Constructing Meaningful Estimates - Quiz

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Question 1

1.0/1.0 point (graded)

From the example, the estimated effect of going to secondary school on cognitive scores is equal to:

- a. The effect of the scholarship on going to secondary school divided by the effect of the scholarship on cognitive scores
- b. The effect of the scholarship on going to secondary school multiplied by the effect of the scholarship on cognitive scores
- c. The effect of the scholarship on cognitive scores divided by the effect of the scholarship on going to secondary school. ✔

Explanation

Your estimated effect is given by $\hat{\beta} = \frac{E[Y_i \mid Z_i=1]-E[Y_i \mid Z_i=0]}{E[A_i \mid z_i=1]-E[A_i \mid z_i=0]}$ where Y_i denotes cognitive scores, Z_i is a dummy variable equal to 1 if assigned to the treatment group and 0 otherwise, and A_i denotes whether individual i goes to secondary school.

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Question 2

1.0/1.0 point (graded)

For men, the scholarship increases the chances of completing secondary school by 38.3% and increases cognitive scores by $.158$ standard deviations, so the estimated effect of secondary school on cognitive scores is:

a. $38.3/.158$ standard deviations increase in cognitive scores

b. $.383/.158$ standard deviations increase in cognitive scores

c. $.158/.383$ standard deviations increase in cognitive scores ✔

d. $.158/38.3$ standard deviations increase in cognitive scores

Explanation

This is the correct answer, because the estimated effect of secondary school on cognitive scores will be equal to the effect of the scholarship on cognitive scores divided by the effect of the scholarship on going to secondary school ($\hat{\beta} = \frac{E[Y_i|Z_i=1]-E[Y_i|Z_i=0]}{E[A_i|Z_i=1]-E[A_i|Z_i=0]}$)

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Question 3

0.0/1.0 point (graded)

Your IV estimate for the effect of education on cognitive scores is going to be _____ the effect of scholarships on cognitive scores.

- a. Smaller than, or equal to
- b. Smaller than
- c. Larger than
- d. Larger than, or equal to

Explanation

Homework due Dec 12, 2016 05:00 IST

- Exit Survey

If everyone who got the scholarship went to secondary school, the denominator in the formula above would be equal to 1, and therefore, beta hat would just the same as the effect as the scholarship. But if not everybody goes to school, you are dividing the numerator by a number smaller than one, so you will get a larger number: intuitively, it "scales up" the reduced form coefficient to take into account that the difference is accounted for only a fraction of the people who actually went to school.

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Discussion
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