

“Thailand’s Monetary Policy Analysis: A Bayesian Estimation of NK-DSGE Models”

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SUMMARY

Understanding how the monetary policy affects the economy is critical in policy formulation and assessment. In order to obtain such information, this study performs the Bayesian estimation of DSGE models for Thailand, emphasizing on analyzing the dynamic impacts of a monetary policy shock on a set of key macroeconomic variables.

The overarching framework by which we carry out the analysis is based on the New Keynesian DSGE models. The NK-DSGE models are developed by taking into account the real world’s imperfection and frictions, allowing for non-neutral responses of real variables to a monetary policy shock. Although price stickiness is regarded as an important source of monetary non-neutrality, we also study the inclusion of other forms of nominal and real frictions in the economy.

Our methodology relies on the Bayesian approach to parametrize the DSGE models. Combining the data and the priors, the posterior estimates offer insights on the deep parameters inside households’ and policymakers’ decisions as well as the characteristics of the exogenous shocks. By calculating the marginal likelihood, which measures the model fit in terms of out-of-sample predictive power, the Bayesian approach also provides us with a basis for model comparison, allowing for sensitivity analysis and model fit test.

Our findings resonate a confirmation with theoretical prediction and empirical findings from VAR model. In particular, the output, private consumption, and private investment expenditures are shown to negatively respond to an increase in short-term interest rate, though with peak effects at different lags. Investment is identified as the most responsive component of GDP to the monetary policy shock. Based on the marginal likelihood measure, we identify the list of frictions which improve the model performance. We also carry out forecast performance assessment and find that a medium-sized DSGE can compete with statistical BVAR models of different lags in explaining the dynamics of Thai data.