Assignment 10

Applied Financial Econometrics
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1. Download the time-series (last 10 years) for the S&P 500 and one stock of your preference.
2. Compute an EWMA model over for daily variance using $\lambda_{RM} = 0.94$ (Riskmetrics-optimal)
3. Found the optimal decay parameter $\dot{\lambda}$ for daily variance, using the squared returns as proxy of the true variance.
4. Compute the forecasting (for the last 4 years of your sample $\sim$ 1000 points) 99-VaR and 95-VaR assuming
   (a) EWMA model for variance, with $\lambda = \lambda_{RM}$.
   (b) EWMA model for variance, with $\lambda = \dot{\lambda}$
   (c) GARCH(1,1) model for variance (calibrating the parameters every month $\sim$ 21 days).
5. Compare the performance of each VaR forecasting.

You should deliver R code + Answers (for example Power Point)
via IS by the end of the seminar