

VARIABLES	(1) lwage
educ	0.0533*** (0.0104)
college2	-1.289 (0.995)
educcollege	0.0956 (0.0607)
Constant	0.900*** (0.123)
Observations	526
R-squared	0.211
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1	

R-squared
adjusteddummy
/**Steps of obtaining the regression result:**

Step 1: We can obtain the above result from create new interaction term educ*college2.

`gen educcollege = educ*college2`

Step 2: Then, we run regression on the model.

`reg lwage educ college2 educcollege`

Step 3: Finally, we export the result in MS word format.

`outreg2 using "educcollege.doc"`

Questions:**1. What is the estimated impact of educ on wage for non-college graduates?**

For non-college graduates, 1 year of education has impact of 5.33% on wage.

2. What is the estimated impact of educ on wage for college graduates?

For college graduates, 1 year of education has impact of 14.89% (from 5.33% + 9.56%) on wage.

3. Is there an evidence that the impacts for the two groups are different?

We need to do **hypothesis testing** to know whether there is different between the impacts of education on wage between college graduates and non-college graduates or not.

$$H_0: \beta_{educcollege} = 0$$

$$H_1: \beta_{educcollege} \neq 0$$

Then, we run the hypothesis testing on the STATA.

`. test(educcollege=0)`

(1) educcollege = 0

$$\begin{aligned} F(1, 522) &= 2.48 \\ \text{Prob} > F &= 0.1158 \end{aligned}$$

We fail to reject null hypothesis because p-value of 11.58% (two-tailed test) is greater than 10% significant level. Thus, there is no enough evidence that the impacts for the two groups are different.