

# Chapter 22

## Titles, captions, and tables

Fundamentals of Data Visualization

May 6, 2023

# Title in caption

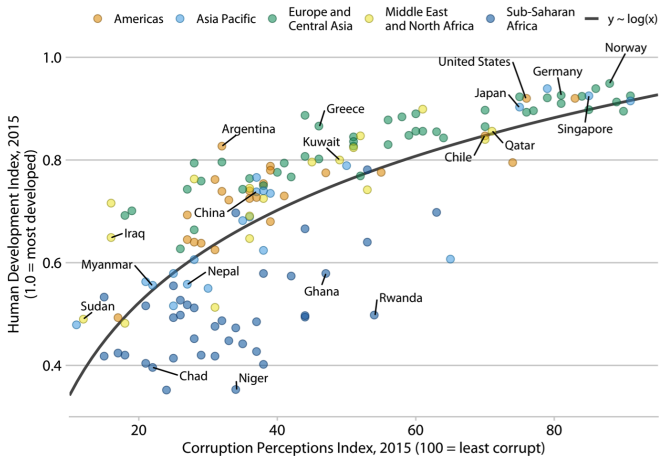
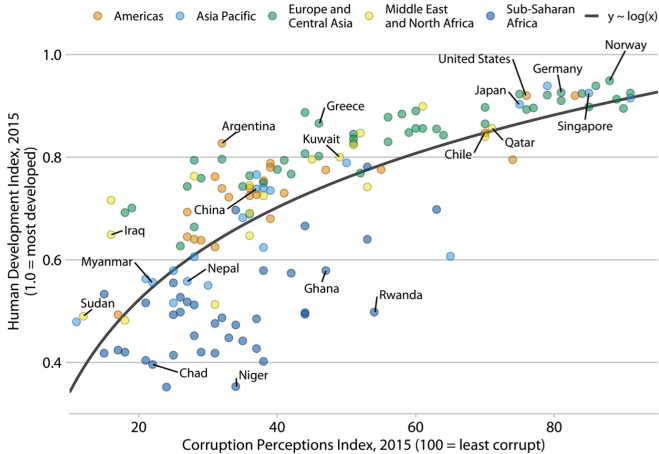


Figure 22.1: Corruption and human development: The most developed countries experience the least corruption. This figure was inspired by a posting in The Economist online (2011). Data sources: Transparency International & UN Human Development Report

# Title incorporated in figure

## Corruption and human development

The most developed countries experience the least corruption



Data sources: Transparency International & UN Human Development Report

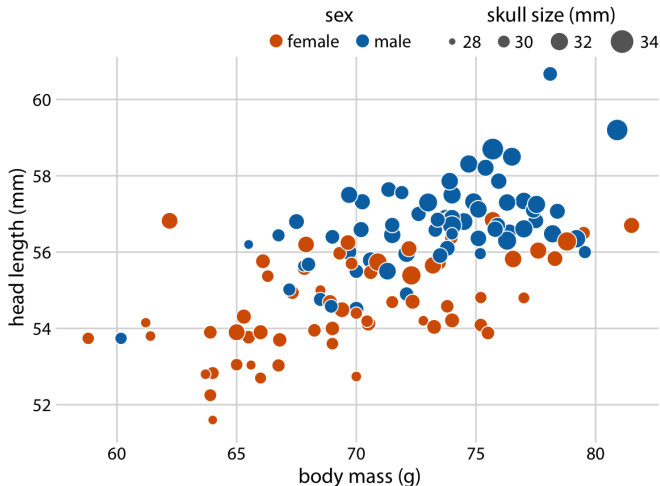
- This figure could be posted on the web as is or otherwise used without separate caption block.

