Week 4
Themes & Annotations

Data Visualization for Social Scientists

Lecturer: Jeffrey Ziegler, PhD
Teaching Fellow: Shekhar Kedia

ASDS - Trinity College Dublin

Spring 2026

- Today:
  - ▶ Theme adjustment

Road map for today

- Today:
  - ▶ Theme adjustment
 - ▶ Annotations

Road map for today

- Today:
  - ▶ Theme adjustment
  - ▶ Annotations
- By next week, please...
  - ▶ Problem set #3

BASE PLOT: CHES DATA

```r
1  # Import dataset
2  CHES <- read.csv("https://raw.
      githubusercontent.com/ASDS-TCD
      /DataViz_2026/refs/heads/main/
      datasets/1999-2024_CHES.csv")
3  # subset to only years 2010, 2014,
      2019
4  CHES_subset <- CHES |> filter(year
      <2024 & year>2008)
5  # change level labels for govt
      variable
6  CHES_subset$govt <- as.factor(CHES_
      subset$govt)
7  levels(CHES_subset$govt) <- c("
      Party not in government","In
      government for part of year","
      Party in government full year"
      )
8  # create base plot
9  base_plot <- ggplot(data=CHES_
      subset, aes(x=vote, y=lrgen,
      color=as.factor(govt))) +
10   geom_point() + facet_wrap(vars(
      year)) +
11   labs(y="Left-right placement", x=
      "Vote share (%)", color="Part
      of government")
```
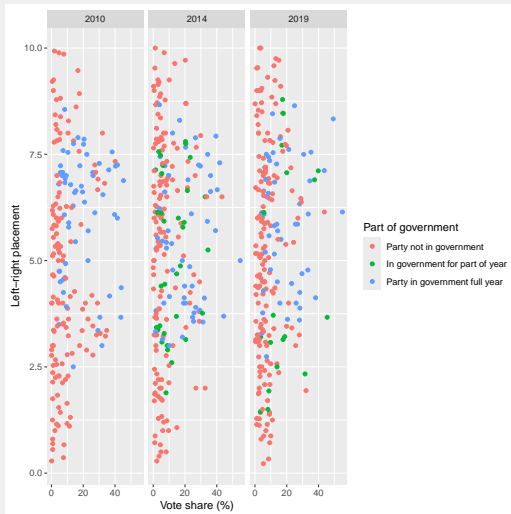
- Fix grey background

- Deal with extra gridlines

```
1 base_plot +
2   theme_minimal() +
3   theme(panel.grid.minor =
        element_blank())
```
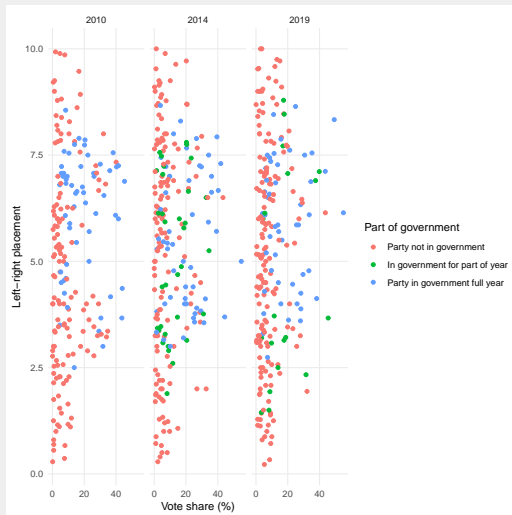
CHES DATA: TITLES + CAPTIONS
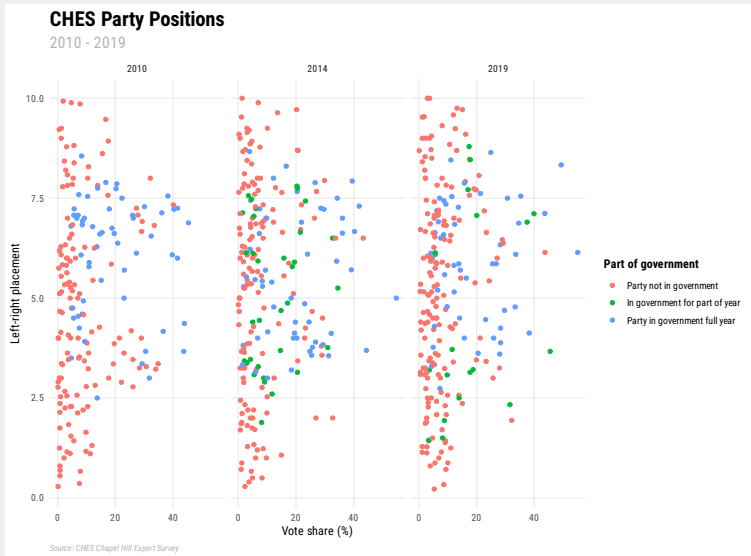
- Adjust only title, sub-title, and caption

