Eco 213: Basic Econometrics and Data Analysis – Monsoon 2020

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Last Date of Submission: 20th November, 2020 Posted on: 13th October, 2020

Total Marks: 40

Instructions:

There are two different problems given. Each carries 20 marks. **Make 2 separate folders with respective Question number and your name as folder names for submissions.**

Please try to complete it before last date, so that you do not take the risk of not being able to complete on time due to any last minute issues. Please remember, the last date is a last date and you are encouraged to do it before the last date to avoid any last minute hassle or connectivity issue. Do not request for extension of submission deadline at any cost because you have decided to wait for the last date.

You should mail answers only in soft copies to your respective TAs. As an additional backup, you should save the file in your google drive and share the link with me and the TA. **DO NOT SUBMIT ANSWERS ATTACHED TO ME IN EMAIL.**

You need to submit the following 3 files in a folder. Each Question should be on different folder. You will be graded based on these submissions. **(follow the same naming pattern, Question number, your name).**

1. Main **MS word document** where you write your answers (your names should be written inside this file, and you will get zero if I suspect copying from friend. So please write your own answer). Do not submit pdf file. **(follow the same naming pattern, Question number, your name).**
2. **Stata log file (follow the same naming pattern, Question number, your name).**
3. **Stata Do file (follow the same naming pattern, Question number, your name).**

All the files should be submitted to your TAs by email, by the given deadline. The file names should be your own name (first name, last name), and the file type extension, and nothing else.

PLAGIARISM WILL NOT BE TOLERATED.

It is your own responsibility to prove the uniqueness of your work. Any indications of copying or discussing answers with others will lead to plagiarism and consequently a zero grade in the assignment. I do not plan to judge who copied from whom. Both will be penalised.

Daugherty and Wooldridge books are good enough to get help.

Question 1:

Before beginning a certain course, 36 students are given an aptitude test. The scores, and the course results (pass/fail) are given below:

Do you think that the aptitude test is useful for selecting students for admission to the course, and if so, how would you determine the pass mark?

Hint: Use OLS and necessary hypothesis testing to answer your question. You need to mention what hypotheses did you test, significance level and al such details. All these answers should be clearly written in the word document.

Steps for the work (these steps are recommended just to help you):

- Enter this data in excel.
- Open Stata.
- Import this excel data from the upper left tab in Stata, as dta file.
- Generate a do file to start writing commands.
- Open Stata data. Open a new log file (you need to name it at this stage using your own name).
- Do the necessary regression (OLS regression command is "reg"). Save the commands in the do file.
- After you get results "close log." This log file is required for submission.
- Save the do file as well and submit.

Student	test score	course result
1	30	Fail
2	29	Pass
3	33	Fail
4	62	Pass
5	59	Fail
6	63	Pass
7	80	Pass
8	32	Fail
9	60	Pass
10	76	Pass
11	13	Fail
12	41	Pass
13	26	Fail
14	43	Pass
15	43	Fail
16	68	Pass
17	63	Pass

18	42	Fail
19	51	Fail
20	45	Fail
21	22	Fail
22	30	Pass
23	40	Fail
24	26	Fail
25	9	Fail
26	36	Pass
27	61	Pass
28	79	Fail
29	57	Fail
30	46	Pass
31	70	Fail
32	31	Pass
33	68	Pass
34	62	Pass
35	56	Pass
36	36	Pass

Questions 2: Use Data Set EAW22 as posted.

1. Does the sex of an individual affect educational attainment? Is there any evidence that the educational attainment of males is different from that of females?

Regress *S* on *ASVABC*, *SM*, *SF*, and *MALE* (a dummy variable that is 1 for male respondents and 0 for female ones). Interpret the coefficients and perform *t* tests.

2. Using your *EAWE* data set, define a slope dummy variable *MALEASVC* as the product of *MALE* and *ASVABC*: *MALEASVC = MALE*ASVABC*

Regress *S* on *ASVABC*, *SM*, *SF*, *ETHBLACK*, *ETHHISP*, *MALE*, and *MALEASVC*, interpret the equation and perform appropriate statistical tests to comment on the use of the interaction variable in this regression, and whether that improves model specification.