## Caption blocks

**If your document layout uses caption blocks underneath each figure, then place the figure titles as the first element of each caption block, not on top of the figures.**

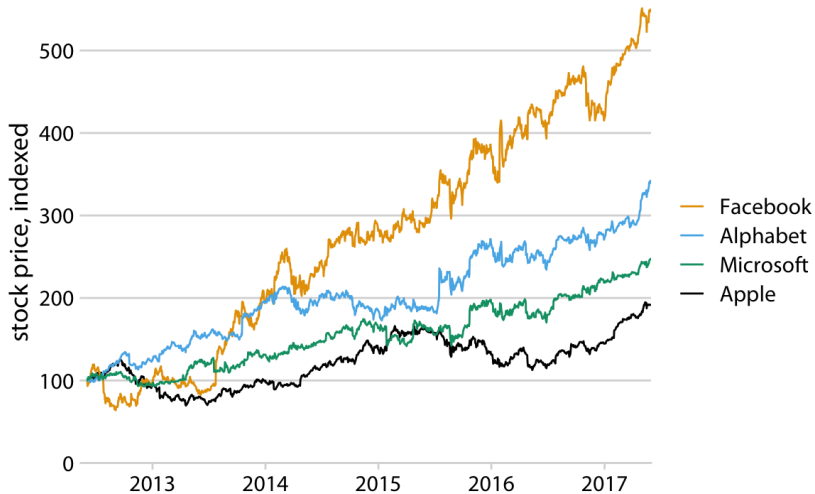
- The first part of the caption is always the title, not a description of the contents of the figure:
  - Corruption and human development.
  - **Not:** This figure shows how corruption is related to human development.

## Axis and legend titles



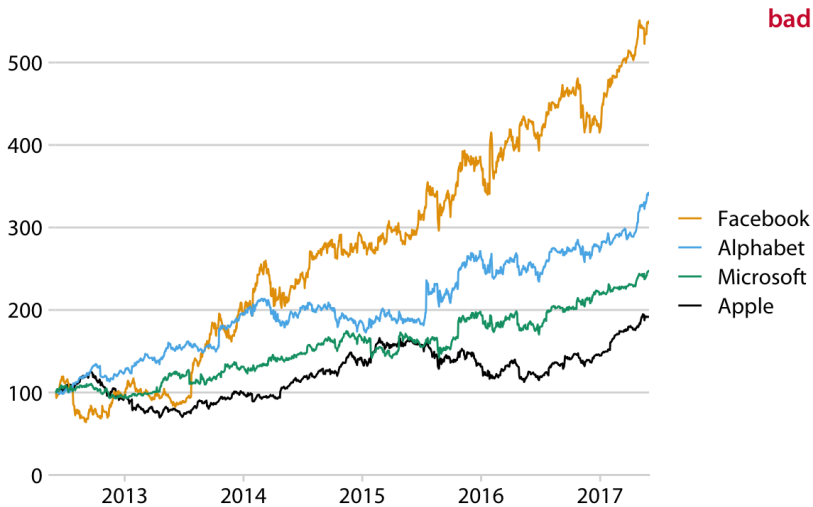
- Always include the units for numerical variables.
- Variable can be omitted if obvious (sex, country names, movie titles, years, etc.)

## Omitting axis titles

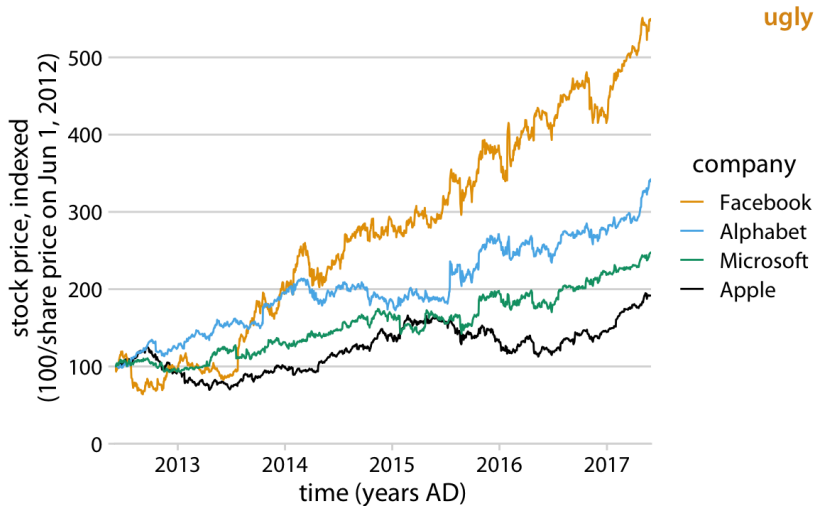


- year and company need no title

## Omitting too many axis titles



## Axis titles with too much information



- Put it in the caption



# Tables

Table 6.1: Highest grossing movies for the weekend of December 22-24, 2017. Data source: Box Office Mojo (<http://www.boxofficemojo.com/>). Used with permission

Rank	Title	Weekend gross
1	Star Wars: The Last Jedi	\$71,565,498
2	Jumanji: Welcome to the Jungle	\$36,169,328
3	Pitch Perfect 3	\$19,928,525
4	The Greatest Showman	\$8,805,843
5	Ferdinand	\$7,316,746

# Tables

Table 7.1: Numbers of passenger with known age on the Titanic.

