

Assignment 5

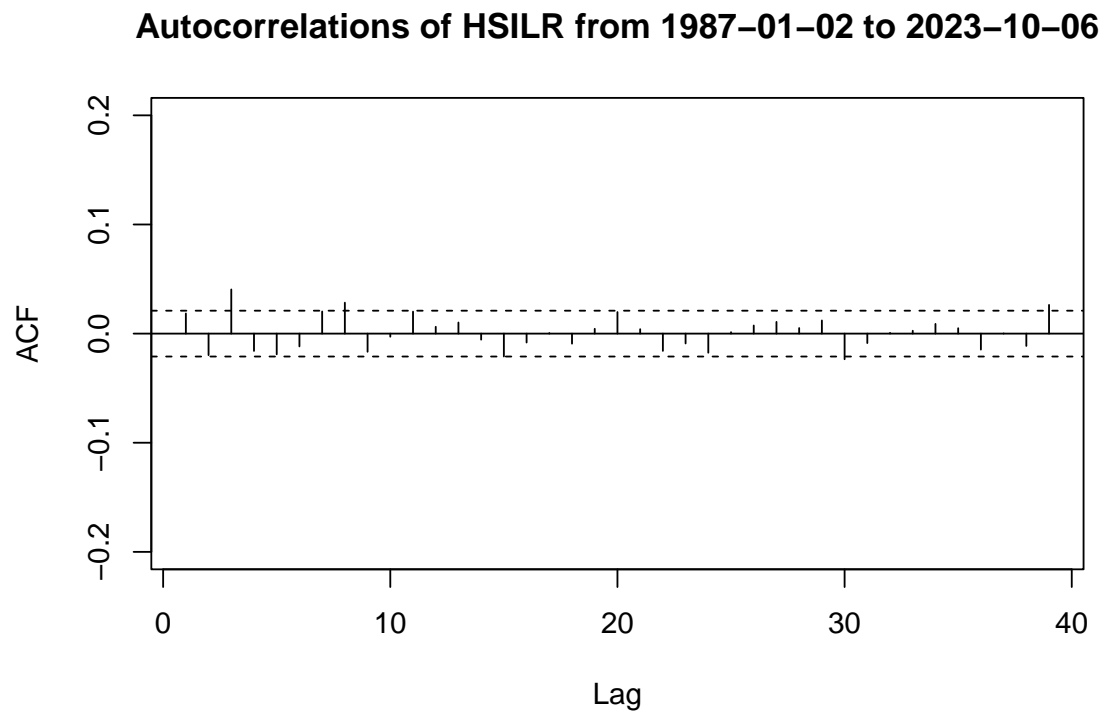
FINA 5250 Empirical Methods in Finance

LIU, Weiyang

wliuax@connect.ust.hk

Stylized Fact 1

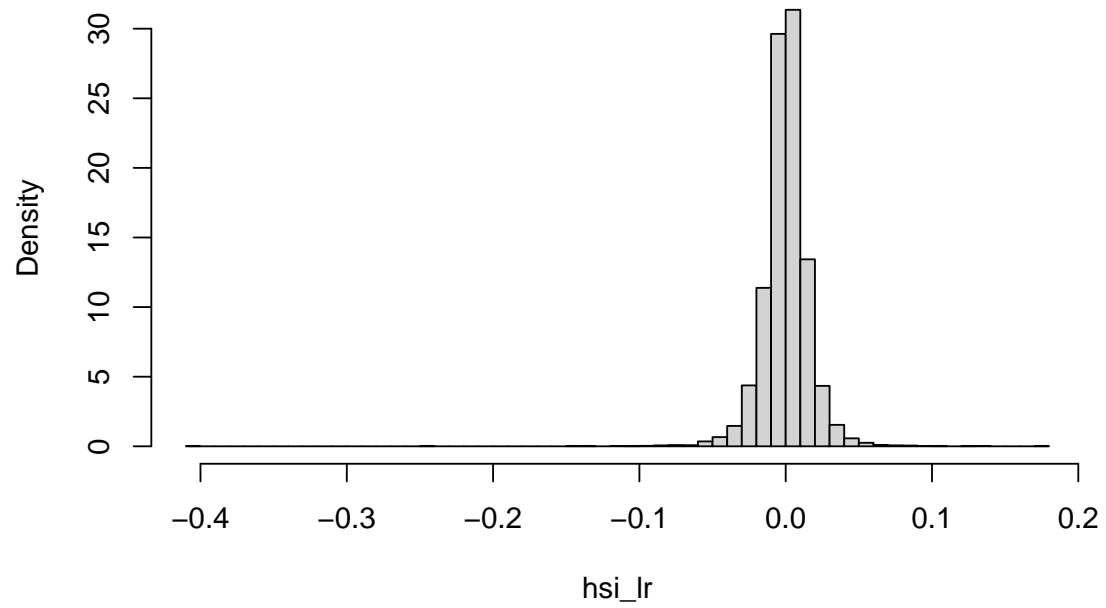
Daily returns have very little autocorrelation.



