Data Visualization Project

Assignment Handout

Objective

> **Visualize important data concerning [your economic topic] in [your geographic or thematic scope].**

Alberto Cairo (2016) defines data visualization as "any visual display intended to reveal evidence, making the invisible visible." Your goal is to produce an original visualization that communicates an economic story to a non-specialist audience.

What makes data "important"? The more relevant your information, the better. Your display should mean something to someone. Purely decorative graphics or data dumps will not score well.

Adapt the topic to your course. Example topics include: liquidity and financial inclusion (monetary economics), trade flows and comparative advantage (international trade), labor market dynamics, public finance, development indicators, or health economics.

Teams

The instructor assigns teams of 2–3 students. Within each team, assign roles: communication and scheduling, literature review, data work (finding datasets, interpreting variables, handling outliers), data transformation (seasonal filtering, indexing, normalization), and visualization design. Not every task needs to be done by one member alone.

Timeline

The project runs over approximately **10 weeks** from team formation to final submission. Adjust dates to your semester calendar.

Week	Phase and Deliverable
1	**Form teams.** Instructor assigns teams; teams assign internal roles.
3	**Phase 1: Good Viz / Bad Viz / Ugly Viz.** Each team finds one good, one bad, and one ugly example of a data visualization from any source. Write 3–4 sentences per example explaining why it succeeds or fails. Present and discuss in class.
6	**Phase 2: Topic and data submission.** Discuss possible topics in class. Verify data availability. Submit by email: a title, a 3–4 sentence outline of the project, and a link to the data source.
8	**Phase 3: Rough draft.** Apply data transformations and create a preliminary visualization. Prepare an in-class presentation with: (a) title, (b) data display, (c) message and intended audience, (d) design rationale. Present, receive feedback, give feedback to other teams.
10	**Phase 4: Final submission.** Email a single PNG file. The visualization will be displayed in class and graded by classmates.

Grading Rubric

Each criterion is scored from 10 (exemplary) to 6 (unsatisfactory). **50% of your grade comes from peer evaluation; 50% from the instructor.**

Dimension	Exemplary (10)	Unsatisfactory (6)	Weight
Title	Descriptive, informative, intriguing	No title	10%
Description	Efficient use of text elements	Display is inexplicable	10%
Clarity	Data is identifiable immediately	Choices lead to ambiguous display	10%
Support	Assists visualization	Data clutter	20%
Accuracy	Data is accurately displayed	Display deceives the audience	10%
Appropriateness	Display matches message	Display does not mirror message	20%
Impact	Could headline an article in a major economics publication	Is a waste of time and attention	20%

General Advice

- Tell a coherent story.
- "Show the data" does not mean show *all* the data. Declutter. Avoid a "data dump."
- Use color intentionally, not decoratively. Do not rely on color alone (many printers default to black and white).

- Be critical of default software options.
- Elements of the same nature (text, lines, shapes) should look alike.
- Strive for balance between graphic and explanatory text.
- Prevent your audience from asking "so what?" by showing contrasts, comparisons, differences.
- Data sources must be included, briefly.
- Avoid the third dimension—it is usually not helpful.
- You can use supporting statistics (filters, trends, benchmarks) to make your point.

Suggested Data Sources

Adapt this list to your institutional and geographic context.

- Central bank (e.g., Banco de México, Federal Reserve, ECB)
- National statistics agency (e.g., INEGI, BLS, Eurostat)
- International Monetary Fund (IMF)
- World Bank
- Bank for International Settlements (BIS)
- Organisation for Economic Co-operation and Development (OECD)
- World Input-Output Database (WIOD)
- NBER, AEA data repositories, and replication archives of research journals

References

Cairo, A. (2016). *The Truthful Art: Data, Charts, and Maps for Communication.* New Riders.
Schwabish, J. A. (2014). An economist's guide to visualizing data. *Journal of Economic Perspectives*, 28(1), 209–234.
Hudiburgh, L. M., & Garbinsky, D. (2020). Data visualization: Bringing data to life in an introductory statistics course. *Journal of Statistics and Data Science Education*, 28(3), 262–279.