\*————————–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 .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.



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