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Two Stage Least Squares in R - Quiz

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Question 1

1/1 point (graded)

What variables are included in the Z matrix (the instrument matrix used in the first stage)? (Select all that apply)

- ☐ a. Outcome variables
- ☐ b. Instrumented for variables
- ☒ c. Instrumental variables
- ☒ d. Control variables



Explanation

The Z matrix must contain all the exogenous regressors that are part of your first stage, i.e. the instrumental variables and the control variables.

Functions of Random Variable

- ▶ Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression
- ▶ Module 6: Special Distributions, the Sample Mean, the Central Limit Theorem, and Estimation
- ▶ Module 7: Assessing and Deriving Estimators - Confidence Intervals, and Hypothesis Testing
- ▶ Module 8: Causality, Analyzing Randomized Experiments, & Nonparametric Regression
- ▶ Module 9: Single and Multivariate Linear

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You have used 2 of 2 attempts

✓ Correct (1/1 point)

Question 2

1/1 point (graded)

Here is the syntax for the R command to run a 2SLS procedure from the AER package:

```
ivreg(formula, instruments, data, subset, na.action, weights, offset,  
       contrasts = NULL, model = TRUE, y = TRUE, x = FALSE, ...)
```

You want to look at the impact of charter school attendance on test scores. Luckily, you find that a lottery is used to decide which students are selected to attend. So you decide to use the lottery as an instrument for charter school attendance in order to identify your impact. You also have some other data on demographic characteristics that you want to control for.

Which of the following variable(s) do you need to enter in the “instruments” field in the command above to obtain the correct estimates? (Select all that apply)

☒ a. The lottery outcome variable


Models

- ▶ Module 10: Practical Issues in Running Regressions, and Omitted Variable Bias


- ▶ Module 11: Intro to Machine Learning and Data Visualization

- ▼ Module 12: Endogeneity, Instrumental Variables, and Experimental Design


Endogeneity and Instrumental Variables

Finger Exercises due Dec 14, 2016
05:00 IST 

Experimental Design

Finger Exercises due Dec 14, 2016
05:00 IST 

Module 12: Homework

Homework due Dec 12, 2016
05:00 IST 

- ▶ Exit Survey

☐ b. Charter school attendance

☒ c. The demographic characteristics

☐ d. Your test scores variable

**Explanation**

As you saw in the example of code Prof. Duflo showed in class, the “instruments” field here corresponds to your matrix Z from question 1. In this case, your instrument is the lottery outcome, and your controls are the demographic characteristics. So you need to include both these variables in this field.

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You have used 1 of 2 attempts

✓ Correct (1/1 point)

Discussion

Topic: Module 12 / Two Stage Least Squares in R - Quiz

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