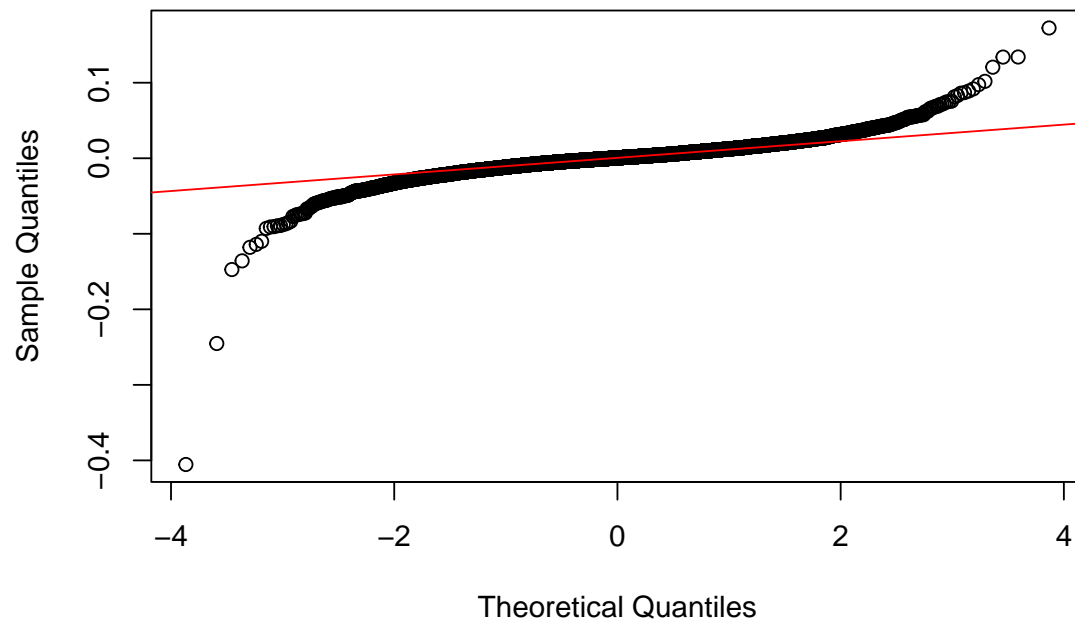
Stylized Fact 2

The unconditional distribution of daily returns have fatter tails than the normal distribution.

Histogram of HSILR vs Fitted Normal Density



Normal Q-Q Plot



Stylized Fact 3

The stock market exhibits occasional, very large drops but not equally large up-moves.

Skewness of HSILR: -2.09600576506726

Stylized Fact 4

The standard deviation of returns completely dominates the mean of returns at short horizons such as daily.

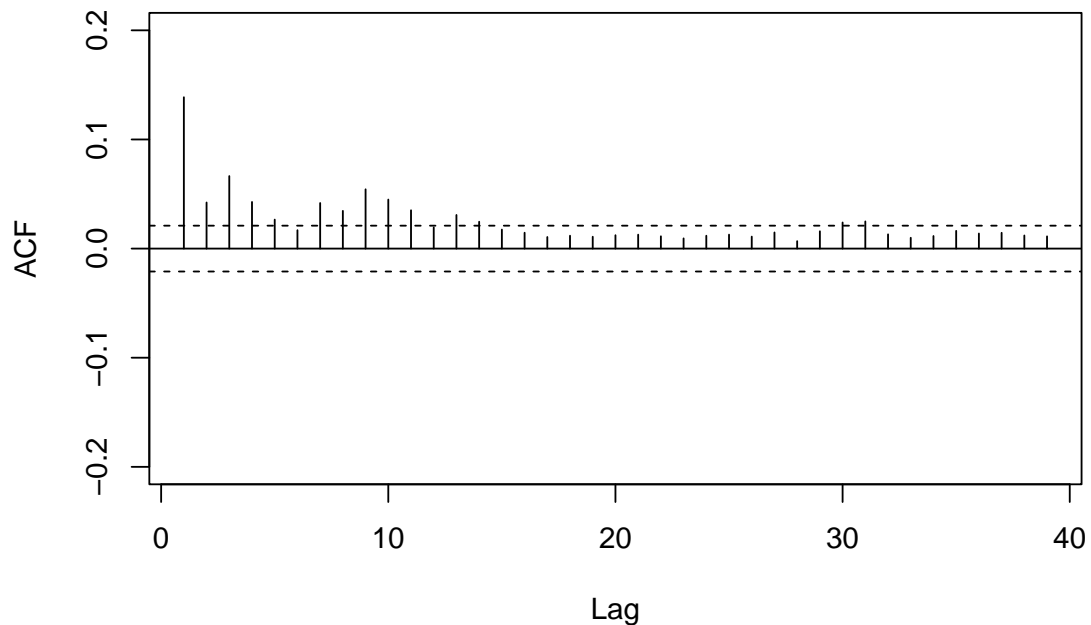
Mean of HSILR: 0.000211343678200398

Standard deviation of HSILR: 0.0163923846524179

Stylized Fact 5

Variance measured for example by squared returns, displays positive correlation with its own past.

Autocorrelations of Squared HSILR from 1987-01-02 to 2023-10-01



Stylized Fact 6

Volatility clustering: Large returns (either positive or negative) tend to be followed by large ones, and small returns tend to be followed by small ones.

HSI Log Returns from 1987-01-02 to 2023-10-06

