

MT4539 Quantitative Risk Management - Practical 1

Exercise 1.

Financial data is readily available and can be easily downloaded using [R](#). One possibility is to use the function `get.hist.quote` in the package `tseries`.

- Spend some time making yourself familiar with the help file for `get.hist.quote`. Pay particular attention to the arguments `instrument`, `quote`, `start`, `end` and `quote`.
- Download close prices of the Dow Jones Index for the period 1st January 1992 until 24th January 2022. When does your time series actually start and when does it actually end?
- Plot the time series.
- Change the x -axis. Mark the start (i.e. the first observation) of the years 1992, 1997, 2002, 2007, 2012, 2017 and 2022.

Hint: you might find the following functions useful - `index` (package `zoo`), `substr`, `which`, `axis`. Remember that there is always more than one way to do this.

Exercise 2.

If you are really interested in working like a quant then the defaults in the package `quantmod` will give you the look and feel of a trader's screen.

- Make yourself familiar with the function `getSymbols`. Use this function to download from yahoo quotes on **SSE plc** (a FTSE component, headquartered in Perth, Scotland).
- Explore the function `chartSeries`.

- c) A candlestick chart (also called Japanese candlestick chart) is a style of financial chart used to describe price movements of an asset. A “candlestick” is usually produced for each trading day and contains information about the open, high, low and close (OHLC) prices.

Produce a candlestick chart for **SSE.L** for the month November 2020 using the function **chartSeries**. Make the background white. What do the different colours stand for?

If you set `multi.col = TRUE`, what do the new colours stand for?