University of Michigan Survey of Consumers

**Background**

The [SCA](http://www.sca.isr.umich.edu/) is a monthly survey that gauges how consumers feel about the economy, personal finances, business conditions, and buying conditions. From the responses, the Index of Consumer Sentiment (ICS) is constructed using five data points. The resulting index is used as an indicator of overall consumer sentiment on current conditions and short/long-term economic conditions. The index is seen as an important leading economic indicator as consumer spending accounts for about two-thirds of the US economy.

**Data**

Data are downloaded from the [SCA website](https://data.sca.isr.umich.edu/findings/findings.php) and cover the time period January 1978 to June 2023. The index is constructed using responses from five questions about: personal finances (PAGO, PEXP), business conditions (BUS12, BUS5), and spending (DUR). In the csv file “sca\_data.csv” there are additional variables provided for additional exploration.

**Variables**

* CASEID: Respondent Identifier
* YYYYMM: Survey Year & Month
* ICS: Index of Consumer Sentiment
* PAGO: Personal Finances Better/Worse Than One Year Ago
* PEXP: Personal Finances in next year
* BAGO: Economy Better/Worse Than One Year Ago
* BEXP: Economy Better/Worse Next Year
* BUS12: Economy Good/Bad Next Year
* BUS5: Economy Good/Bad Next 5 Years
* DUR: Durables Buying Attitudes
* RATEX: Interest Rates Up/Down Next Year
* PX1Q1; Prices Up/Down Next Year
* PX5Q1: Prices Up/Down Next 5 Years
* HOM: Home Buying Attitudes
* CAR: Vehicle Buying Attitudes
* INCOME: Total Household Income – Current Dollars
* AGE: Age of Respondent
* REGION: Region of Residence
* NUMKID: Number of children <18 Years
* EDUC: Education of Respondent
* SEX: Sex of Respondent
* POLAFF: Political Affiliation of Respondent
* WT: Household Head Weight (Mean = 1)

**Useful R Sources**

* To learn about any function, use the command ?[function name] in the R console. Note: as you type, R will autofill in what it thinks you are searching for, this is particularly helpful if you aren’t quite sure what the name of the function/package/library is.
* Some great ggplot guides:
  + [Plotly](https://plotly.com/ggplot2/geom_point/)
  + [R Graph Gallery](https://r-graph-gallery.com/ggplot2-package.html)
  + [Github](github.com) (excellent repository for all programming language!)
  + [R Bloggers](https://www.r-bloggers.com/)

**R Practice Files**

* Follow the practice program “overview\_r\_techniques.R” to understand how you can transform data through various functions. By the end of the program, you should know:
  + How to save, open, and re-run R script files
  + Install and load appropriate R packages and how to search for new ones online or in console
  + Familiarize yourself with “tidyverse” and its packages
  + Basic operators (arithmetic, logical, etc.)
  + How to read (import) and write (export) csv files
  + How to make comments and format code
  + Basic transformations using mutate, rename, subset/filter (using if/else, casewhen)
  + How to visualize data using ggplot and some customizations with various geom plots
  + Some regression analysis
  + How to find help (online, in R, etc)
* The second program, “advanced\_r\_techniques.R” walks through additional functions and methods of cleaning and analyzing data.