THE UNIVERSITY OF CHICAGO

Department of Statistics

MASTER'S THESIS PRESENTATION

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Forecast Performance of Recent Dynamic Factor Models

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ABSTRACT

As high-dimensional data becomes available, a variety of time series models have been developed to handle them. Dynamic factor model (also know as a diffusion index model) is one of the most widespread methodology for forecasting with large amount of time series data set.

Classic model formulate factors from large-dimensional data using Principal Component Analysis (PCA). Recently, there are huge literature about the improvement of this model in terms of estimating factors such as incorporating the information of target-predictor using Least Angle Regression (LARS) or utilizing Quasi-Maximum Likelihood (QML) technique.

In this paper, we briefly introduce various aspects of recently proposed models and examine their performance with one consistent framework, a simulation study used in Stock and Watson (2002b). We will compare out-of-sample R^2 from recursive out-of sample forecasts with simulated data, which has specific factor structure.