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Abstract

Title:

Dynamic long term return models to be used for pension products

A two step approach is proposed to improve the estimation of the Sharpe-ratio, one of the most used measures of performance evaluation for investment strategies. We estimate first the conditional mean function of excess stock returns and then the corresponding conditional variance function in a predictive regression model focusing on nonlinear relationships between a set of covariates. The inclusion of prior knowledge in our nonlinear model shows notable improvement compared to a fully nonparametric model. Finally, a ratio of the estimates of both steps gives our new estimator of the Sharpe-ratio for which we also provide statistical properties. In an applied part, we show the efficiency of our estimator in the long-term view using annual data of the S&P500 in a period from 1872 to 2015.