Assignment I: Simple & Multiple Linear Regression

Econometrics I

Assigned: Feb 15, 2022 To submit: Mar 1, 2022

Write down the answer of every problem and their questions:

Problem 1

Use the data in **CHARITY.RAW** [obtained from Franses and Paap (2001)] to answer the following questions:

- 1. What is the average gift in the sample of 4,268 people (in Dutch guilders)? What percentage of people gave no gift?
- 2. What is the average mailings per year? What are the minimum and maximum values?
- 3. Estimate the model

$$gift = \beta_0 + \beta_1 \ mailsyear + u$$

by OLS (Ordinary Least Squares); and report the results in the usual way, including the sample size and R-squared

- 4. Interpret the slope coefficient. If each mailing costs one guilder, is the charity expected to make a net gain on each mailing? Does this mean the charity makes a net gain on every mailing? Explain
- 5. hat is the smallest predicted charitable contribution in the sample? Using this simple regression analysis, can you ever predict zero for qift?

Problem 2

Use the data in **WAGE2.RAW** to...

- 1. Run a simple regression of IQ over educ in order to obtain the slope, for example $\hat{\delta}_1$
- 2. Run a simple regression of log(wage) over educ in order to obtain the slope $\hat{\beta}_1$
- 3. Run a multiple regression of log(wage) over educ and IQ in order to obtain slope coefficients β_1 , β_1

Note: Dataset are available in our GitHub repository class or by searching them on Google.