- Adjust only title, sub-title, and caption
- Use Roboto Condensed font as the base font

CHES DATA: TITLES + CAPTIONS

- Adjust only title, sub-title, and caption

- Use Roboto Condensed font as the base font

  - Will need to install this font and use `library(extrafont)` to make this work if you want to follow along

```
1  base_plot <- base_plot +
2    labs(title = "CHES Party Positions",
3         subtitle = "2010 - 2019",
4         caption = "Source: CHES Chapel Hill Expert Survey") +
5    theme_minimal(base_family = "Roboto Condensed", base_size = 12) +
6    theme(panel.grid.minor = element_blank(),
7          # Bold, bigger title
8          plot.title = element_text(face = "bold", size = rel(1.7)),
9          # Plain, slightly bigger subtitle that is grey
10         plot.subtitle = element_text(face = "plain", size = rel(1.3), color = "grey70"),
11         # Italic, smaller, grey caption that is left-aligned
12         plot.caption = element_text(face = "italic", size = rel(0.7), color = "grey70",
       hjust = 0),
13         # Bold legend titles
14         legend.title = element_text(face = "bold"))
```

# CHES data: Titles + captions

CHES Party Positions
2010 - 2019

Source: CHES Chapel Hill Expert Survey

■ Now let's fix up the axis titles and labels

```r
1  base_plot <- base_plot + theme(
2    # Bold, slightly larger facet titles that are left-aligned for the sake of repetition
3    strip.text = element_text(face = "bold", size = rel(1.1), hjust = 0),
4    # Bold axis titles
5    axis.title = element_text(face = "bold"),
6    # Add some space above the x-axis title and make it left-aligned
7    axis.title.x = element_text(margin = margin(t = 10), hjust = 0),
8    # Add some space to the right of the y-axis title and make it top-aligned
9    axis.title.y = element_text(margin = margin(r = 10), hjust = 1))
```

CHES Party Positions
2010 - 2019
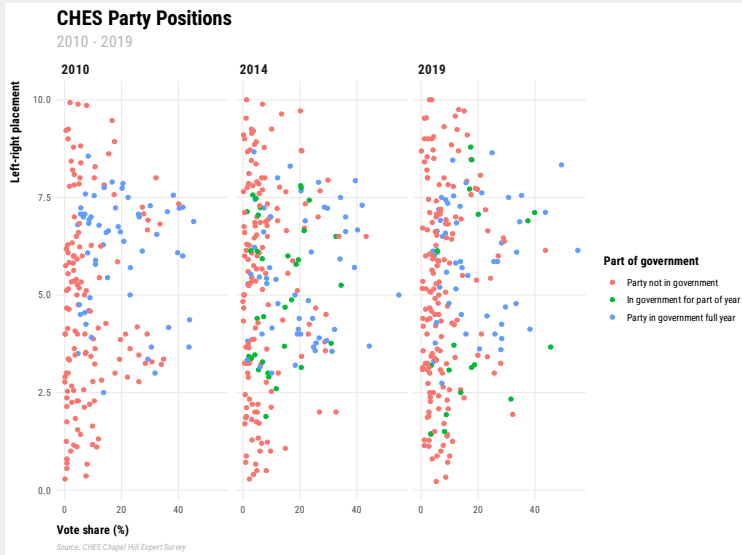
CHES DATA: FACETS

■ Last, let's fix the facets

```
1  # Add a light grey background to
        the facet titles, with no
        borders
2  base_plot <- base_plot + theme(
        strip.background = element_
        rect(fill = "grey90", color =
        NA),
3       # Add a thin grey border
        around all the plots to tie in
         the facet titles
4       panel.border = element_rect(
        color = "grey90", fill = NA))
```


