

## Assignment 5

From the data set Assign\_TimeSeries:

1. Estimate Autoregressive Integrated Moving Average (ARIMA(p,d,q)) model for spot return (spot) and future return (future) – determine the most appropriated order for p, d, and q using BIC given the maximum lag equals 3.
2. Estimate GARCH(p,q) for spot return (spot) using future return (future) as explanatory variable for mean equation – Test whether there exists significant GARCH effect and determine the most appropriated order p and q for variance equation using SBIC given the maximum lag equals to 2.
3. Estimate VARs models using spot return (spot) and future return (future) as endogenous variables and determine the most appropriated lags models using SBIC.
4. Perform stability test and Granger exogeneity test.
5. Perform Impulse response analysis and determine which variable has more impact.