Econometrics Assignment 6b

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A copy of our Do-File can be found below.

1. 

From these regression results we find that the marginal treatment effect found by looking at the coefficient of the interaction term ­ is -0.0157 and statistically significant at the 5%-level. This implies the marginal treatment effect is affected negatively by the pre-treatment characteristic of sorting. This effect does make sense, since it implies people who had a high level of unsorted waste are more strongly affected by the treatment i.e. their residual waste decreases to a greater extent, since there was more residual waste in the first place.



These results suggest evidence for a difference in treatment effect among different pre-treatment unsorted waste levels. Thus, there is a clear linear downward trend of the pre-treatment level of unsorted waste on the conditional average treatment effect.



Results in this graph appear to be very different from the marginal effect plot created above. As the values represented by the scatter plot now show the values of the average marginal effect per bin for four bins that have been created to estimate quartiles.

The new results imply that the true relationship between the treatment and the interaction variable is negative. However, the relationship appears to be likely to be non-linear.

Copy of our Do-File

\* Computer Asssignment 6b

use "C:\Users\u1266283\Downloads\ca6b.dta", clear

xtset route week

\* First

reg residual\_weight i.treatment##c.sorting i.week i.route, cluster(route)

margins, eydx(treatment)

\* Second

margins, over(sorting) dydx(treatment)

marginsplot

\* Third

gen low=(sorting<57)

gen medium1=(sorting>=57&sorting<=61)

gen medium2=(sorting>61&sorting<=64)

gen high=(sorting>64)

gen treatment\_low=treatment\*low

gen treatment\_medium1=treatment\*medium1

gen treatment\_medium2=treatment\*medium2

gen treatment\_high=treatment\*high

xtreg residual\_weight treatment\_low treatment\_medium1 treatment\_medium2 treatment\_high i.week, fe i(route) cluster(route)

gen coeff=.

replace coeff=\_b[treatment\_low] if sorting==49

replace coeff=\_b[treatment\_medium1] if sorting==59

replace coeff=\_b[treatment\_medium2] if sorting==63

replace coeff=\_b[treatment\_high] if sorting==66

sort sorting

graph twoway (scatter coeff sorting) (line coeff sorting)