\*————————–BEGIN Rep2\_Evelyn.do————————

# [Replication 2: Abadie(2005)](#replication-2-abadie2005)

### [1. Calculate a propensity score](#1-calculate-a-propensity-score)

In quadratic OLS model, the min and max values of the propensity score for the treatment group is .1088226 and .1934806. And for the control group is .104215 and .1934767.

In quadratic Logit model, the min and max values of the propensity score for the treatment group is .1065083 and .8996394. And for the control group is .1006338 and .8915.

In cubic OLS model, the min and max values of the propensity score for the treatment group is .1131771 and .20838. And for the control group is .1057099 and .2044633.

In cubic Logit model, the min and max values of the propensity score for the treatment group is .1062628 and .8985353. And for the control group is .101312 and .8770798.

#### [Create a histogram showing the distribution of the propensity score for the treatment and control group:](#create-a-histogram-showing-the-distribution-of-the-propensity-score-for-the-treatment-and-control-group)



#### [Drop all units whose propensity scores are less than 0.1 and more than 0.9 and create a histogram:](#drop-all-units-whose-propensity-scores-are-less-than-01-and-more-than-09-and-create-a-histogram)



### [2. Calculate a before and after first difference for each unit.](#2-calculate-a-before-and-after-first-difference-for-each-unit)

. su diff

Variable | Obs Mean Std. Dev. Min Max

-------------+---------------------------------------------------------

diff | 316 3918.225 6965.021 -6871.856 59023.85

### [3. Construct a weighted difference-in-differences](#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 4406.935; and for logit model is 2029.69. In cubic OLS model, the mean point estimate is 4398.901; and for logit model is 2132.094. Compared to $1806 or $2006, the quadratic and cubic Logit model are much more closer.

. gen PE\_3\_Logit = (diff / mean\_treat) \* (treat - pscore3\_Logit) / (1 - pscore3\_Logit)

. su PE\_2\_OLS PE\_2\_Logit PE\_3\_OLS PE\_3\_Logit

Variable | Obs Mean Std. Dev. Min Max

-------------+---------------------------------------------------------

PE\_2\_OLS | 316 4406.935 15300.13 -17372.05 149212.3

PE\_2\_Logit | 316 2029.69 20733.07 -201144.4 149212.3

PE\_3\_OLS | 316 4398.901 15308.33 -17372.05 149212.3

PE\_3\_Logit | 316 2132.094 19510.29 -146358.2 149212.3