ECON 0150 | Fall 2025 | Homework 1.7

Due: Friday, Jan 31, 5PM

Homework is designed to both test your knowlege and challenge you to apply familiar concepts in new applications. Answer clearly and completely. You are welcomed and encouraged to work in groups so long as your work is your own. Use the datafiles to answer the following questions. Then submit your figures and answers to Gradescope.

Q1. Transforming Marriage Rates

The following questions are based on **crude marriage rates** — numbers of marriages per one thousand inhabitants — in 1990 and 2019. Each row represents a different European country.

a) Create a new column of absolute change in marriage rates from 1990 to 2019. The **absolute change** between two values is the result of subtracting the old value from the new value. Which country in this dataset has the largest absolute change between these years (*Hint: do not take an absolute value; positive is greater than negative.*)?

b) Create a new column of relative change in marriage rates from 1990 to 2019. The **relative change** between two values is the ratio resulting from dividing the absolute change by the old value. Which country in this dataset has the largest relative change between these years?