Age range	Count
0-5	36
6-10	19
11-15	18
16-20	99
21-25	139
26-30	121

Age range	Count
31-35	76
36-40	74
41-45	54
46-50	50
51-55	26
56-60	22

Age range	Count
61-65	16
66-70	3
71-75	3

# Tables

Table 19.1: Colorblind-friendly color scale, developed by Okabe and Ito (2008).

Name	Hex code	Hue	C, M, Y, K (%)	R, G, B (0-255)	R, G, B (%)
orange	#E69F00	41°	0, 50, 100, 0	230, 159, 0	90, 60, 0
sky blue	#56B4E9	202°	80, 0, 0, 0	86, 180, 233	35, 70, 90
bluish green	#009E73	164°	97, 0, 75, 0	0, 158, 115	0, 60, 50
yellow	#F0E442	56°	10, 5, 90, 0	240, 228, 66	95, 90, 25
blue	#0072B2	202°	100, 50, 0, 0	0, 114, 178	0, 45, 70
vermilion	#D55E00	27°	0, 80, 100, 0	213, 94, 0	80, 40, 0
reddish purple	#CC79A7	326°	10, 70, 0, 0	204, 121, 167	80, 60, 70
black	#000000	-	0, 0, 0, 100	0, 0, 0	0, 0, 0

# Microsoft Word

- Has 105 pre-defined table layouts.
- Over 70 of them violate some of the **Table Rules**.
- The default layout is very poor.

# The Table Rules

1. Do not use vertical lines.
2. Do not use horizontal lines between data rows. (Horizontal lines as separator between the title row and the first data row or as frame for the entire table are fine.)
3. Text columns should be left aligned.
4. Number columns should be right aligned and should use the same number of decimal digits throughout.
5. Columns containing single characters are centered.
6. The header fields are aligned with their data, i.e., the heading for a text column will be left aligned and the heading for a number column will be right aligned.

# Good and bad tables

a

ugly

Rank	Title	Amount
1	<i>Star Wars: The Last Jedi</i>	\$71,565,498
2	<i>Jumanji: Welcome to the Jungle</i>	\$36,169,328
3	<i>Pitch Perfect 3</i>	\$19,928,525
4	<i>The Greatest Showman</i>	\$8,805,843
5	<i>Ferdinand</i>	\$7,316,746

b

ugly

Rank	Title	Amount
1	<i>Star Wars: The Last Jedi</i>	\$71,565,498
2	<i>Jumanji: Welcome to the Jungle</i>	\$36,169,328
3	<i>Pitch Perfect 3</i>	\$19,928,525
4	<i>The Greatest Showman</i>	\$8,805,843
5	<i>Ferdinand</i>	\$7,316,746

c

Rank	Title	Amount
1	<i>Star Wars: The Last Jedi</i>	\$71,565,498
2	<i>Jumanji: Welcome to the Jungle</i>	\$36,169,328
3	<i>Pitch Perfect 3</i>	\$19,928,525
4	<i>The Greatest Showman</i>	\$8,805,843
5	<i>Ferdinand</i>	\$7,316,746

d

Rank	Title	Amount
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3	<i>Pitch Perfect 3</i>	\$19,928,525
4	<i>The Greatest Showman</i>	\$8,805,843
5	<i>Ferdinand</i>	\$7,316,746

## Caption placement figures vs. tables

- For figures, it is customary to place the caption underneath, whereas for tables it is customary to place it above.
- For figures, readers tend to first look at the graphical display and then read the caption for context, hence the caption makes sense below the figure.
- By contrast, tables tend to be processed like text, from top to bottom, and reading the table contents before reading the caption will frequently not be useful. Hence, captions are placed above the table.