CS & SS Homework 1

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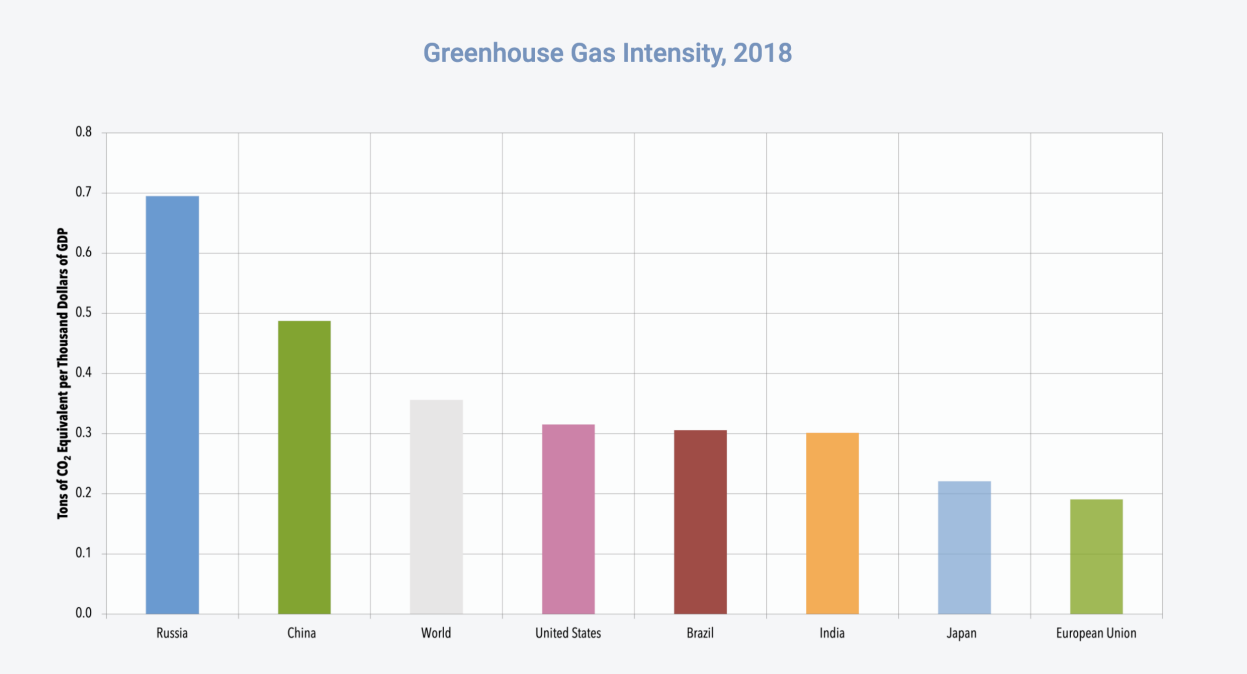
Problem 1

a

Carbon dioxide emissions come mainly from the combustion of fossil fuels, which has been rising since the industrial revolution started. World's greenhouse gas emissions come from a few countries. Such as Russia and China. Greenhouse gas intensity in the 2018 plot measures the tons of Carbon dioxide per thousand dollars relative to GDP. It shows the highest in Russia and China, with the United States below the world average.

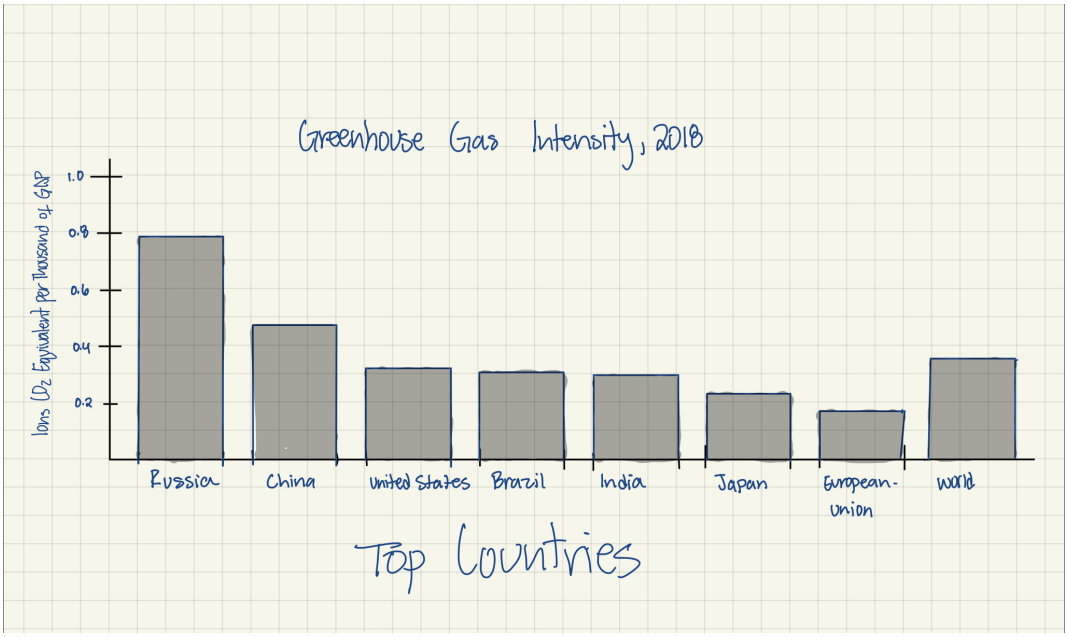


Source: Statistics How To "Misleading Graphs: Real Life Examples"

