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Omitted Variable Bias - Quiz

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Question 1

1/1 point (graded)

True or False: Any variable that is correlated with your regressor of interest is an omitted variable if you don't control for it in your model.

- a. True
- b. False ✔

Explanation

Variables that are correlated with your regressor are only a problem if they also affect your outcome. (Ex. If you are interested in the effect of years of schooling on your wages, and you fail to control for ability- it could be that schooling doesn't affect earnings, but earnings are partly determined by ability. Since high ability individuals are more likely to stay in school, if you don't control for ability, you might overstate the effect of schooling. However, if ability doesn't affect earnings, then this would not have an impact on your estimates.

Submit You have used 1 of 1 attempt

✔ Correct (1/1 point)

Question 2

1/1 point (graded)

Why would you control for SAT, parental income, and group fixed effects in a model that estimates the impact of attending a selective school on earnings?

- a. To increase the likelihood that potential outcomes would have been the same for those who attended a private college and those who didn't.
- b. To reduce selection bias.
- c. To control for omitted variables.
- d. All of the above. ✔

Explanation

Underlying your interpretation of your model is the assumption that potential outcomes would have been the same for those who attended a private college and those who didn't. Both selection bias or omitted variable bias would violate that assumption. In this case, if you just regressed earnings on private school attendance, your coefficient might be biased, because it might be that smarter kids are

more likely to be richer, and also more likely to attend a private school. The authors argue these measures are sufficient proxies for these omitted variables, therefore including them in the model would achieve B and C, and therefore also A.

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✔ Correct (1/1 point)

Question 3

1.0/1.0 point (graded)

Why should the group dummies be included in the regression?

- a. They are a non-linear transformation
- b. They control for unobservable factors ✔
- c. They prevent multicollinearity
- d. They directly affect future earnings

Explanation

The group dummies can control for unobservable factors, like the desirability or motivation of the student, which would affect their future earnings and be correlated with whether they attended a private college.

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Question 4

1.0/1.0 point (graded)

Why is the fact that the coeffients on SAT scores, and parent's income disappear once you control for the dummies" relevant to us?

- a. It tells us that SAT score and parental income have no impact on earnings.
- b. It suggests that there may be other omitted variables.
- c. It suggests that our measures of SAT score and parent's income is very imprecise.
- d. It suggests that the group dummies are probably a good proxy for unobserved background variables. (since they are a good proxy for the observed variables. ✔

Explanation

Because our estimated private school effect is insensitive to the inclusion of the available abilityu and family background variab;les once the group" controls are included, other control variables, including those for which we have no data, might matter little as well. In other words, OVB due to uncontrolled differences is probably modest.

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Discussion
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