A method to incorporate information from Dynamic Stochastic General Equilibrium (DSGE) models into Dynamic Factor Analysis

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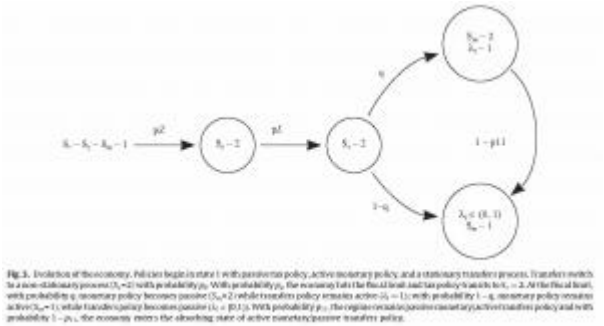

This paper proposes a method to incorporate information from Dynamic Stochastic General Equilibrium (DSGE) models into Dynamic Factor Analysis. The method combines a procedure previously applied for Bayesian Vector Autoregressions and a Gibbs Sampling approach for Dynamic Factor Models. The factors in the model are rotated such that they can be interpreted as variables from a DSGE model. In contrast to standard Dynamic Factor Analysis, a direct economic interpretation of the factors is given. We evaluate the forecast performance of the model with respect to the amount of information from the DSGE model included in the estimation. We conclude that using prior information from a standard New Keynesian DSGE model improves the forecast performance. We also analyze the impact of identified monetary shocks on both the factors and selected series. The interpretation of the factors as variables from the DSGE model allows us to use an identification scheme which is directly linked to the DSGE model. The responses of the factors in our application resemble responses found using VARs. However, there are deviations from standard results when looking at the responses of specific series to common shocks.

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