

Assignment 1 – Nov. 19th - 24th

Scope of the assignment: Detect the level of understanding of the topic (regression model).

Output (to be sent to the instructor by email at the end of the lecture on November 24th): A zip folder containing the assignment where you will write all the phases of your work (not only the results, but also literature review, model assumptions etc.), the dataset you used and the code.

- 1) **Formulate some hypotheses about what you want to study**, considering the variable you already have. Your ideas must be supported by the literature. Search for scientific articles using Google Scholar, Scencedirect, or other dedicated search engines. Use institutional logins to access scientific journal articles when required. Remember that a scientific study needs to be supported by more than one other study.

Time to dedicate to this session: 25 minutes.

Use of AI: not allowed.

Why? Both because of the level of experience required and because the outputs are not satisfactory. The chatbot (especially if not specialized) often returns only open-source results. ChatGPT bibliographies are now fully recognizable.

- 2) **Describe your data.**

Time to dedicate to this activity: 5 minutes.

Use of AI: not allowed.

Why? You need to understand what you are doing.

- 3) **Build your model and run the regression.** Remember to describe the model and the assumptions on the assignment text. Check the slides when needed.

Time to dedicate to this activity: 30 minutes.

Use of AI: allowed.

Why? Support to coding activity.

- 4) **Apply diagnostic.** Check the slides. You might have some problems in the application of OLS (use the slides as a checklist)

Time to dedicate to this activity: 40 minutes.

Use of AI: not allowed.

Why? We need your brain: you will not have AI during the exam.

- 5) **If needed, modify your model. If the model performs in a good way, add other variables to increase the performance.**

Time to dedicate to this activity: 20 minutes.

Use of AI: not allowed.

Why? We need your brain: you will not have AI during the exam.

- 6) **Write your conclusions.**

Time to dedicate to this activity: 30 minutes.

Use of AI: not allowed.

Why? We need your brain: you will not have AI during the exam.

⇒ **Be sure to conclude point 3 by the end of Nov. 19th.**

⇒ Be aware of the fact that on Monday 24th you will have an extra task to handle. It will take around 25 minutes, and it will be a very relevant part of the work and of your evaluation.