Assignment 3

Applied Financial Econometrics
Lecturer: Axel Araneda, PhD.
Masaryk University
Autumn 2024

1. Download the daily historical price for the last ten years for two stocks of your interest. These stocks must fulfill the same sector (i.e., industrials, consumer staples, financials, utilities, etc.). Repeat the procedure for a new pair of stocks belonging to a different sector (Four stocks in total). For example, KO & PEP (Consumer Staples) and HP & IBM (informatics).
   (a) Are the stock prices stationary? What about of the log-prices? Are booth an Integrated process? Which oder?
2. For the whole log-prices used in the previous point computes an ARMA (1,1), ARMA (1,0), and ARMA (0,1) and evaluates which one is better.
3. Using the VIX index and the ARIMA modelling (the best one) predict the 1-month implied volatility for the following week.

You should deliver R code + Answers (for example Power Point) via IS by the end of the seminar