

WEEK 4

THEMES & ANNOTATIONS

DATA VISUALIZATION FOR SOCIAL SCIENTISTS

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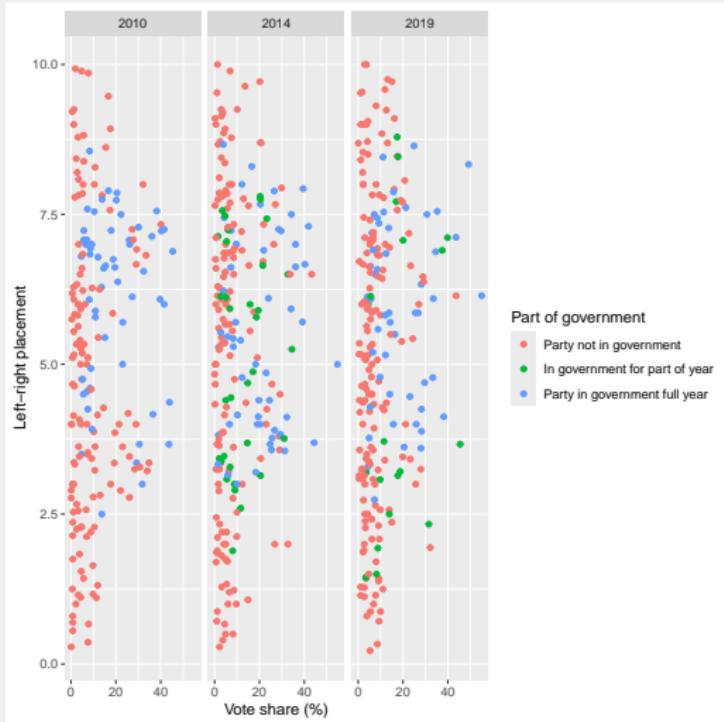
SPRING 2026

ROAD MAP FOR TODAY

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

BASE PLOT: CHES DATA

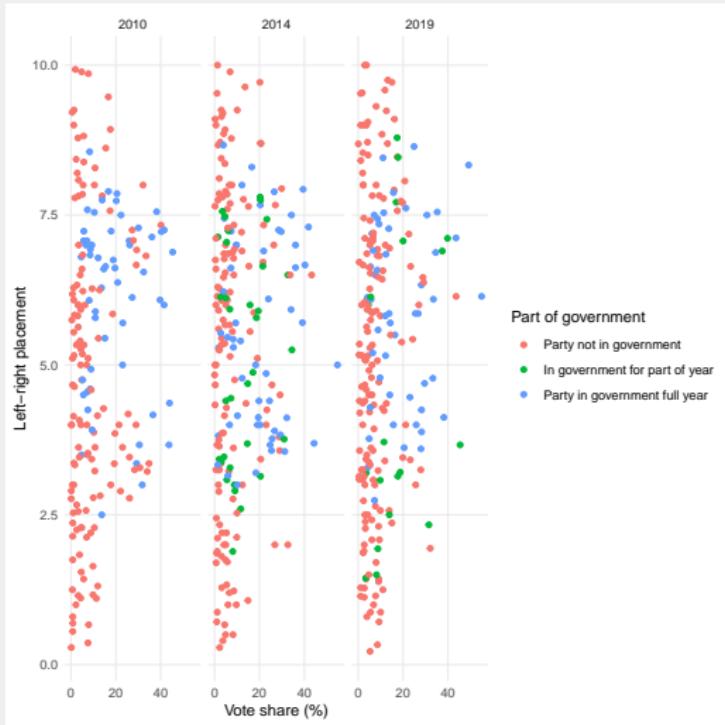
```
1 # Import dataset
2 CHES <- read.csv("https://raw.
githubusercontent.com/ASDS-TCD
/DataViz_2026/refs/heads/main/
datasets/1999-2024_CHES.csv")
3 # subset to only years 2010, 2014,
2019
4 CHES_subset <- CHES |> filter(year
<2024 & year>2008)
5 # change level labels for govt
variable
6 CHES_subset$govt <- as.factor(CHES_
subset$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")
```



CHES DATA: THEME_MINIMAL()

- Fix grey background
- Deal with extra gridlines

```
1 base_plot +  
2   theme_minimal() +  
3   theme(panel.grid.minor =  
        element_blank())
```