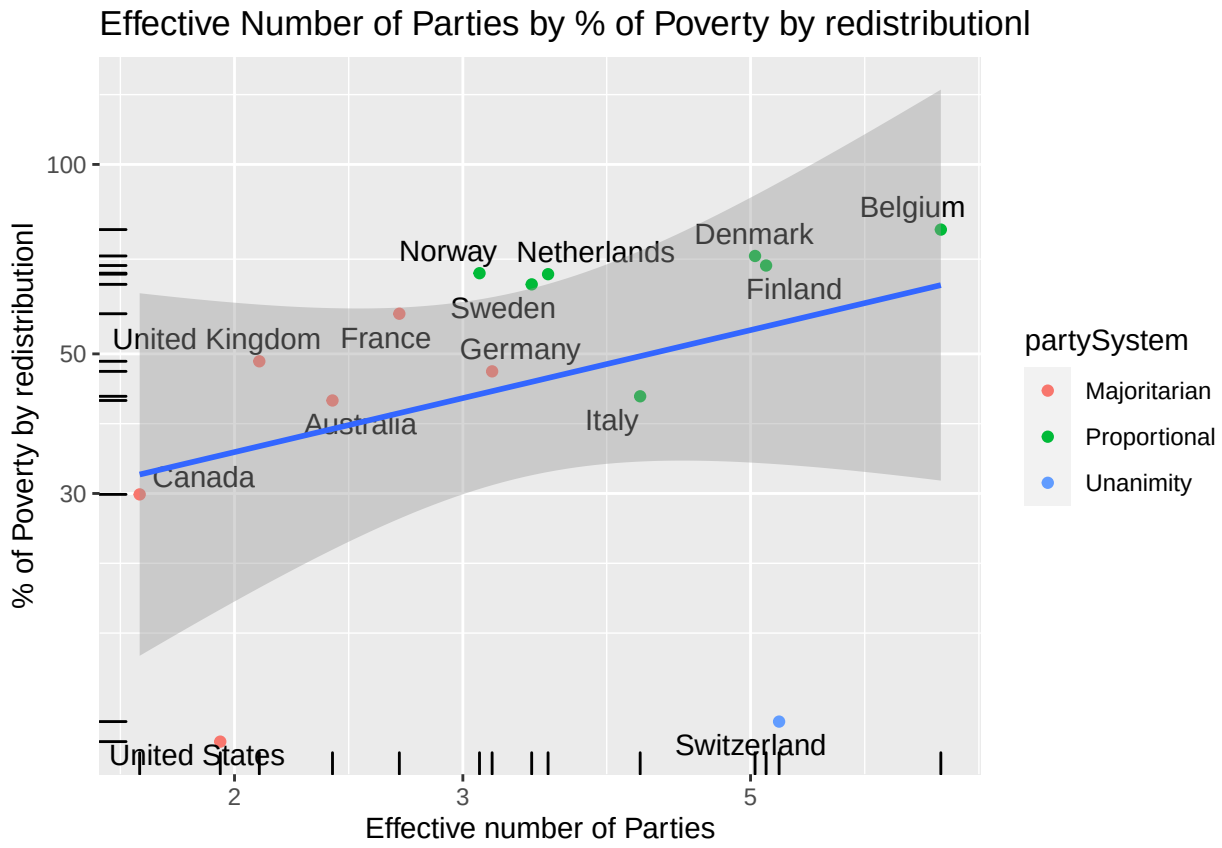
b.

This is a useful graph with all the information needed to know about tons of Carbon dioxide per thousand dollars relative to GDP by counties. One of the obvious critics is the multiple colors, which mislead us that other information is represented. The more color, the harder the visualization to be comprehensible. Using one color will help us focus on the vital message about greenhouse gas intensity rather than trying to figure out what those colors represent.

c.


Greenhouse Gas Intensity, 2018
tons CO_2 Equivalent per Thousand of GNP
1.0
0.8
0.6
0.4
0.2
Russia
China
United States
Brazil
India
Japan
European Union
World
Top Countries

Problem 2


Effective Number of Parties by % of Poverty by redistributionl
% of Poverty by redistributionl
100
50
30
Belgium
Denmark
Norway
Netherlands
Finland
Sweden
United Kingdom
France
Germany
Australia
Italy
Canada
United States
Switzerland
2
3
5
Effective number of Parties
partySystem
Majoritarian
Proportional
Unanimity

Code Appendix

```
knitr::opts_chunk$set(echo = TRUE, message = FALSE, warning = FALSE)

# packages
library(tidyverse)
library(ggplot2)
library(MASS)
#install.packages("scatter")
#library(scatter)
#install.packages("ggrepel")
library(ggrepel)
#install.packages("ggtext")
library(ggtext)


# get your working directory (not a big fan of this practice; use .Rproj instead)
YourWD <- getwd()
knitr::include_graphics(paste0(("~/Dropbox/Mac/Documents/CSSS"), "/Badplot.png"))

knitr::include_graphics(paste0(("~/Dropbox/Mac/Documents/CSSS"), "/goodplot.jpeg"))

my_data <- read_csv("iverRevised.csv")

ggplot(my_data, aes(y = povertyReduction , x = effectiveParties)) +
  geom_point(aes(color = partySystem)) +
  xlab("Effective number of Parties") +  #b
  ylab("% of Poverty by redistributionl") +
  ggtitle("Effective Number of Parties by % of Poverty by redistributionl") +
  geom_text_repel(aes(label = country)) +  #c
  geom_rug()  + #e
 geom_smooth(method = "lm", level = 0.95) + #f &g
  scale_x_continuous(trans = 'log10') + #a
  scale_y_continuous(trans = 'log10')
```