Applied Economics (040178)
Yan Xu

Homework 4

You should work in groups (up to four students) and submit only once on Moodle. Please put the name and student number of all students on top of the first page. **The deadline is Jan 31, 2023.** Late submissions will not be accepted. This homework is worth 12.5% of your overall grade. The report should be around two pages. An unnecessarily long report is not encouraged.

1. In this report, you can propose a research question or find a news article on an observational (i.e. not experimental) study linking two or more variables. For instance, here is a news article on the relationship between low carbohydrate diets and mortality (`https://www.bbc.com/news/health-45195474`). It was based on the original research (`https://www.thelancet.com/article/S2468-2667(18)30135-X/fulltext`).

   Given your research question, please answer the following questions.

   (a) The news article you pick should be after Oct. 1st, 2022. Please also provide a link to it.

   (b) What are the variables considered in the study? What is the research question or the main message of the article?

   (c) What is the economic model and the econometric model for the interested variables?

   (d) Does the article (or you) claim a causal relationship?

   (e) Check the original research, do they claim a causal relationship?

   (f) If you are working with your own research question, establish your causality or correlation relationship.

   (g) Can you think of the reasons why the relationship may not be causal? Is there an omitted variable that could explain the relationship? Could there be reverse causality? How would you improve the news article regarding this study?

   (h) For the case of the research proposal, answer similar questions such as the endogeneity problem due to the omitted variable or the measurement error. What other variables can be used to answer your question better?

   (i) If you have access to the original data and answer the questions in (g) or (h) with some exercises in R, a grade higher than 10/12.5 is expected.