

Homework Assignment 5

Deadline: December 4, 2022 11PM

Source: Stock and Watson, 4th Edition, Exercise 7.1

Data description: You can find the data description [here](#).

Questions

- Regress (i) `birthweight` on `smoker`, `alcohol`, `nprevist`, and `unmarried`. Interpret the coefficient on `unmarried`.
- Construct a 95% confidence interval on for the coefficient. Is it statistically significant? Is the magnitude of the coefficient large?
- Looking at this regression, a family advocacy group claims that higher rates of marriage will lead to healthier babies thus one obvious public policy is to encourage marriage. Do you agree?
- Consider the data set that you have and briefly discuss what variables can be added to the regression to help to solve question (c).
- Run the regression with these additional controls. How did the coefficient on marriage has changed with these additional controls.

Header for the R script

Start a new R script, copy/paste the header below and save it to `Dropbox\EC282\Assignment5` or a similar path that you created for this homework assignment. Run the R script and make sure that you have the data `df1` in your environment. Conduct the analysis below the header.

```
#####
# list the packages we need and loads them, installs them automatically if we don't have them
# add any package that you need to the list
need <- c('glue', 'dplyr', 'readxl', 'ggplot2', 'tidyr', 'AER', 'scales', 'mvtnorm',
          'stargazer', 'httr', 'repmis')

have <- need %in% rownames(installed.packages())
if(any(!have)) install.packages(need[!have])
invisible(lapply(need, library, character.only=T))

# Save the R script to the assignment 1 folder before this
# To set up the working directory
getwd()
setwd(getwd()) #change getwd() here is you need to set a different working directory

#this clears the workspace
rm(list = ls())
#this sets the random number generator seed to my birthday for replication

options(scipen=999)
#####
```

```
#get the data url
df1.url <- 'https://www.dropbox.com/s/z8r6hc0r4ytt4f8/birthweight_smoking.xlsx?dl=1'
#download the data
GET(df1.url, write_disk(tdf <- tempfile(fileext = ".xlsx")))
#check if it worked
df1 <- read_excel(tdf) %>%
  mutate(birthweight = birthweight + rnorm(length(birthweight)) * 50)

head(df1)

#CONDUCT THE ANALYSIS BELOW
```