The University of Chicago
Department of Statistics

Seminars for Fourth Year PhD Students

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Estimating High Dimensional Volatility Models

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ABSTRACT

Several multivariate volatility models have recently been suggested to describe the time-varying feature of the correlations found in financial applications. The curse of dimensionality quickly makes estimation for most of these models impractical. We demonstrate the use of Independent Component Analysis to effectively reduce the estimation problem to a set of disjoint univariate models. In particular, we report on this procedure's ability to estimate the volatility of high dimensional financial time series as well as its effectiveness in capturing the observed time-varying correlations.

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