ABSTRACT

Traditional methods for choosing optimal portfolios can often be poor choices for actual investments. One of the major drawbacks of using methods such as quadratic programming on historical data is that we must use a known variance-covariance matrix. Choosing such a matrix is difficult, especially for large groups of securities. I have explored one possible solution to this problem using a Bayesian approach for modeling a predictive covariance matrix. This particular approach also allows for securities with different historical data lengths using MCMC simulation. I will show that such an approach has many appealing properties but also some major drawbacks that makes this methodology unsatisfactory for actual implementation.