

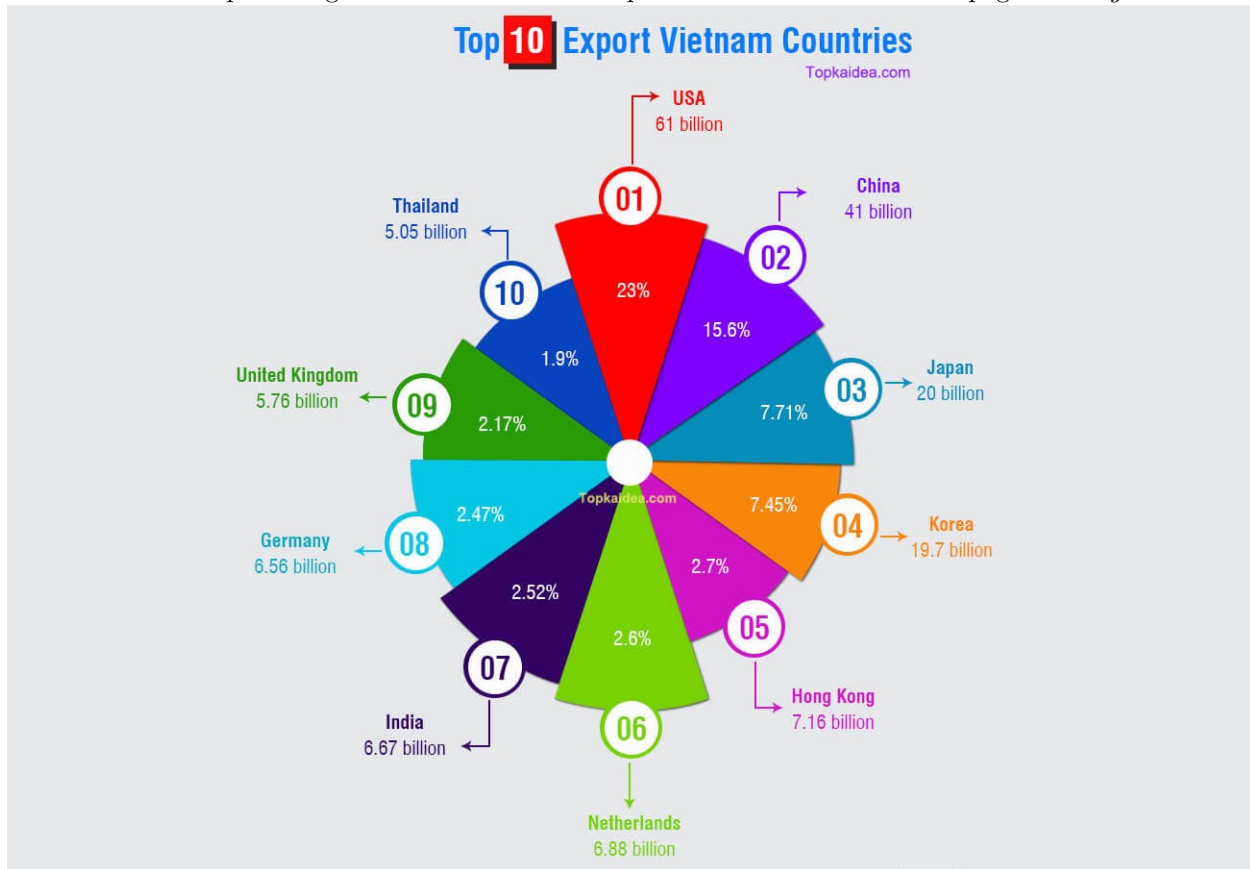
# Homework 2

Sabina Sidarovich

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## The original visualization

