

Abstract: We extend the stochastic volatility model with spatial correlation (Spatially correlated stochastic volatility model-SSV model). We explore the volatility spillover effect in regional economic data using the SSV model with the Markov chain Monte Carlo method. Proposed model is applied for the regional productivities in Japan. Empirical results show that there are high persistences of volatility and spatial correlation in region data. Moreover, volatilities of Hokkaido, Kanto, Chubu near the Tohoku region at the Great East Japan Earthquake are higher than those at the Great recession.