Abstract

We show that results from the theory of random matrices are potentially of great interest when trying to understand the statistical structure of the empirical correlation matrices appearing in the study of multivariate financial time series. We find a remarkable agreement between the theoretical prediction (based on the assumption that the correlation matrix is random) and empirical data concerning the density of eigenvalues associated to the time series of the different stocks of the S&P500 (or other major markets). Finally, we give a specific example to show how this idea can be sucessfully implemented for improving risk management.