ECO 530 – Fall 2022
Poster Assignment – Part I
Idea Due: September 28, 2023
Part I Due: October 13, 2023

Background

If you continue on in research, at some point you will likely find yourself presenting a poster. I've decided to have you work on a poster for two reasons. First, it offers a good opportunity to practice creating data visualizations. Second, it will require you to practice being succinct; there is not much room and a poster and you have to make the most of it.

Our poster assignment will have two parts:
- Part I (this assignment) will ask you to choose a dataset, specify a research question, and create some data visualizations
- Part II (later in the semester) will ask you to add regression analysis and interpretation to your poster.

Instructions

1) Choose a dataset
- Use one of the sources discussed below
- Use a dataset of your own!

2) Identify a research question:
- Is there any relationship between A & B?
- What effect do changes in A have on B?
- Is the effect of A on B the same for groups X & Y?

3) Write a brief introduction to the data and your research question:
- Less than 300 words

4) Use R (probably ggplot() and kable()) to make a small number of tables and figures that summarize the variables in your data that are relevant to your research question.

5) Write a brief discussion of any insight that comes out of your tables/figures related to your research question.

6) Use the included template (or one of your own) to make a poster.

Tips/Suggestions

Your poster should include:
- Your introduction
- A few tables/figures (but not so many that the audience gets lost)
- Your discussion/conclusions

Your table MAY include confidence intervals on variable means, but this is not strictly necessary. You MAY conduct simple t-test, but this is also not strictly necessary. You MAY NOT run or report any regressions, even if you are already comfortable with doing so. The goal is to practice data visualization and communication. You will have plenty of time to run regressions in the coming weeks.

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Data Source Suggestions

The World Bank – Microdata Library

The World Bank's Microdata Library is a repository of datasets collected by the World Bank, international organizations, and national organizations across many different countries. It includes both the "Living Standards Measurement Study" (LSMS), which is a broad-reaching series of surveys across many different countries, and the "Integrated Public Use Microdata Series" (IPUMS), which pulls census and survey data from around the world and makes them available to researchers.

A few notes:
- You'll need to create a log-in
- Choose a country and context of interest to you
- Read the "Data Description" and "Documentation" Files to get an idea of what variables are included in the data
- Go to the "Get Microdata" Tab to request/download the data you've chosen

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Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System

The CDC's BRFSS survey is one of the best sources for health-related risk behaviors and use of available healthcare services that is available in the USA.

A few notes:
- If you go this route, I'll ask that you focus on the 2021 Data. I've helped you out a bit and downloaded it already. It comes in an odd format, so I've converted it to a CSV for you (attached).
- Start by reading the "2021 BRFS Overview CDC" documentation.
- Then look through the "2021 BRFSS Codebook CDC" to get a sense of what data is included and how the variables are coded.
- You might want to focus on a sub-population – maybe a single state/region or a few states, maybe certain demographic groups. This is a big dataset (438,693 observations) and focusing in on a smaller group will make all your tasks easier.

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[FAOSTAT – Food and Agriculture Organization of the United Nations](#)

If you're into global agriculture, this is the source for you! From Sustainable Development Indicators to production to trade, FAOSTAT has an abundance of super interesting data for you to dig into. Choosing and downloading your data is also very easy, which is great.

A few notes:
- Similar to my "choose a state/few states" suggestion for the BRFSS data, you'll want to choose your targets carefully here.
- There are many interesting comparisons available to you: across variables within a country, for a single variable across countries, or across variables across countries.
- I recommend the following sequence of events:
  - Play with the data tool a bit in order to get comfortable and see what is there.
  - Write down your research question.
  - Find and download the data needed to answer your research question

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If you want to get crazy, you could try to combine state-level data from a few sources, like:

- USDA – NASS (Quick Stats)
- FRED – Economic Data – St. Louis Fed
- The US Census Bureau

All of the sources presented above should allow you to download data, which you can then read into R. Some of them may also have the option of accessing the data directly via an API. You can read about using APIs in R here! This is a great skill to have, whether you develop it now or in the future.