Interpreting Regression Output - Quiz

Question 1

1/1 point (graded)

Suppose our Stata or R output tells us the following: Prob $>$ $F = 0.0879$

We reject the null hypothesis that $\beta_1 = \ldots = \beta_k = 0$ under a 5% test.

a. True

b. False ✔

Explanation

This is telling us that we should not reject the null under a 5% test $(0.05 < 0.0879)$. However, we would reject the null hypothesis under a 10% test.

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The Linear Model
due Nov 28, 2016 05:00 IST

✔ Correct (1/1 point)

Question 2

1/1 point (graded)

When you run a regression in Stata or R, the output usually gives you t-tests for each coefficient. A t-test that says $Pr(>|t|) = 0.05$ in the row for β_1 would tell you:

- a. To reject the null hypothesis that $\beta_1 = 0$ for a two-sided test at the 5% level or above. ✔
- b. To reject the null hypothesis that $\beta_1 \neq 0$ for a two-sided test at the 5% level or above.
- c. To reject the null hypothesis that $\beta_1 = 0$ for a two-sided test at the 0.05% level or above
- d. To reject the null hypothesis that $\beta_1 \neq 0$ for a two-sided test at the 0.05% level or above

Explanation

T-tests given for each coefficient can be used to test whether or not to reject the null hypothesis that the given coefficient is equal to zero. You choose to reject the null hypothesis or not depending on what level test you choose to use. Common tests would be 1% or 5% tests. These percentage values are known as α.

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The Multivariate Linear Model
due Nov 28, 2016 05:00 IST

Module 9: Homework
due Nov 21, 2016 05:00 IST

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

✔ Correct (1/1 point)

Question 3

1/1 point (graded)

Consider the R regression output again:

```
Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept) -1.030e+01  1.191e+00  -8.651   <2e-16 ***
GenderM     -1.355e+01  1.587e+00  -8.536   <2e-16 ***
Year         5.144e-03  5.920e-04   8.689   <2e-16 ***
GenderM:Year 6.766e-03  7.891e-04   8.575   <2e-16 ***
```

Suppose our dependent variable is the number of students interested in computer science courses.

Given what we currently know, how do we interpret the value 5.144e-03?

- (●) a. One additional year is associated with an increase of 5.144e-03 students interested in computer science courses. ✔
- ( ) b. One additional year is associated with a decrease of 5.144e-03 students interested in computer science courses.

c. Student interest in computer science has been increasing steadily over time.

d. One additional student becomes interested in computer science every 5.144e-03 years.

Explanation
The estimate of a coefficient on a regressor variable is the change in dependent variable associated with one unit of change in the regressor. This doesn't necessarily mean it's a causal relationship, though.

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✔ Correct (1/1 point)

Discussion
Topic: Module 9 / Interpreting Regression Output - Quiz

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