

Bayesian Analysis of a Calibrated Model Model and Some Algorithms

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Bayesian analysis of a model can be viewed as a process of learning about its parameters - prior beliefs about the parameters are updated by Bayes Theorem, in light of the data, to obtain posterior beliefs. Calibration of a model is a process involving the use of theory and a range of statistical techniques to assign values to its parameters, so that the model has sensible aggregate properties. The analysis in this paper is based on the observation that calibration can be viewed as a part of a Bayesian analysis of a model. In particular, it can be viewed as a way of specifying the measure of central tendency of the prior density of the parameters. The model is a linear version of BFPS, a simplified version of FPS, the core model in the Reserve Bank of New Zealand's Forecasting and Policy System. BFPS is a small simultaneous macroeconomic model with a well-defined steady state, explicit and forward-looking representations of expectations, and an endogenous monetary policy. This version of the paper focusses on the model, and algorithms for solving the model, eliciting the prior, and generating draws from the posterior.

Keywords: markov chain monte carlo, expectations

JEL Classifications: C3, C11

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