

RUTGERS UNIVERSITY
DEPARTMENT OF STATISTICS AND BIOSTATISTICS
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Seminar

Speaker: Ruey S. Tsay, University of Chicago, Illinois
Title: Constrained Factor Models: Least Squares Estimation and Forecasting
Date: Wednesday March 4, 2009
Time: 3:20PM
Place: 552 Hill Center

Abstract

This paper considers the least squares estimation and forecasting of a constrained approximate factor model when the dimension is large. It shows that the least squares estimation is based on constrained principal component analysis and provides consistent estimates for the models under certain conditions. The results are extensions of those of Heaton and Solo (2006) for unconstrained models. Simulation and real examples are used to investigate the performance of constrained estimation in finite samples. We also compare the model with its unconstrained counterpart and discuss practical implications and advantages of using constrained model. The constraints can be regarded as a tool to incorporate prior knowledge or theory into empirical data analysis and to achieve dimension reduction.