BAYESIAN ESTIMATION OF THE MONTHLY NATURAL RATES, GAPS, AND REAL GDP WITH MIXED-FREQUENCY SERIES

Yasutomo Murasawa

School of Economics, Osaka Prefecture University

(murasawa@eco.osakafu-u.ac.jp)

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Abstract

The Bayesian multivariate Beveridge–Nelson decomposition applied to mixed-frequency series of quarterly real GDP and other monthly macroeconomic variables gives a joint estimate of the monthly natural rates and gaps of these variables and real GDP. The method builds on Bayesian analysis of a Gaussian VAR model with mixed-frequency series. The posterior simulation is Gibbs sampling, drawing the complete data and the model parameters sequentially. The paper considers use of the exact or conditional likelihood function, and applies the method to US data. The monthly real GDP and GDP gap are complementary coincident indices, measuring classical and deviation cycles respectively.