

Quiz 4

Instructions

To answer questions 6-10, you need to run some regressions in R using the trade and growth data set (GrowthSW from AER library) **without Malta** in the sample. Make sure to use heteroskedasticity-robust standard errors in the stargazer command.

Run the following regressions:

Regression 1: Average growth rate **on** trade share

Regression 2: Average growth rate **on** trade share, real GDP per capita in 1960 (*rgdp60*) **and** average educational attainment in 1960 (*education*)

Regression 3: Average growth rate **on** trade share, real GDP per capita in 1960 (*rgdp60*), average educational attainment in 1960 (*education*) **and** average number of revolutions and insurrections from 1960 to 1995 (*revolutions*)

Display all regression results into on stargazer table:

```
stargazer(regr1, regr2, regr3, se=list(cse(regr1), cse(regr2), cse(regr3)),  
          title="Growth and Trade", type="text", star.cutoffs=NA, df=FALSE, digits=4)
```

(make sure you write the cse function before using it in stargazer)

Question 1

1 / 1 pts

Imperfect multicollinearity

- ☐ means that you cannot estimate the effect of at least one of the Xs on Y
- ☐ violates one of the four Least Squares assumptions in the multiple regression model
- ☐ suggests that a standard software package does not have enough power to estimate the multiple regression model
- ☒ implies that it will be difficult to estimate precisely one or more of the partial effects using the data at hand

Correct!

Question 2

1 / 1 pts

Correct!

Finding a small value of the p-value (less than 5%)

- ☒ Indicates evidence against the null hypothesis
- ☐ will only happen roughly one in twenty samples
- ☐ Implied that the t-statistic is less than 1.96
- ☐ Indicates evidence in favor of the null hypothesis.

Question 3

1 / 1 pts

If you wanted to test, using a 5% significance level, whether or not a specific slope coefficient is equal to one, then you should

- ☐ check if the adjusted R2 is close to 1.
- ☐ add and subtract 1.96 from the slope and check if that interval includes 1.
- ☐ see if the slope coefficient is between 0.95 and 1.05.

Correct!



subtract 1 from the estimated coefficient, divide the difference by the standard error, and check if the resulting ratio is larger than 1.96.

Question 4

1 / 1 pts

In a multiple regression framework, the slope coefficient on the regressor X_{2i}

- ☐ is larger than the coefficient on X_{1i} .
- ☒ is measured in the units of Y_i divided by units of X_{2i} .
- ☐ takes into account the scale of the error term.
- ☐ is usually positive.

Correct!

Question 5

1 / 1 pts

In multiple regression, the R^2 increases whenever a regressor is

Correct!

- ☐ added.
- ☐ added unless there is heteroskedasticity.
- ☒ added unless the coefficient on the added regressor is exactly zero.
- ☐ greater than 1.96 in absolute value.

Question 6

1 / 1 pts

Using Regression 2 results, we conclude that:

Correct!

- ☒ An additional year of average schooling in 1960 increases, on average, the growth rate, by 0.56%, holding everything else constant.
- ☐ An additional year of average schooling in 1960 increases, on average, the growth rate, by 56%, holding everything else constant.
- ☐ An additional year of average schooling in 1960 increases, on average, the growth rate, by 0.56%.
- ☐ An additional year of average schooling in 1960 increases, on average, the growth rate, by 56%.

Question 7

1 / 1 pts

Using Regression 3 results, we conclude that:

☐

an increase in real GDP per capita by \$1,000 will decrease growth rate, on average, by 0.0005%, for the same trade share, number of revolutions, and educational attainment.

☒

an increase in real GDP per capita by \$1,000 will decrease growth rate, on average, by 0.5%, for the same trade share, number of revolutions, and educational attainment.

☐

an increase in real GDP per capita by \$1,000 will decrease growth rate, on average, by 0.5%, for the same trade share and educational attainment.

☐

an increase in real GDP per capita by \$1,000 will decrease growth rate, on average, by 0.005%, for the same trade share and educational attainment.

Correct!

Question 8

1 / 1 pts

Comparing the 3 regressions, we can conclude that:

Correct!

☒

Regression 3 fits the data better because the included regressors explain 24% of the variation in average growth rates.

☐

Regression 2 fits the data better because all included regressors are statistically different than 0 at 5% significance level.

☐

Regression 3 fits the data better because the included regressors explain 29% of the variation in average growth rates.

☐

We cannot decide using the information given to us.

Question 9

1 / 1 pts

Using regression 3 estimates, the coefficient on trade share is:

Correct!

☒

None of the others.

☐

Statistically significant at 5% level.

- ☐ Statistically significant at 1% level
- ☐ Statistically significant at 10% level.

Question 10

1 / 1 pts

In regression 3, using a t-stat to test whether the effect of revolutions on average growth rate is equal to 0, we conclude that:

- ☐ We cannot reject the null hypothesis at 10% significance level.
- ☐ We can reject the null hypothesis at 1% significance level.
- ☒ We can reject the null hypothesis at 5% significance level.
- ☐ We cannot reject the null hypothesis at 5% significance level.

Correct!

Quiz Score: **10** out of 10