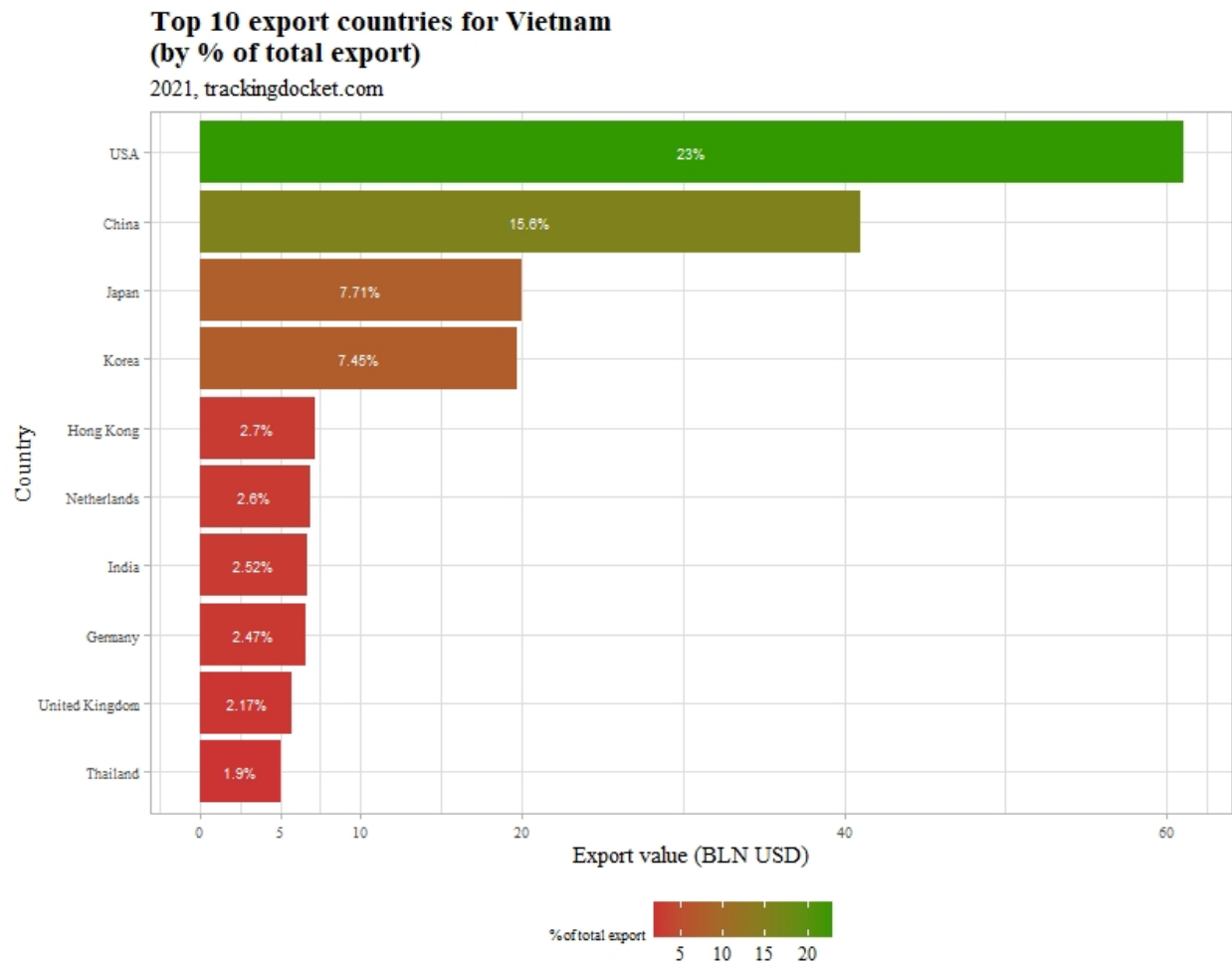
The original plot is a pie chart created to present the value of export for top 10 export countries of Vietnam and their percentage contribution to total exports. It can be found on the page *trackingdocket.com*.



## Code and visualization

Since all the data can be found on the plot, my decision was to recreate the original dataset, as I did not manage to find the dataset with yearly export, only the monthly ones.

The plot I created is a flipped barplot, sorted by the value of export.



The code I used is presented below:

```

library(ggplot2)
library(ggthemes)

#prepare data
country <- c("USA", "China", "Japan", "Korea", "Hong Kong",
             "Netherlands", "India", "Germany", "United Kingdom", "Thailand")
export_value <- c(61, 41, 20, 19.7, 7.16, 6.88, 6.67, 6.56, 5.76, 5.05)
export_percentage <- c(23, 15.6, 7.71, 7.45, 2.7, 2.6, 2.52, 2.47, 2.17, 1.9)
top_10 <- data.frame(country, export_value, export_percentage)

#plot export values by country
ggplot(top_10, aes(x = reorder(country, export_value), y = export_value,
                  fill = export_percentage)) +
  geom_col() +
  geom_text(label = paste(export_percentage, "%", sep = ""),
            position = position_stack(vjust = .5), size = 2.5, color = "white") +
  coord_flip() +
  theme_light() +
  scale_y_continuous(breaks = c(0, 5, 10, 20, 40, 60)) +
  scale_fill_continuous(low = "#CC3333", high = "#339900") +
  labs(title = "Top 10 export countries for Vietnam \n(by % of total export)",
       subtitle = "2021, trackingdocket.com",
       x = "Country",
       y = "Export value (BLN USD)",
       fill = "% of total export") +
  theme(text = element_text(family = "serif"),
        legend.position = "bottom",
        legend.title = element_text(size = 7),
        axis.text = element_text(size = 7),
        plot.title = element_text(face = "bold", size = 14))

```

## Explanation

The original plot was not only difficult to read due to the palette it used, it also gave the wrong idea of the percentage split between the countries because it didn't follow the percentage proportions. And the pie chart itself is difficult for humans to take in because of inability to read the angles correctly, especially when the parts have different radiuses. The barplot allows to read and compare the values much easier. Additionally, the grid and the colours used make the plot visually pleasant, and the font theme used is one of those we are used to seeing in everyday life. The fact that the columns are sorted in the decreasing order is also worth mentioning since it lets you focus on the important details and is more intuitive.