# Data analysis in R

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# Materials for this class

*https://economic.github.io/data_bootcamp/*

# Outline for today

1. Review of R basics
2. Inflation adjust minimum wage data
3. Calculate shares of workers affected by minimum wage

# Review

1. Calculations, functions, objects
2. Packages
3. rstudio basics

# Inflation adjust minimum wage data

Ohio raised its minimum wage in 2007 and indexed to inflation.

Goal: calculate and create a figure of inflation-adjusted Ohio minimum wage since 1970s.

Minimum wage data:
*https://github.com/benzipperer/historicalminwage/releases*

Inflation data:
*https://www.bls.gov/cpi/research-series/r-cpi-u-rs-home.htm*

# Convert 1978 minimum wage to 2021 dollars

The 1978 wage in 1978 dollars:

$$\text{wage}_{1978} = 2.65$$

The 1978 wage in 2021 dollars

$$= \text{wage}_{1978} \times \frac{\text{CPI}_{2021}}{\text{CPI}_{1978}} = 2.65 \times \frac{399.0}{104.4} = 10.13$$

# Every ggplot has three components

1. data
2. aesthetic mapping
3. geoms and other layers

```
ggplot(data, aes(x = xvar, y = yvar)) +
  geom_line()
```

# Who earns near the minimum wage?

Goal: calculate how many Ohio workers earn near actual/hypothetical minimum wage.

CPS ORG data: *https://microdata.epi.org/*

# Resources

## R tutorials

- ggplot book: *https://ggplot2-book.org/*
- R for data science: *https://r4ds.had.co.nz/*

## CPS data

- CPS ORG data: *https://microdata.epi.org/*
- epiextractr: *https://economic.github.io/epiextractr/*