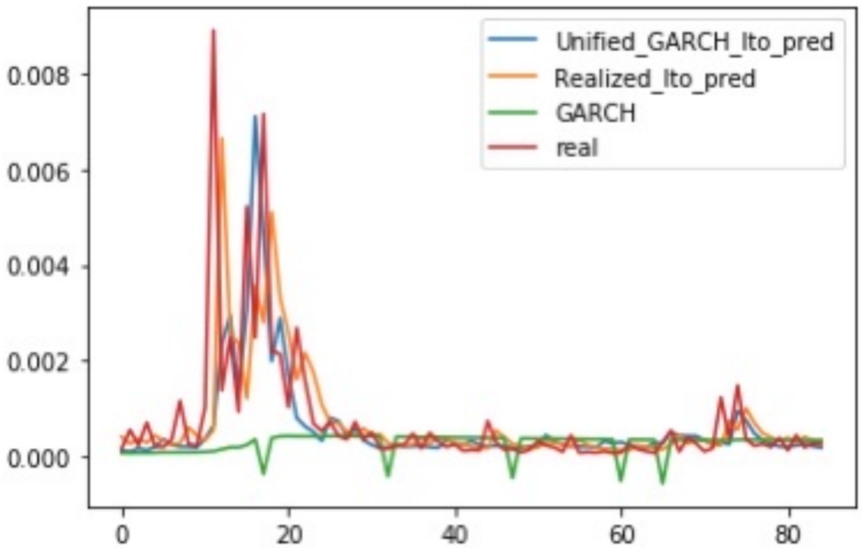
1. Download the high-frequency data from Wharton Research Data Services. Fit GARCH(1,1), unified GARCH-Itô (1,1), realized GARCH-Itô (1,1) using 500 days, and then predict the following day. Repeat the procedure 250 days. Then compare its mean predict error,

$$\frac{1}{250}\sum_{i=1}^{250}(\widehat{V}_i - RV_i)^2,$$

where $\widehat{V}_i$ is the predicted value uising GARCH(1,1), unified GARCH-Itô (1,1), realized GARCH-Itô (1,1).



mean predict error : ① GARCH : 0.000192

② Unified GARCH-Ito : 0.000112

③ Realized GARCH-Ito : 0.000157

실행방법 : 1) HW2_preprocessing.ipynb로 데이터 전처리

2) HW2_main_code.R로 Unified, Realized GARCH_Ito 실행.

3) HW2_original_GARCH로 GARCH 실행