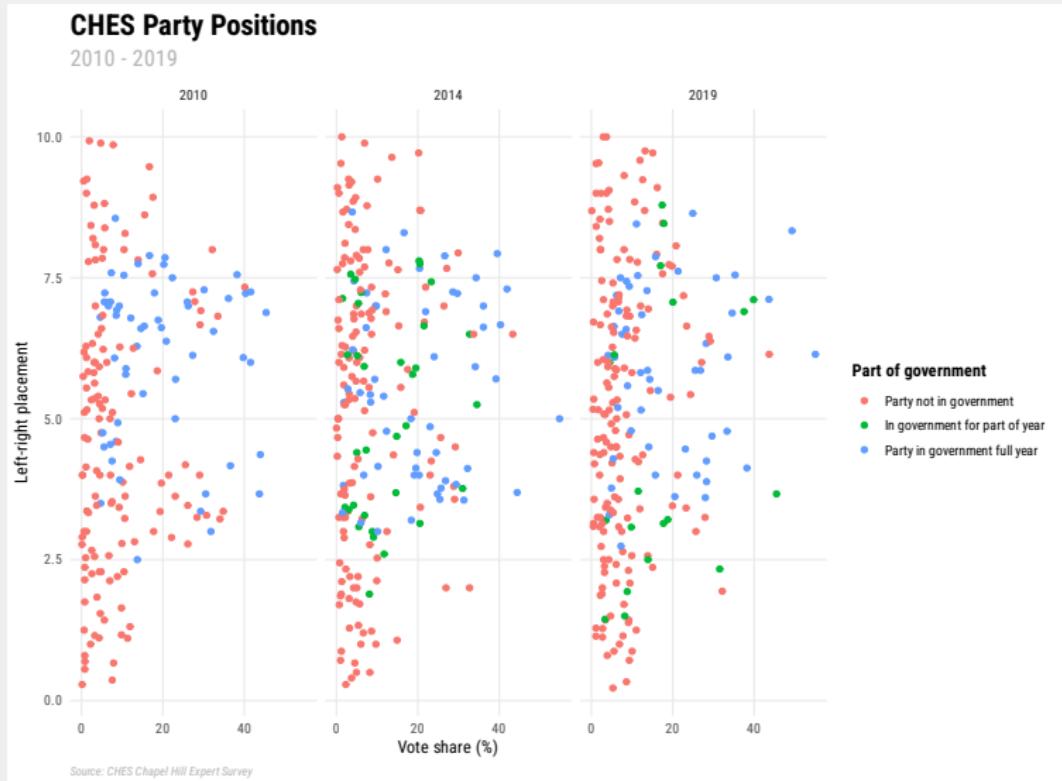


CHES DATA: TITLES + CAPTIONS

- Adjust only title, sub-title, and caption
- 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",  
13        hjust = 0),  
14        # Bold legend titles  
15        legend.title = element_text(face = "bold"))
```

CHES DATA: TITLES + CAPTIONS

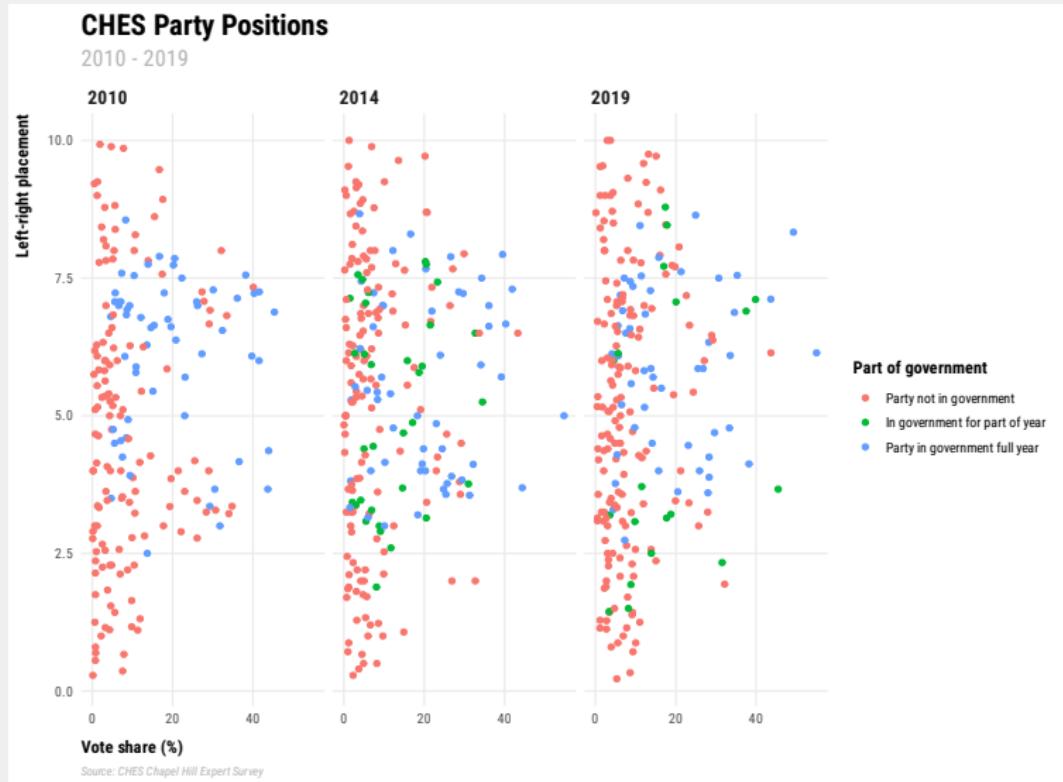


CHES DATA: AXES

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

