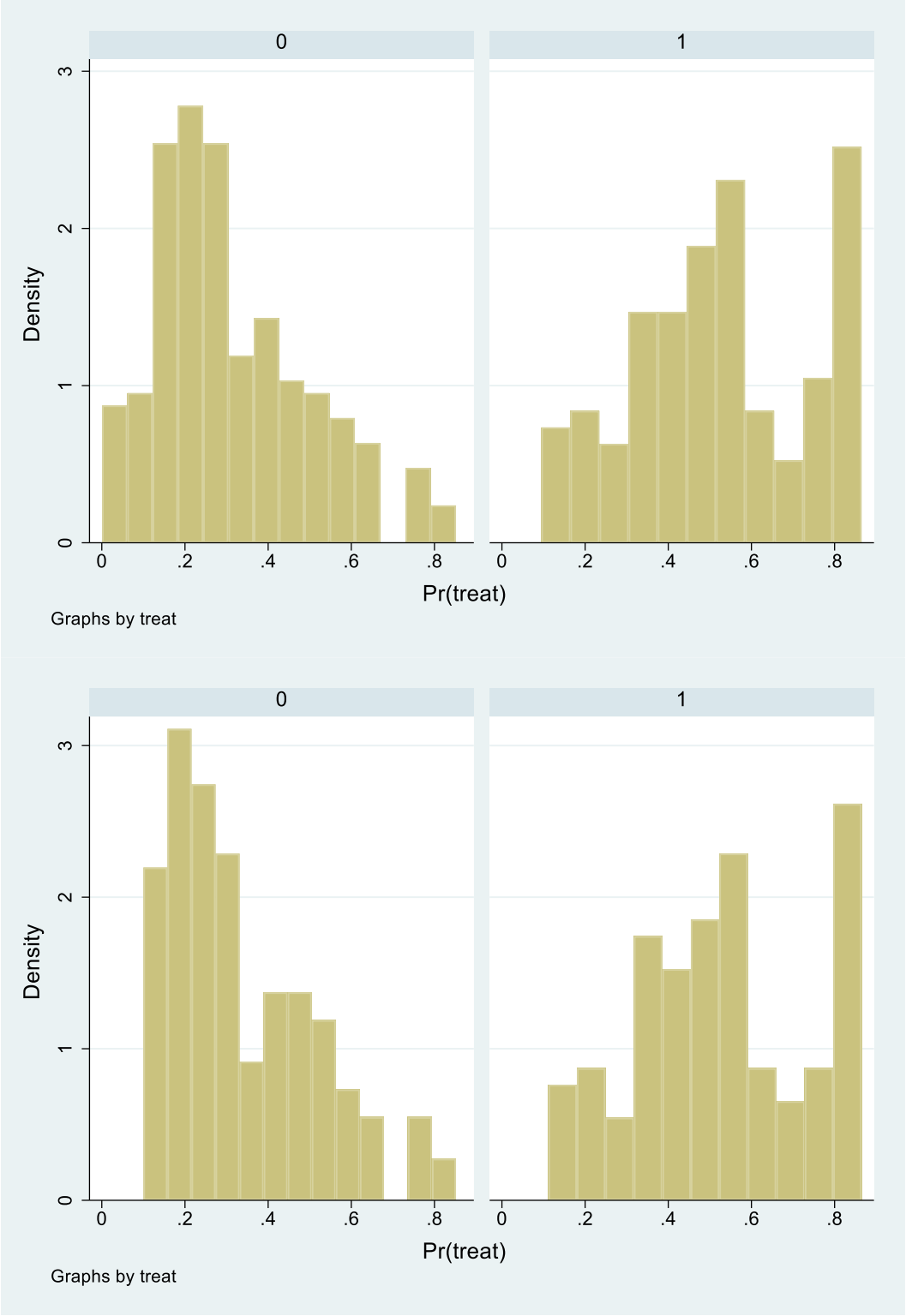

0
1
Density
0
10
20
30
40
.1
.15
.2
Fitted values
Graphs by treat


0
1
Density
0
5
10
15
0
.5
1
Pr(treat)
Graphs by treat


0
1
Density
0
5
0
.5
1
Pr(treat)
Graphs by treat


0
1
Density
0
1
2
3
-.5
0
.5
1
Fitted values
Graphs by treat


0
1
Density
0
1
2
3
0
.2
.4
.6
.8
Fitted values
Graphs by treat



2. Calculate a before and after first difference for each unit.

```
. gen diff = re78 - re75
```

```
. su diff

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        diff |        323    3992.834    6906.802  -6871.856   59023.85
```

3. Construct a weighted difference-in-differences

I used four condition in question 1 to seprately calculate the point estimate. In quadratic OLS model, the mean point estimate is 11655.38; and for logit model is 2044.232. In cubic OLS model, the mean point estimate is 1901.54; and for logit model is 1660.701. Compared to $1806 or $2006, the quadratic Logit model and the cubic OLS is much more closer.

```
. egen ps2_OLS_mean = mean(pscore2_OLS)

. gen PE_2_OLS = (diff / ps2_OLS_mean) * (treat - pscore2_OLS) / (1 -
pscore2_OLS)

. egen ps2_Logit_mean = mean(pscore2_Logit)

. gen PE_2_Logit = (diff / ps2_Logit_mean) * (treat - pscore2_Logit) /
(1 - pscore2_Logi
> t)

. egen ps3_OLS_mean = mean(pscore3_OLS)

. gen PE_3_OLS = (diff / ps3_OLS_mean) * (treat - pscore3_OLS) / (1 -
pscore3_OLS)

. egen ps3_Logit_mean = mean(pscore3_Logit)

. gen PE_3_Logit = (diff / ps3_Logit_mean) * (treat - pscore3_Logit) /
(1 - pscore3_Logi
> t)

. su PE_2_OLS PE_2_Logit PE_3_OLS PE_3_Logit

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    PE_2_OLS |        323    11655.38    39444.52  -44318.66   380662.5
  PE_2_Logit |        323    2044.232    20638.26  -177501.2   146175.2
    PE_3_OLS |        323     1901.54    18725.11  -132814.9   139990.1
  PE_3_Logit |        323    1660.701    20421.91  -149593.8   141256.5
```