Judging the DSGE Model by Its Forecast

Rochelle M. Edge

Refet S. Gürkaynak

Burçin Kısacıkoğlu

Federal Reserve Board rochelle.m.edge@frb.gov

Bilkent University and CEPR refet@bilkent.edu.tr

Johns Hopkins University bkisaci1@jhu.edu

Abstract

We study the forecasting ability of the standard estimated medium scale dynamic stochastic general equilibrium model. We show that although over the Great Moderation period the model forecasts have good relative forecasting ability, in an absolute sense their forecasting ability is poor. However, we argue that average forecasting ability during the Great Moderation is not a good metric to judge a model's validity given that this is a period that is well-known to be characterized by a lack of persistent fluctuations in the data. We then consider the forecast performance of the DSGE model prior to the Great Moderation - a period that is known to be characterized by persistent and thereby forecastable fluctuations in the data generating process - and find notably better absolute forecasting performance. We then offer alternative ways of using forecasts to judge the empirical validity of the model. In particular, we suggest that looking at whether the model captures well the forecastability versus nonforecastability of the data upon which the model is estimated is a more fitting question than simply whether the model forecasts well. As part of the empirical analysis that we undertake to address our key questions, we also uncover and document the importance of data and sample choices in the model's forecasting ability.