

Abstract:

The thesis is motivated by current practice of policy conduct implemented by many monetary institutions. In particular, a new operational framework, inflation targeting, has been introduced by the most advanced central banks. In addition, DSGE models became widely used for systematic evaluation of macroeconomic effects of monetary policy and forecasting. In the first chapter of the thesis, I assess possible risks and challenges of implementing inflation targeting strategy in more complicated, but at the same time more realistic, DSGE model economies. I focus on analysis of optimal monetary policy and welfare in a DSGE model of a small open economy with multiple domestic sectors, which have different structural characteristics. The findings suggest that openness to trade as well as sector-specific features do matter for monetary policy design thus generating important implications for optimal stabilization objectives and social welfare. The ranking of simple rules indicates that flexible CPI targeting regime is able to closely replicate the optimal solution and outperform the policy of domestic inflation stabilization. Finally, the sensitivity analysis demonstrates that the presence of sectoral asymmetries may alter the relative performance of alternative policy rules. The second part of the thesis (with S. Slobodyan) is devoted to robustness issues of Bayesian estimation of DSGE models. More specifically, we investigate the consequences of relaxing the rational expectations hypothesis and contrast model fit, estimated parameters, and perceived inflation persistence for several DSGE models of the Euro area estimated under adaptive learning and rational expectations. In other words, we evaluate empirically the relative importance of several types of "frictions" - "mechanical" rigidities like habit formation, Calvo pricing, adjustment costs etc. versus learning. We study the robustness of the estimation results in several dimensions: by varying the model size, information set available to the learning agents, and the way of forming agents' initial beliefs. We find that assuming adaptive expectations results in better model fit than if rational expectations are used, especially when the agents use very little information to form their beliefs. Estimated parameters and the model fit depend significantly on the information set used by the agents, which might explain widely divergent results of previous estimations under adaptive learning. We also find that different ways of forming the initial beliefs influence the dynamics of the model under learning.