Abstract

This thesis investigate empirical performance of three portfolio selection and covariance matrix models. The goal is to find a strategy that outperform equally weighted portfolio in the long run and survives even in times of financial distress. Two models based on Markowitz approach absolutely failed in this context, however the last approach based on network analysis indeed outperform the market even after risk adjustment of returns. Moreover this model have sparse transaction matrix throughout time, therefore exhibit excellent properties even in the presence of transaction costs. Results for network based portfolio were obtained from running a back test on 160 member companies of S&P 500 index for 6'000 trading days.