

Econ 315 Homework 1: Data Preparation and Simple Dashboard

Please submit your written report in MS Word and your complete work in Tableau by saving all your work as *.twbx file (Tableau Package Workbook)

You are given a 2003 paper by Frankel and Rose “Is Trade Good or Bad for the Environment? Sorting Out the Causality”

And two datasets:

Data Set 1: Original Data used for the Paper by Frankel and Rose “Frankel and Rose 2003 Data” (this is a truncated dataset – I removed various unnecessary fields from the original data for this homework)

Data Set 2: Data from the World Bank on CO2 Emissions: “World Bank CO2 emissions Data”

Part 1:

The data set “Frankel and Rose 2003 Data” is already cleaned and ready for analysis but is missing information on CO2 emissions that you will need to complete the assignment. Therefore, I downloaded the CO2 emissions from the world bank and you need to clean the “World Bank CO2 emissions Data” and join it with the “Frankel and Rose 2003 Data”

Part 2:

Now that you have a nice dataset in Tableau that contains all the information you need from both datasets, you can investigate the relationship between environment and trade. (You can also use a Relationship between the two datasets if you don’t want to join them – choice is yours)

1. Use measure “Mean Sulfur dioxide” and “PWT 5.6 Openness” to recreate Figure 1 from the paper – recreate the figure with all the necessary improvements to make the data stand out, the original graph needs improvement, use what we have learned in class. Use the “Institutionalized Democracy Score” measure to create a “Low Democracy” group that has a score less than or equal to 8, and “High Democracy” that has a score higher than 8.
 - a. Hint1: The figure won’t include all the same countries as some of the values are missing and Tableau will omit them whereas in the paper, they forced some values with some missing information
2. Create the same figure as Figure 1 but with CO2 emissions and Openness (*when I mean create the same figure, I mean create a scatter plot with the two new variables that makes the data clearly stand out. The original figure does not make the data stand out and needs improvement; I want your new figure to have all the right improvements that are discussed in the lecture notes and videos.*)
 - a. Hint 2: In the first part, Sulfur dioxide was already a Mean variable while here CO2 is not for each country
3. Create a Dashboard with both figures

- a. Allow for highlighting between the two figures on the dashboard, that is, selecting one or more countries in one figure, selects them in the second figure on the same dashboard.
4. Comment on the features of your visualizations; that is, how and why you chose to create the visualization you did.

Part 3: Recreate the information in Figure 1a as much as you can; focus on the top 6 graphs only and remake them by making the data stand out. The original figure is not very good, *make this information better using 6 graphs that will have similar layout. The goal is to use the lessons we learned in class to make this graph better.*

For income, use variable: PWT 5.6 Real GDP per capita "Income"

Part 4: Create one more visualization using this data that you think is interesting and visualizes impact of trade on environment. This one is your choice, essentially, explore the data using visuals and create one additional figure. Briefly describe the figure and make sure the figure is clear, and when looking at the figure a person who is not familiar with the data would clearly know what they are looking at and what message is being delivered by the graph.

What to turn it:

A report in MS Word that is no more than 2 pages of writing: double-spaced with 12 point font. The report should include the dashboard and Figure 1a and Figure from Part 4 in the Appendix of the report. These don't count against the 2 page max requirement.

Also, Save and submit all your work in **Tableau Package Workbook file: *.twbx**

Grading: Inherently some of this grading is subjective but I will focus on:

Is the data clear

Is there lack of chartjunk

Are Tableau Worksheets well organized and clean, well labeled

Did you accomplish the tasks required?

Are the visuals clear and easy to read/understand