```
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))
```

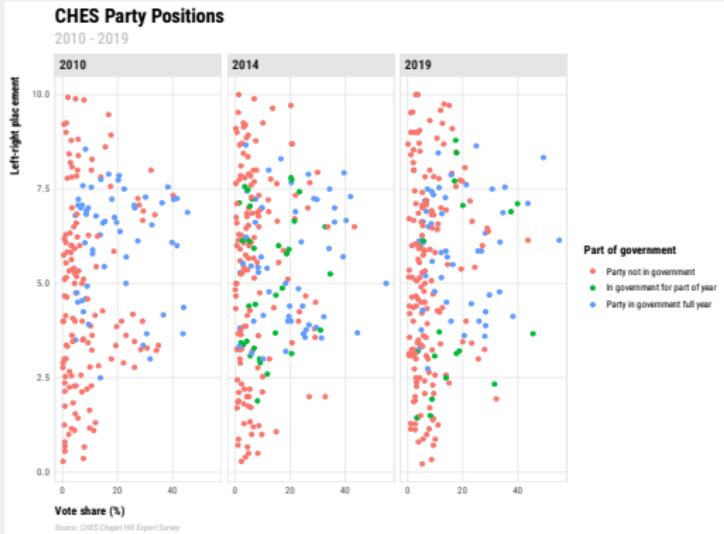
CHES DATA: AXES



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),  
# Add a thin grey border  
# around all the plots to tie in  
# the facet titles  
4 panel.border = element_rect(  
color = "grey90", fill = NA))
```



SAVING A THEME TEMPLATE

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))
```

CHES DATA: PARTY FAMILY VOTE SHARE

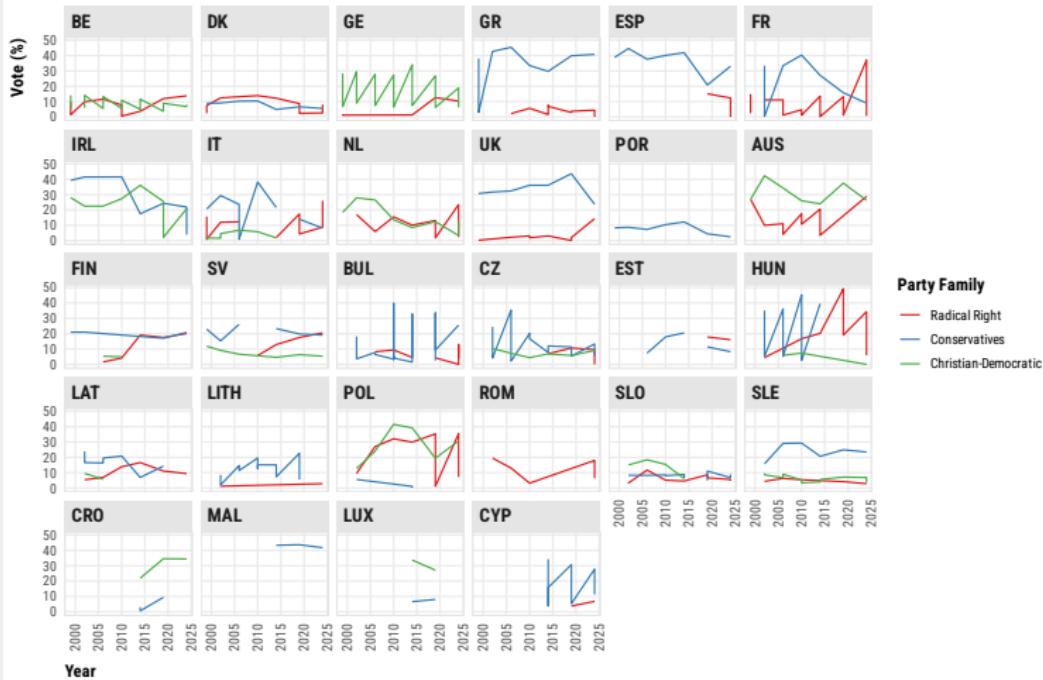
Let's now plot the vote share % that Conservative parties received in elections from 2000-2025 in each country

```
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



Source: CHES Chapel Hill Expert Survey

WRAP UP

- Theme adjustment
- Annotations

CLASS BUSINESS

- Read required (and suggested) online materials
- Problem set #3 is up on GitHub