

## MASTER'S THESIS PRESENTATION

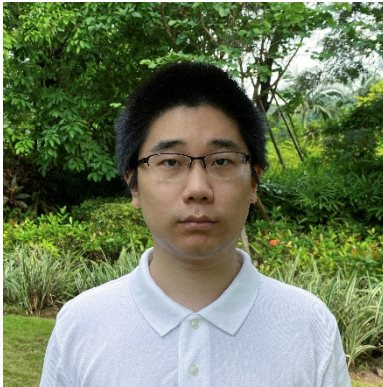
# Shrink & Sparsify Method in Time-Varying Parameter Vector Autoregression — Stock Market Index Forecasting

## WHEN

April 25, 2022  
11:50 AM

## WHERE

Zoom Meeting

**Zhe (Klaus) Kong, MS candidate**

Time-varying parameter vector autoregression (TVP-VAR) has become a popular tool in econometric analysis for its ability to model the underlying time-varying structure. However, TVP-VAR models are often over-parameterized and many methods have been proposed to reduce estimation error and improve forecasts, among which shrinkage approach and sparsification approach are two most commonly used methods. In this paper, we focus on a recently proposed shrink-then-sparse method which combines the benefits of both approaches. We perform a forecasting exercise with stock market index data and find that adding an extra sparsification step after shrinkage leads to better forecast performance, especially for large models.

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