

VEC-MSV models in Bayesian analysis of short- and long-run relationships

Anna Pajor, Justyna Wróblewska

Abstract

The paper is aimed at developing a new Bayesian Vector Error Correction – Stochastic Volatility (VEC-SV) model, which combines the VEC representation of a VAR structure with stochastic volatility, represented by Multiplicative Stochastic Factor (MSF) process. Numerical methods (MCMC-based algorithms) to be used for estimation, prediction and comparison of these type of models are elaborated.

Based on data coming from Polish economy (time series of unemployment, inflation and interest rates, and of PLN/EUR, PLN/USD and EUR/USD exchange rates) it is shown that models proposed and numerical methods work well in simultaneous modelling of volatility and long-run relationships.