CHES Party Positions
2010 - 2019

Source: CHES Chapel Hill Expert Survey
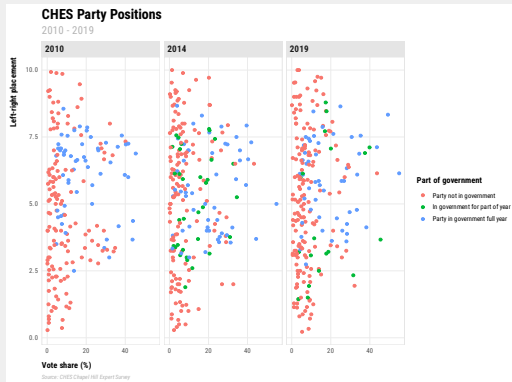
Now we can save this as a theme template for any other plot we
want to produce

```
1  my_pretty_theme <- theme_minimal(base_family = "Roboto Condensed", base_size = 12) +
2    theme(panel.grid.minor = element_blank(),
3          # Bold, bigger title
4          plot.title = element_text(face = "bold", size = rel(1.7)),
5          # Plain, slightly bigger subtitle that is grey
6          plot.subtitle = element_text(face = "plain", size = rel(1.3), color = "grey70"),
7          # Italic, smaller, grey caption that is left-aligned
8          plot.caption = element_text(face = "italic", size = rel(0.7),
9                                      color = "grey70", hjust = 0),
10         # Bold legend titles
11         legend.title = element_text(face = "bold"),
12         # Bold, slightly larger facet titles that are left-aligned for the sake of
     repetition
13         strip.text = element_text(face = "bold", size = rel(1.1), hjust = 0),
14         # Bold axis titles
15         axis.title = element_text(face = "bold"),
16         # Add some space above the x-axis title and make it left-aligned
17         axis.title.x = element_text(margin = margin(t = 10), hjust = 0),
18         # Add some space to the right of the y-axis title and make it top-aligned
19         axis.title.y = element_text(margin = margin(r = 10), hjust = 1),
20         # Add a light grey background to the facet titles, with no borders
21         strip.background = element_rect(fill = "grey90", color = NA),
22         # Add a thin grey border around all the plots to tie in the facet titles
23         panel.border = element_rect(color = "grey90", fill = NA))
```
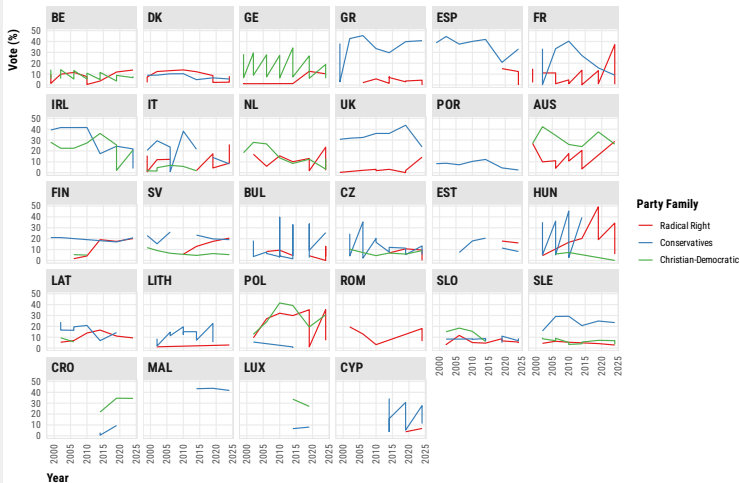
Let's now plot the vote share % that Conservative parties received in elections from 2000-2025 in each country

```r
1  # subset to only Conservative parties
2  CHES_family <- CHES |> filter(family==1 | family==2 | family==4)
3  # change level labels for party family variable
4  CHES_family$family <- as.factor(CHES_family$family)
5  levels(CHES_family$family) <- c("Radical Right","Conservatives","Christian-Democratic")
6  CHES_family$country_name <- as.factor(CHES_family$country)
7  levels(CHES_family$country_name) <- c("BE", "DK", "GE", "GR", "ESP", "FR", "IRL", "IT", "
       NL", "UK", "POR", "AUS", "FIN", "SV", "BUL", "CZ", "EST", "HUN", "LAT", "LITH", "
       POL", "ROM", "SLO", "SLE", "CRO", "MAL", "LUX", "CYP")
8
9  family_plot <- ggplot(data = CHES_family, aes(x = year, y = vote, color = family)) +
10   geom_line() +
11   facet_wrap(vars(country_name)) +
12   scale_colour_brewer(palette = "Set1") +
13   labs(x = "Year", y = "Vote (%)", color = "Party Family",
14        title = "Percent of vote received by Conservative parties",
15        subtitle = "Elections from 2000-2025",
16        caption = "Source: CHES Chapel Hill Expert Survey") +
17   my_pretty_theme +
18   theme(axis.text.x = element_text(angle = 90, vjust = 0.5, hjust=1))
```

CHES data: Party family vote share

Percent of vote received by Conservative parties
Elections from 2000-2025

Vote (%)

BE · DK · GE · GR · ESP · FR
IRL · IT · NL · UK · POR · AUS
FIN · SV · BUL · CZ · EST · HUN
LAT · LITH · POL · ROM · SLO · SLE
CRO · MAL · LUX · CYP

Party Family
— Radical Right
— Conservatives
— Christian-Democratic

Year

Source: CHES Chapel Hill Expert Survey

Wrap up

- Theme adjustment
- Annotations

Class business

- Read required (and suggested) online materials

Class business

- Read required (and suggested) online materials

- Problem set #3 is up on GitHub