Financial Econometrics
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TP 1

Question 1

The provided Excel file contains 5 series of daily US$ prices from 25/10/1992 to 24/10/2002, corresponding to the stocks of MICROSOFT, CREDIT SUISSE ASST.MAN., BOEING, COCA COLA and NIKE. Suppose there are no weekends.

1. For the 5 stocks, compute the daily arithmetic and logarithmic returns.

2. Compare the arithmetic and logarithmic return on the whole period with the sum of the daily returns.

Question 2

1. Estimate the regression coefficients of the returns over their first and second lags. Hint: use the Matlab function *regress*.

Question 3

For the five stock series, working with daily arithmetic returns on the whole sample:

1. Fit a normal distribution to the data (*mle* or *normfit* functions).

2. Compute the centered moments of order 1 to 4 (*mean*, *variance*, *skewness*, *kurtosis*).

3. Compute the covariance matrix (*cov*).

4. Compute the skewness and kurtosis of the fitted normal distribution by simulation of a new sample (*normrnd*).

Comment.

Question 4

Repeat Question 3 with non-overlapping sliding windows of two years.

Question 5

Write a Matlab function returning the variance, the skewness and the kurtosis of a return series.

Does it make sense to expect a non-normal distribution of financial returns?