Visualizing Data

Fundamentals of R - Homework

2023

- All materials for the exercises below are available in the homework folder on Moodle.
- Please submit your answers as a HTML or a PDF file generated with Rmarkdown.
- Please make sure to include code chunks and plots in submitted the document.
- Please add titles, legends, and themes to your plots for clarity.

Income of International Organizations

The 'io_income_rs.csv' dataset contains a non-random sample from funding data from some international organizations:

Table 1: The Financial Underpinnings of IOs

Variables	Description
`year`	Year of donation.
`donor`	Donor (e.g. USA, Swirtzerland, IKEA Foundation).
`type_donor`	Type of the donor (public or private).
`amount_nominal`	Amount of donations in USD.
`issue_area`	Issue area of recipient organization.

Please load the dataset, we will be working with it today.

Tip: Adding titles, legends, and themes to your plots helps us help you!

Question 1

Create a bar plot displaying the top 10 overall donors and their total donations to all international organizations. Please color the donors by their type (i.e. public or private).

Question 2

Has the amount the US donates to all issue areas increased over time? Please illustrate this relationship in a line plot, colored by the respective issue areas.

Question 3

Plot the distribution of all donations in the year 2000 and in the year 2020 comparing public and private donors. Are there outliers for either of these types of donors in 2000? What about in 2020? (Tip: box plots are great for distributions! Please treat year as factor and scale the nominal amount using "scale_y_log10(labels = scales::dollar)").

Question 4

Create four scatter plots, one for each issue area, containing all donation by year per donor type (Tip: use “facet_wrap(~issue_area)”). The shape of the points should reflect the donor type (Tip: use “geom_point(aes(shape = donor_type”))“). In each facet, please add a smoothed line to show the direction of the relationship (TIP: use”geom_smooth()“). The smoothed lines should be colored”red”.